

EXPRESS TERMS

CALIFORNIA CODE OF REGULATIONS TITLE 8. INDUSTRIAL RELATIONS DIVISION 1. DEPARTMENT OF INDUSTRIAL RELATIONS

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* * * * * means there is existing text in the section that is not being amended nor repealed; therefore, it is not being included.

Chapter 4. Division of Industrial Safety Subchapter 6. Elevator Safety Orders

~~NOTE: California's title 8 regulations governing conveyances (elevators, escalators, platform lifts, moving walkways, walks, etc.) have long been known by their original name, the "Elevator Safety Orders" (ESO).~~

Group I. Administrative Regulations

Group I regulations apply to ~~elevator~~ conveyance installations covered by Group II, and Group III, Group IV and Group V regulations ~~and to new conveyances covered by Group IV regulations.~~

Article 1. Application

§ 3000. Application.

(a) Where Applicable. The ~~Elevator Safety Orders~~ ESO are applicable to ~~elevators~~ conveyances in the State of California except:

- (1) ~~Elevators~~ Conveyances under the jurisdiction of the United States government.
- (2) ~~Elevators~~ Conveyances located in a single-unit private home and not accessible to the public.
- (3) ~~Elevators located in a multiunit residential building serving no more than two dwelling units and not accessible to the public.~~

~~EXCEPTION TO (a)(3): See section 3001(b)(5).~~

~~NOTE:~~ Unless otherwise designated in this subchapter, the term “~~d~~Division” refers to the current Division of Occupational Safety and Health (Cal/OSHA) or any of its predecessors, including the former Division of Industrial Safety or the Division of Occupational Safety and Health Administration. Reference to the former Division of Industrial Safety or Division of Occupational Safety and Health Administration in these orders is meant to refer to their successor, the Division of Occupational Safety and Health, or any subsequent successor agency.

~~(Title 24, Part 7, Section 7-3000(a))~~

(b) Use and Precedence of Orders.

- (1) When ASME A17.1-1996, Safety Code for Elevators and Escalators, is ~~cited~~ or incorporated by reference in these Orders, it shall mean the 1996 edition of ASME A17.1 cited for the Group as indicated in Table 1, and shall be referred to as ASME A17.1-1996, unless otherwise indicated.
- (2) When ASME A18.1, Safety Standard for Platform Lifts and Stairway Chairlifts, is incorporated by reference in these Orders, it shall mean the edition of ASME A18.1 cited for the Group as indicated in Table 1 and shall be referred to as ASME A18.1, unless otherwise indicated.
- (3) When ASME B20.1, Safety Standard for Conveyors and Related Equipment, is incorporated by reference in these Orders, it shall mean the edition of ASME B20.1 cited for the Group as indicated in Table 1 and shall be referred to as ASME B20.1, unless otherwise indicated.
- (24) The ~~Elevator Safety Order~~ ESO shall apply if any difference exists between the ~~Elevator Safety Order~~ ESO and ASME A17.1-1996, ASME A18.1, ASME B20.1 or any other code, document or standard referenced by a Group in ~~ASME A17.1-1996~~ Table 1. Where a specific provision varies from a general provision, the specific provision shall apply.
- (35) If a section in the ~~Elevator Safety Order~~ ESO makes a cross-reference to a section, rule or table in ASME A17.1-1996, ASME A18.1 or ASME B20.1, such cross-referencing shall be that which is shown in ASME A17.1-1996, ASME A18.1 or ASME B20.1 unless the referenced section, rule or table has been amended in the ~~Elevator Safety Order~~ ESO.
- (46) If a section, rule or table in ASME A17.1-1996, ASME A18.1, or ASME B20.1 makes a cross-reference to another section, rule or table in ASME A17.1-1996, ASME A18.1 or ASME B20.1, such cross-referencing shall be that which is shown in ASME A17.1-1996, ASME A18.1 or ASME B20.1 unless the referenced section, rule or table has been amended in the ~~Elevator Safety Order~~ ESO.

(Title 24, Part 7, Section 7-3000(b))

Table 1:

<u>Group</u>	Type of conveyance (see subsection 3000(c))	Applicable regulations and cited or conveyance standards incorporated by reference, as amended by the elevator safety orders.	Effective Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.	End Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.
<u>II</u>	<u>Subsection 3000(c)(1), (2), (3), (4), (5), (6), (7), (8), (9), (10), (11), (12), (13), (14), (15)</u>	<u>Group II Elevator Safety Orders</u>	<u>See NOTE 4</u> <u>Before 10/24/1998</u>	<u>10/24/98</u>
<u>III</u>	<u>Subsection 3000(c)(1), (2), (3), (4), (5), (6), (7), (8), (9), (12), (15), (16), (17), (18), (19)</u>	<u>ASME A17.1-1996</u>	<u>10/25/98</u>	<u>4/30/08</u>
<u>III</u>	<u>Subsection 3000(c)(10), (11), (13), (14)</u>	<u>Group II Elevator Safety Orders</u>	<u>10/25/98</u>	<u>4/30/08</u>

<u>Group</u>	Type of conveyance (see subsection 3000(c))	Applicable regulations and cited or conveyance standards incorporated by reference, as amended by the elevator safety orders.	Effective Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.	End Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.
<u>IV</u>	<u>Subsection 3000(c)(1), (2), (3), (4), (5), (6), (7), (8), (9), (12), (15), (16), (17), (18), (19), (20), (21)</u>	<u>ASME A17.1-2004</u>	<u>5/1/08</u>	<u>(OAL effective date)</u>
<u>IV</u>	<u>Subsection 3000(c)(10), (11), (13), (14)</u>	<u>Group II Elevator Safety Orders</u>	<u>5/1/08</u>	<u>OAL effective date)</u>
<u>IV</u>	<u>Subsection 3000(c)(22)</u>	<u>ASME A18.1-2003</u>	<u>5/1/08</u>	<u>(OAL effective date)</u>
<u>V</u>	<u>Subsection 3000(c)(1), (2), (3), (5), (6), (7), (8), (9), (12), (13), (15), (16), (17), (18), (19), (20), (21)</u>	<u>ASME A17.1-2019/CSA B44:19</u>	<u>(OAL effective date)</u>	<u>Current</u>
<u>V</u>	<u>Subsection 3000(c)(11)</u>	<u>Group II Elevator Safety Orders</u>	<u>(OAL effective date)</u>	<u>Current</u>

<u>Group</u>	Type of conveyance (see subsection 3000(c))	Applicable regulations and cited or conveyance standards incorporated by reference, as amended by the elevator safety orders.	Effective Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.	End Conveyances for which an installation or alteration contract was signed on or after the “effective” date, but before the “end” date.
<u>V</u>	<u>Subsection 3000(c)(13)</u>	<u>ASME B20.1-2021</u>	<u>(OAL effective date)</u>	<u>Current</u>
<u>V</u>	<u>Subsection 3000(c)(22)</u>	<u>ASME A18.1-2020</u>	<u>OAL effective date)</u>	<u>Current</u>

~~NOTE 1:~~ Italicized paragraphs, sentences, or phrases within the Group II ESO apply to all existing conveyances, while non-italicized apply to conveyances installed after 1970 or after the date the regulation was adopted.

(c) ~~Devices~~ Conveyances Included. ~~The devices~~ Conveyances covered by the ~~Elevator Safety Order ESO~~ are included under the term “elevator conveyance” as used in the Labor Code. These orders apply to the following:

- (1) ~~Power cable driven passenger and freight~~ Electric ~~elevators covered by regulations of Articles 7, 8, 20, and 21.~~
- (2) ~~Hydraulic passenger and freight elevators covered by regulations of Articles 9 and 22.~~
- (3) ~~Power and hand sidewalk elevators covered by regulations of Articles 10 and 23.~~

- (4) ~~Hand passenger and freight elevators covered by regulations of Articles 11 and 24.~~
- (5) ~~Power and hand dDumbwaiters covered by regulations of Articles 12 and 25.~~
- (6) ~~Material lifts and dumbwaiters with automatic transfer devices covered by regulations of Articles 12.1 and 31.~~
- (7) ~~Inclined elevators covered by regulations of Articles 12.2 and 34.~~
- (8) ~~Escalators covered by regulations of Articles 13 and 26.~~
- (9) ~~Moving walks covered by regulations of Articles 14 and 27.~~
- (10) ~~Hand power man platforms covered by regulations of Article 16.~~
- (11) ~~Manlifts covered by regulations of Article 17.~~
- (12) ~~Screw-driven/screw-column passenger and freight elevators covered by the regulations of Articles 12.6 and 35.~~
- (13) ~~Vertical orand inclined reciprocating conveyors covered by regulations of Article 12.5.~~
- (14) ~~Special access elevators and special access lifts covered by regulations of Articles 15 and 36.~~
- (15) ~~Special-purpose personnel elevators covered by regulations of Article 12.3.~~
- ~~(16) Special-purpose elevators covered by regulations of Article 32.~~
- (16) Rack and pinion elevators.
- (17) Limited-Use/Limited Application elevators.
- (18) Rooftop elevators.
- (19) Elevators used for construction not included in subsection (d)(11).
- (20) Private residence elevators (see subsection 3001(b)(5)).
- (21) Private residence inclined elevators (see subsection 3001(b)(5)).
- (22) Vertical and inclined platform (wheelchair) lifts and inclined stairway chairlifts.

(d) Devices Excluded. These orders do not apply to the following:

- (1) Belt, bucket, scoop, roller or similar inclined or vertical conveyors, or other types of automated conveyor systems. See section 3000(c)(13).
- (2) Tiering or piling machines, sometimes called stackers, used for loading or stacking material.
- (3) Equipment for feeding or positioning materials at machine tools, printing presses, etc.
- (4) Hoists for raising and lowering materials and ~~which~~ that are provided with unguided hooks, slings and similar means for attachments to the materials.
- (5) Skip or furnace hoists.
- (6) Wharf ramps.
- (7) Amusement devices.
- (8) Stage and orchestra lifts.
- (9) Lift bridges.
- (10) Railroad car lifts or dumpers.
- (11) Construction elevators as defined in section 7200 of the Labor Code.
- (12) Mine hoists.
- (13) Freight platform hoists with a travel of not more than 5 feet (1.52m).
- (14) Shipboard and marine elevators.
- (15) Mine elevators.
- (16) Wind turbine tower elevators.
- (17) Outside emergency elevators.

~~(Title 24, Part 7, Section 7-3000(d))~~

(e) ~~Devices~~ Conveyances Prohibited. The following types of conveyances ~~elevators~~ are not allowed for new installations.

- (1) Hatchway type elevator.
- (2) Carriage type elevator.

- (3) Auxiliary power elevator.
- (4) Single belt elevator.
- (5) Double belt elevator.
- (6) Steam elevator.
- (7) Gravity elevator.
- (8) Platform elevator.
- (9) ~~Private residence elevators and inclined lifts as regulated in part V, ASME A17.1, except those allowed by article 15 and article 36.~~ Special access elevators and special access lifts pursuant to article 15 and article 36.
- (10) Hand power man platforms.
- (11) Hand elevators.
- (12) Hand dumbwaiters.

~~(Title 24, part 7, Section 7-3000(e))~~

~~(f) Group III Installations. Devices listed in section 3000(c) that are:~~

- ~~(1) Erected from plans or contracts completed, and for which the notice of intention to install is filed with the Division, on or after October 25, 1998, but before May 1, 2008.~~
- ~~(2) Installations that have been operating previous to October 25, 1998 without the required inspection or permit to operate.~~
- ~~(3) Devices that are moved to a new location on or after October 25, 1998, but before May 1, 2008.~~

~~NOTE: Regulations for Group III installations are in Group III.~~

(f) Determining the Applicable Group of ESO for a Conveyance Installation or Alteration.

- (1) The group of ESO that are applicable to a subsection 3000(c) conveyance installation or alteration shall be determined by the signed contract date between the purchaser and the Certified Qualified Conveyance Company (CQCC) (see subsection 3000(b)-Table 1).
- (2) Any subsection 3000(c) conveyance that has been installed or altered and

is operating without the required inspection or permit to operate shall be removed from service until such time as an authorized representative of the Division has inspected and permitted the conveyance in conformance with the current ESO.

~~(g) Group II Installations. Devices listed in section 3000(c) that are:~~

- ~~(1) Devices which have been inspected by the Division and to which a serial number has been assigned.~~
- ~~(2) Devices for which erection was begun before October 25, 1998 and for which the notice of intent to install is not required.~~
- ~~(3) Devices erected from plans or contracts completed, and for which the notice of intent to install is filed with the Division, before October 25, 1998.~~

~~NOTE: Regulations for Group II installations are in Group II.~~

~~(hg) Alterations, Repairs, Replacements, and Maintenance of Devices. Maintenance, Repair, Replacement, Testing and Alterations of all Existing subsection 3000(c) Conveyances.~~

- ~~(1) Alterations, repairs, replacements, and maintenance of devices listed in section 3000(c) shall comply with Part XII of ASME A17.1-1996; except for Rule 1200.1, Rule 1206.10, section 1214, section 1215, section 1216, and section 1217; which is hereby incorporated by reference. Maintenance, repair, replacement and testing of conveyances listed in subsection 3000(c) shall comply with sections 8.6 and 8.11 of ASME A17.1-2019, or the applicable requirements of ASME A18.1-2020 or ASME B20.1-2021, as amended by the ESO.~~

(A) The frequency of periodic tests required by ASME A17.1-2019 shall be as follows:

1. Category 1 tests shall be completed once every 12 months;
2. Category 3 tests shall be completed once every 36 months;
and
3. Category 5 tests shall be completed once every 60 months.

(B) Periodic tests shall be conducted as follows:

1. Periodic tests shall be performed by a Certified Competent Conveyance Mechanic (CCCM) employed by a CQCC.
2. The CCCM conducting the tests shall submit a report to

the Division on a form provided by the Division, or equivalent, within 21 days of the tests. The report shall include the following information:

- a. The date of the test;
 - b. The name of the CQCC and CCCM who performed the test;
 - c. The name of the inspector witnessing the test. The inspector shall be a Division inspector or a Certified Competent Conveyance Inspector (CCCI);
 - d. Type of test performed; and
 - e. Results of the test.
3. If a conveyance fails a periodic test, it shall be removed from service until a satisfactory test result is achieved.
 4. All statements on the form shall be made under penalty of perjury.

(C) Where provided, manually operated driving-machine brake release(s) shall be examined and maintained during routine maintenance operations. A separate task and interval for maintaining the manually operated brake release shall be included in the required Maintenance Control Program (MCP). Any worn or defective component identified during maintenance operations shall be immediately repaired or replaced.

(D) Alternative test methods (e.g., methods that are not based upon rated load and rated speed testing) for Category 5 periodic testing as referenced in ASME A17.1-2019, sections 8.6.4.20 and 8.6.11.10, are prohibited.

(E) The escalator step/skirt performance index referenced in ASME A17.1-2019, section 8.6.8.3.3, shall be one of the following, whichever is applicable:

1. ≤ 0.15 ;
2. ≤ 0.25 for escalators installed under Group II, Group III and Group IV adoptions of the ESO and when a skirt deflector device complying with the requirements applicable at the time of the device's installation; or

3. In lieu of step/skirt performance index testing, Group II and Group III escalators shall have the exposed surface of the skirt panels adjacent to the steps made from, or treated with, a friction-reducing material.
- (F) In addition to the requirements of ASME A17.1-2019, section 8.6.11.1, all elevators provided with firefighters' emergency operation shall be subject to a quarterly test by a CCCM. The quarterly test shall include Phase I recall by use of the key switch and a minimum of one-floor operation on Phase II. If operational, mechanical (e.g., damaged key switch), or other deficiencies (e.g., missing signage) are identified during testing, the CCCM's employer (CQCC) shall notify the party responsible for the elevator that immediate corrective action is required. A dated record of the results of the quarterly tests, including identified deficiencies when applicable, shall be available to elevator personnel and the authority having jurisdiction.
- (G) The cleaning of the exterior of transparent car enclosures or the interior of transparent hoistway enclosures by authorized personnel shall only be permissible if the authorized personnel are trained in compliance with the procedures specified in ASME A17.1-2019, sections 8.6.11.4.2 and 8.6.11.4.3 and are directly supervised by a CCCM. The CCCM shall control the movement of the elevator.
- (H) Only CCCMs and/or emergency personnel trained in elevator passenger evacuation shall be permitted to perform emergency evacuation procedures from disabled elevators.
- (I) Periodic testing of Group II conveyances shall commence within three years from (OAL insert effective date).
- (J) In addition to periodic testing requirements, any Group II hydraulic elevator with a below ground cylinder that does not incorporate a safety bulkhead in its design shall continue to be subject to a five year full load test in accordance with title 8 subsection 3071(j).
- (K) Platform lifts and stairway chairlifts shall be tested every five years for proper operation under rated load conditions.
- (L) The maximum interval for routine maintenance and examination of platform lifts and stairway chair lifts shall be six months.
- (M) Non-mechanical maintenance as defined in section 3009(b)

shall include cosmetic repair of damaged finish materials including sections of tile and the replacement of carpet when performed by authorized personnel from within the elevator car enclosure. Any materials used for replacement must have the same properties and characteristics as the existing materials, including weight and design. All products used in non-mechanical maintenance, including replacement materials, adhesives, and sealants, must comply with all applicable requirements of, title 8, such as flame spread, smoke development and critical radiant flux. The removal of panels or subflooring of the elevator, or work that requires the opening of the car operating panel is not considered non-mechanical maintenance.

- (2) Alterations made after May 1, 2008 on Group II and Group III devices to conveyances listed in section 3000(c) shall comply with the applicable provisions of section 3141.2 in Group IV 8.7 of ASME A17.1-2019, as amended by the ESO.

(A) When alterations are made, the altered elements of the conveyance system shall comply with the applicable seismic requirements of ASME A17.1-2019, sections 8.4 and 8.5, as amended by the ESO.

(B) If an alteration results in the installation of a new controller, or a change to the motion control or operation control, the elevator shall comply with ASME A17.1-2019, section 8.4.10 and title 8 subsection 3147.103(c).

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3, 7300.2,

7300.3, 7300.4, 7301, 7301.1, 7308, and 7317 and 7323, Labor Code.

Article 2. Permit to Operate

§3001. Permit to Operate.

- (a) Submittal of Plans and Notification of Intent to Install.

(1) The person or firm who intends to install a new ~~elevator, dumbwaiter, escalator, moving walk, or manlift~~, conveyance shall submit the erection plans to the Division for review. In lieu of complete erection drawings and plans, the ~~d~~Division ~~will~~ may accept notification from a ~~recognized elevator company~~ Certified Qualified Conveyance Company (CQCC) that they intend to install a ~~device~~ conveyance covered by these regulations of a certain type at a definite address, and subsequent notification to the ~~d~~Division that the installation is

complete and ready for inspection.

(2) The Division may require drawings and details of construction of any portion of an installation when complete erection plans are not submitted.

(3) Drawings and details shall be required for the following:

(A) conveyance products or configurations that are newly introduced to the California market,

(B) conveyance installations that incorporate new materials or unusual design elements; and

(C) unique conveyance installation configurations.

~~(3)(4)~~ When an installation requires material, fabrication, or construction other than recognized standard types or has an offset car frame or is an observation-type elevator installed in other than a fully enclosed hoistway, drawings and details shall be submitted to the Division prior to installation.

(5) When a new conveyance is installed in a glass hoistway enclosure, drawings and details of the glass hoistway enclosure shall be submitted to the Division prior to installation.

~~(4)(6)~~ Alterations to existing conveyances ~~passenger or freight elevators~~ as defined in section ~~3000(h)~~ 3000(g)(2) shall be considered as new installations for submittal of plans or notice of intent to make the alteration and the subsequent notification that the work is complete and ready for inspection. The notice of intent shall include a complete description of the alteration.

~~(5)(7)~~ The person or firm CQCC doing the work of replacing door locking devices, safety devices, governors, ~~or oil buffers,~~ counterweights, car enclosures, car doors or gates, terminal stopping devices, operating devices and control equipment, controllers or emergency and signaling devices on existing ~~installations of passenger or freight elevators~~ shall notify the Division when the work is complete and ready for inspection.

~~(6) The person or firm installing a new hand power man platform shall notify the Division when the installation is complete and ready for inspection.~~

~~(7)(8)~~ The person or firm responsible for special maintenance operations such as the cleaning of glass or the replacement of lamps that cannot be performed from inside the elevator car, shall submit a plan to the Division outlining a safe method that will be used to perform the maintenance.

~~(8) The person or firm installing a static control shall provide the Division with information showing that the control complies with the requirements of Group II, sections 3040(f)(4) and 3040(f)(7). This information shall be in the form of~~

either:

- (A) ~~Electrical schematic diagrams or block diagrams of the control and safety circuits; or~~
- (B) ~~A written checkout procedure and demonstration of safety and speed-control circuits required by sections 3040(f)(4) and 3040(f)(7) at the time of the inspection.~~

~~EXCEPTION TO SECTION 3001(a)(8): Installation of static control for Group IV installations shall comply with Group IV, section 3141.3.~~

(b) Inspections Required.

(1) Each new ~~device~~ conveyance shall be inspected by an authorized representative of the Division and a permit to operate issued before the device conveyance is placed in service.

(2) Each alteration of an existing ~~device~~ conveyance shall be inspected by an authorized representative of the Division and a new permit to operate issued before the device conveyance is placed back in service.

Exception: After the inspection of a new ~~device~~ conveyance or an alteration, the device conveyance may be placed in service while the permit to operate is being processed, provided, in the opinion of the inspecting representative of the Division, the device conveyance is safe to operate.

(3) The replacement of door locking devices, safety devices, governors, oil buffers, counterweights, car enclosures, and car doors ~~and/or~~ gates, terminal stopping devices, operating devices and control equipment, controllers, ~~and/or~~ emergency and signaling devices shall be inspected by an authorized representative of the Division before the elevator is placed back in service.

(4) Reinspections of the ~~devices~~ conveyances covered by these regulations shall be as prescribed in Labor Code section 7304 which requires all ~~elevators~~ conveyances to be inspected at least once each year, but permits up to a two-year period if an ~~elevator conveyance~~ conveyance is in a safe condition for operation and is subject to a full maintenance service contract with a CQCC possessing a valid C-11 license issued by the California Contractors' State License Board. Such reinspections may be done by a Certified Competent Conveyance Inspector (CCCI) as defined in section 3003.0.

(5) ~~Elevators~~ Conveyances in a multiunit residential building serving no more than two dwelling units and not accessible to the public shall be inspected by the Division upon completion of installation prior to being placed in service, or after alterations prior to being returned to service. The inspection shall be for safety and compliance with applicable provisions in ~~ANSI/ASME A17.1-1984,~~

~~Parts V and XXI, which are hereby incorporated by reference. Elevators installed after Sept. 28, 2001, shall be inspected for safety and compliance with applicable provisions in either ASME A17.1-1996, Part 5, which is hereby incorporated by reference; or ASME A18.1-1999, Sections 5, 6, and 7, which is hereby incorporated by reference of the ESO.~~

~~(6) Special access elevators installed after Sept. 28, 2001 shall be inspected for safety and compliance with the applicable provisions of Article 15, Special Access Elevators and Special Access Lifts, sections 3093-3093.60 of the Elevator Safety Orders.~~

(c) Permit to Operate Required. No ~~elevator~~ conveyance shall be operated without a valid, current permit issued by the Division.

(1) The permit, or a copy thereof, to operate a ~~passenger elevator, freight elevator or incline elevator~~ conveyance shall be posted conspicuously and securely in the ~~elevator~~ conveyance car enclosure. For other ~~devices~~ conveyances without enclosures, the permit shall be available on the premises.

(2) Except as provided in subsection (c)(3), the permit shall not be issued for a period exceeding one year.

(3) If the Division's investigation and inspection indicate the ~~elevator~~ conveyance is in a safe condition and will be covered during the entire term of the permit by a full maintenance contract with an ~~elevator service company~~ CQCC possessing a valid C-11 license issued by the California Contractors' State License Board, the Division may issue a permit for a period not exceeding two years.

(4) Within 60 days of notification by the Division that an ~~elevator~~ conveyance may qualify for a two-year permit, the ~~elevator service company~~ CQCC shall submit to the Division the following information:

(A) A copy of the ~~elevator service company's~~ CQCC's C-11 license issued by the California Contractors' State License Board; and

(B) A copy of the full maintenance service contract.

(5) A full maintenance service contract shall:

(A) Specify the responsibilities of the ~~elevator service company~~ CQCC in regard to all repairs and maintenance that may be necessary to keep the ~~elevator~~ conveyance in compliance with the ~~Elevator Safety Orders, Title 8 of the California Code of Regulations~~ ESO; and

(B) Require the ~~elevator service company~~ CQCC to service the ~~elevator~~ conveyance as frequently as necessary to effect safe operation but

not less often than monthly.

- (6) ~~The elevator service company~~ CQCC shall notify the Division within 30 days if a full maintenance service contract is terminated or altered during the period the two-year permit is in effect.

(d) Inspection Fees.

The Division shall assess a fee for inspections performed by Division safety engineers in accordance with title 8 ~~California Code of Regulations~~, section 344.30. The Division shall not issue a permit to operate until the assessed fee has been collected.

~~(e) Application Processing Time for Renewal of Permit.~~

- ~~(1) Within 15 calendar days of receipt of an application for renewal of a permit to operate, the Division shall inform the applicant in writing that the application is either complete and accepted for filing or that it is deficient and what specific information and documentation is required to complete the application.~~
- ~~(2) Within 30 calendar days from the date of the filing of a completed application, the Division shall conduct an inspection of the device for which the permit is sought. If the inspection reveals violations of the safety orders, a preliminary order indicating such requirements as may in the opinion of the Division be necessary to comply with these regulations shall be issued.~~
- ~~(3) After satisfactory compliance with the preliminary order, if one has been issued, and upon notification to the Division's elevator unit that the inspection fee has been paid, the Division shall issue the permit within 15 calendar days.~~
- ~~(4) The Division's median, minimum and maximum times for processing a permit from the receipt of the initial application to the final permit decision, based on the Division's actual performance during the two years immediately preceding the proposal of this regulation have been as follows:~~

Median time	60 days
Minimum time	30 days
Maximum time	1 year

NOTE: Authority cited: Section 142.3, Labor Code. Reference: Sections 142.3, 7301, 7304(b) and 7317, Labor Code.

Article 3. Variances

§ 3002.0. Variances.

- (a) Any employer, person or firm having custody of ~~an elevator~~ a conveyance may apply to the Division for a temporary order granting a variance from an ESO. Such temporary order shall be granted only if the employer, person or firm files an application ~~which~~ that meets the requirements of sections 6450 through 6457, inclusive, of the California Labor Code.
- (b) Any employer, such as a person or firm having custody of ~~an elevator~~ a conveyance, may apply to the Occupational Safety and Health Standards Board for a permanent variance from an occupational safety and health standard, order, special order or portion thereof upon a showing of how the conditions, practices, means, methods, or processes used or proposed to be used would provide equal or superior safety. Such application shall conform to the requirements of Title 8, Chapter 3.5 ~~(Title 24, part 7, section 7-3002)~~.

NOTE: Authority cited: Sections 142.3, ~~and 143~~, and 7323, Labor Code. Reference: Sections 142.3, 143, 143.2, 6450, 6451, 6452, and 6454, 6455, 6456, 6457, 7300 and 7323, Labor Code; ~~and Section 18943(b), Health and Safety Code.~~ -

Article 4. Qualifications for Certification ~~Certified~~ Inspectors

§ 3003.0. ~~Qualifications for Certified~~ Competent Conveyance Inspectors (CCCI).

(a) Employment.

- (1) Applicants shall be employed by a licensed insurance company carrying insurance on elevators or by a municipality which maintains ~~an elevator~~ conveyance inspection organization operating under ordinances or rules at least equivalent to the ESO.
- (2) Applicants may be examined prior to their employment if sponsored by an insurance company or a municipality by an agreement to employ the candidate, if ~~he~~ the candidate is successful in the examination. However, no certificate will be issued until the applicant is actually employed as ~~an elevator~~ conveyance inspector.

(b) Experience.

- (1) Applicants shall have had at least four years of experience in some

mechanical or electrical endeavor, at least one year of which shall have been in the design, construction, installation, repair or inspection of ~~elevators~~ conveyances.

(2) The non-~~elevator conveyance~~, mechanical or electrical experience shall be at the journeyman mechanic level or technical work and the work must have been comparable to work in the ~~elevator~~ conveyance industry.

(3) Engineering education on a college level may be substituted on a year-for-year basis for the non-~~elevator~~conveyance qualifying experience.

(4) The ~~one~~ year of required ~~elevator conveyance~~ experience may be on the basis of continuous employment for one year in which at least half of the applicant's time is devoted to ~~elevator~~ conveyance work.

(c) Training.

(1) Immediately prior to the examination, the candidate shall have completed at least 90 days of intensive training in conveyance inspection in California under the direct supervision of a ~~certified elevator inspector~~ CCCI.

(2) This training period may be waived prior to the written examination; provided, however, that no certificate shall be issued until the candidate has been employed and satisfactorily completed the prescribed training period.

(d) Performance of Duties. A candidate shall be ~~of good character, free from disabling defects, and possessing sufficient agility to perform his duties safely and efficiently~~ physically able to perform the duties of a CCCI in a safe and efficient manner.

(e) Certifications.

(1) No conveyance subject to these regulations shall be reinspected by any person unless the person is a conveyance inspector employed by the Division or certified by the Division as a CCCI.

(2) A certificate issued by the Division to the CCCI shall have a term of two years.

(3) Prior to expiration of this two-year term, the applicant shall submit a CCCI renewal application. The renewal of all certificates issued by the Division shall be conditioned upon the submission of a certificate of completion of a course designed to ensure the continuing education of the certificate holder on new and existing provisions of the ESO. The Division shall approve the continuing education providers and curriculum. The continuing education course(s) shall consist of not less than eight hours of instruction on the laws and regulations governing conveyances in the State of California, and shall be attended and completed within one year immediately preceding any

certificate renewal.

(4) Certificates of competency may be revoked by the ~~d~~Division after a hearing, if requested, for failure to submit true reports concerning the condition of an ~~elevator~~ conveyance or for conduct deemed by the ~~d~~Division to be contrary to the best interests of ~~elevator~~ conveyance safety or of the ~~d~~Division.

(5) Certificates may also be revoked after a hearing, if requested, when physical infirmities develop to a point where it appears that an ~~inspector~~ CCCI can no longer perform his a CCCI's duties in a thorough and safe manner.

(6) Certificates may be suspended by the ~~d~~Division after a hearing, if requested, for periods up to six months for infractions not deemed serious enough to revoke the certificate.

(7) Hearings on the suspension or revocation of certificates of competency shall be conducted in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

(f) Frequency of Conveyance Inspection.

(1) Certificates will be automatically suspended if, for a period of one year, an ~~inspector~~ CCCI does not make any ~~elevator~~ conveyance inspections as evidenced by reports submitted; however, such certificates may be reinstated without a written examination at the discretion of the ~~d~~Division.

(2) This provision does not apply to the supervising engineers or others whose regular duties include the review of the work of other ~~certified~~ inspectors CCCI's.

(g) Examination.

(1) The examination shall be conducted in two parts; the first consisting of a written examination and the second consisting of a field examination.

(2) If the applicant fails to obtain a passing grade in either the written or field examination, ~~he~~ the applicant may apply for a re-examination and the waiting period between examinations shall be determined by the division as not less than 30 days or more than 6 three months, depending on the judgment of the division regarding the necessity of additional study and training on the part of the applicant.

(3) The field examination may be waived or postponed by the ~~d~~Division and the certificate issued subject to field examination. This field examination may consist of a formal assignment related to ~~elevator~~ conveyance inspection or it

may consist of an appraisal of work of the inspector during an indefinite probationary period set by the Division.

~~(4)~~ (4) Written examinations will be conducted by appointment at any time mutually agreeable to the candidate and to the ~~d~~Division. ~~t~~These examinations will be conducted in ~~the~~ an office of the ~~d~~Division, ~~either in San Francisco or in Los Angeles.~~

(h) Fee. The Division shall assess a certification fee in accordance with title 8 section 344.30(h). The Division shall not issue a certificate to a CCCI until the assessed fee has been collected.

NOTE: Authority cited: Sections 60.5, 142.3, 6308, 7309.1 and 7311, Labor Code; and Section

11400.20, Government Code. Reference: Sections 60.5, 142.3, 6308, 7311.3 and 7311.4, Labor Code; and Section 18943(b), Health and Safety Code; and Section 11400.20, Government Code.

§ 3003.1. Certified Qualified Conveyance Company (CQCC).

(a) Qualifications.

At a minimum, the individual qualifying on behalf of a corporation or limited liability company, the owner on behalf of a sole ownership or the partner(s) on behalf of a partnership, shall meet either of the following requirements:

(1) Five years of work experience at a journey level in the conveyance industry in construction, installation, alteration, testing, maintenance and service and repair of conveyances covered by the ESO. This experience shall be verified by current and/or previously licensed elevator contractors or by current and previously certified CQCCs, as required by the Division; or

(2) Satisfactory completion of a written examination administered by the Division on the most recent California regulations applicable to conveyances.

(b) Application Requirements for Certification.

The applicant shall submit the following to the Division for review and approval:

(1) A completed CQCC application,

(2) A copy of an approved continuing education certificate,

(3) A copy of a current and valid C-11 license,

(4) A copy of current Workers' Compensation insurance certificate,

(5) A copy of current general liability insurance certificate; and

(6) Payment of the applicable fees.

(c) Certification.

(1) No conveyance subject to these regulations shall be erected, constructed, installed, materially altered, tested, maintained, repaired or serviced by any person, firm or corporation unless the person, firm or corporation is certified by the Division as a CQCC. This section does not apply to non-mechanical maintenance as described in section 3001(g)(1)(M).

(2) A certificate issued by the Division to the CQCC shall have a term of two years.

(3) Prior to expiration of this two-year term, the applicant shall submit a CQCC renewal application. The renewal of all certificates issued by the Division shall be conditioned upon the submission of a certificate of completion of a course designed to ensure the continuing education of the certificate holder on new and existing provisions of the ESO. The Division shall approve the continuing education providers and curriculum. The continuing education course shall consist of not less than eight hours of instruction on the laws and regulations governing conveyances in the State of California and shall be attended and completed within one year immediately preceding any certificate renewal.

(4) The Division may revoke or suspend, at any time, upon good cause being shown therefor, and after hearing, if requested, any certification issued by it to a CQCC.

(5) If, upon investigation by the Division, a CQCC employee is found to have performed work on a conveyance without supervision, and without the certification required by section 3003.2(c)(1), the Division may suspend the CQCC's certification for up to 90 days.

(6) The Division shall suspend or revoke a CQCC certification, after hearing, if requested, for any of the following reasons:

(A) Gross negligence, gross incompetency, a pattern of incompetence,

(B) Willful or deliberate disregard of any conveyance safety standard or misrepresentation in any documentation submitted to the Division,

(C) Misrepresentation of a material fact in applying for, or obtaining, certification under this section; or

(D) Upon a showing of good cause.

(7) Hearings on the suspension or revocation of a CQCC's certification shall be conducted in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

(d) Fee.

The Division shall assess a certification fee in accordance with title 8, section 344.30(h). The Division shall not issue a certificate to a CQCC until the assessed fee has been collected.

NOTE: Authority cited: Sections 60.5, 142.3 and 7311.1, Labor Code. Reference: Sections 142.3,

7311.1, and 7311.3 and 7311.4, Labor Code.

§ 3003.2. Certified Competent Conveyance Mechanic (CCCM).

(a) Qualifications.

At a minimum, a CCCM applicant shall meet both of the following requirements:

(1) Three years' work experience in the conveyance industry in construction, maintenance, service and repair of conveyances covered by the ESO. This experience shall be verified by current and previously licensed elevator contractors or by current and previously certified CQCCs, as required by the Division.

(2) One of the following:

(A) Satisfactory completion of a written examination administered by the Division on the most recent applicable codes and standards.

(B) A certificate of completion and successfully passing the mechanic examination of a nationally recognized training program for the conveyance industry, such as the National Elevator Industry Educational Program or its equivalent.

(C) A certificate of completion of an apprenticeship program for elevator mechanic, having standards substantially equal to those of these orders, and which program shall be registered with the

Bureau of Apprenticeship and Training of the United States
Department of Labor or a state apprenticeship council; or

- (D) A certificate or license from another state having standards
substantially equal to or more comprehensive than those
contained in the ESO.

(b) Application Requirements for Certification.

The applicant shall submit the following to the Division for review and approval:

- (1) A completed new CCCM application, verified and signed by current and
previously licensed elevator contractors or by current and previously
certified CQCCs.
- (2) Proof of employment by a CQCC.
- (3) One of the requirements listed in subsection 3003.2(a)(2); and
- (4) Payment of the applicable fees.

(c) Certification.

- (1) Any person who, without supervision, erects, constructs, installs, alters,
tests, maintains, services or repairs, removes or dismantles any
conveyance covered by these regulations, shall be certified as a CCCM
by the Division. This section does not apply to platform lifts and stairway
chairlifts installed in a private residence or non-mechanical maintenance
as described in section 3001(g)(1)(M).
- (2) A certificate issued by the Division to the CCCM shall have a term of two
years.
- (3) Prior to expiration of this two-year term, the applicant shall submit a
CCCM renewal application. The renewal of all certificates issued by the
Division shall be conditioned upon the submission of a certificate of
completion of a course designed to ensure the continuing education of the
certificate holder on new and existing provisions of the ESO.
- (4) If the Division determines that a person has performed work on a
conveyance without supervision, and without the certification required by
this section, they shall be prohibited from working as a CCCM for a period
of 90 days. After this 90-day period, the person may apply or re-apply for
certification.
- (5) The Division may revoke, at any time, upon good cause being shown

therefor, and after hearing, if requested, any certification issued by the Division to a CCCM.

(6) The Division may suspend for up to 90 days, at any time, upon good cause being shown therefor, and after hearing, if requested, any certification issued by the Division to a CCCM.

(7) The Division shall suspend or revoke a CCCM certification, after hearing, if requested, for any of the following reasons:

(A) Gross negligence, gross incompetency, a pattern of incompetence,

(B) Willful or deliberate disregard of any conveyance safety standard,

(C) Misrepresentation of a material fact in applying for, or obtaining, certification under this section; or

(D) Upon a showing of good cause.

(8) Hearings on the suspension or revocation of a CCCM certification shall be conducted in accordance with California Code of Regulations, Title 8, Division 1, Chapter 3.2, Subchapter 2, Article 1.6.

(d) Fee.

The Division shall assess a certification fee in accordance with title 8, section 344.30(h). The Division shall not issue a certificate to an applicant until the assessed fee has been collected.

NOTE: Authority cited: Sections 60.5, 142.3, 7311.2 7314, and 7323 Labor Code. Reference:

Sections 142.3, 7311.2, and 7311.3 and 7311.4 Labor Code.

Article 6. Definitions

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§ 3009. Definitions.

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(b)List of Definitions. The following definitions shall be accepted as the meaning of the various terms as used in these regulations:

* * * * *

Main Floor. The floor providing normal egress from the building.

Maintenance. A process of routine examination, lubrication, cleaning, adjustment, and replacement of parts for the purpose of ensuring performance in accordance with the applicable Code requirements.

Maintenance, Non-mechanical. Maintenance performed by authorized personnel from within the elevator car enclosure, such as cleaning panels, changing of lamps, ballasts or drivers used for lighting.

* * * * *

Stopping Device, Elevator Landing. A button or other device located at an elevator landing which when activated causes the elevator car to stop at that floor.

Supervision. The actions of an onsite Certified Competent Conveyance Mechanic (CCCM), in the employ of a Certified Qualified Conveyance Company (CQCC), who oversees any person, craft or trade that erects, constructs, installs, alters, tests, maintains, services, repairs, removes or dismantles any conveyance to ensure the work is conducted in a safe manner, and the resultant work is in accordance with the ESO.

* * * * *

Working Pressure. The pressure measured at the cylinder of a hydraulic elevator when lifting car and its rated load at rated speed, or, with Class C-2 loading when leveling up with maximum static load.

* * * * *

~~(Title 24, Part 7, Section 7-3009)~~

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3, 7300.1, 7300.2, 7300.4, 7311.2 and 7323, Labor Code.

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

Article 40. ~~Application~~ RESERVED

~~§ 3140. Application.~~

- ~~(a) Group IV governs the design, erection, construction, installation, service, and operation of conveyances as defined in Section 7300.1 of the Labor Code, for which the installation contract was signed on or after May 1, 2008.~~

~~(b) Use and Precedence of Orders.~~

- ~~(1) The reference to ASME A17.1-2004, Safety Code for Elevators and Escalators, developed by the American Society of Mechanical Engineers, shall mean the 2004 edition, and shall be referred to as ASME A17.1-2004, unless otherwise indicated.~~
- ~~(2) The reference to ASME A18.1-2003, Safety Standard for Platform Lifts and Stairway Chairlifts, developed by the American Society of Mechanical Engineers, shall mean the 2003 edition, and shall be referred to as ASME A18.1-2003, unless otherwise indicated.~~
- ~~(3) The reference to ASCE 21, Automatic People Movers, developed by the American Society of Civil Engineers, shall mean ASCE 21, Part 1, 1996 edition; Part 2, 1998 edition; and Part 3, 2000 edition; and shall be referred to as ASCE 21, Parts 1, 2, and 3, unless otherwise indicated.~~
- ~~(4) The Elevator Safety Orders shall apply if any difference exists between the Elevator Safety Orders and ASME A17.1-2004; ASME A18.1-2003; and ASCE 21, Part 1, 1996 edition, Part 2, 1998 edition, and Part 3, 2000 edition; or any other code, document or standard referenced in ASME A17.1-2004; ASME A18.1-2003; and ASCE 21, Part 1, 1996 edition, Part 2, 1998 edition, and Part 3, 2000 edition.~~

~~NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.~~

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

§ 3141.1. ~~Maintenance, Repair, and Replacement.~~ RESERVED

~~Maintenance, repairs, and replacements of conveyances shall comply with ASME A17.1-2004, section 8.6.~~

~~NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.~~

~~**HISTORY**~~

~~1. New section filed 4-1-2008; operative 5-1-2008 (Register 2008, No. 14).~~

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Article 42. Conveyances Covered by ASME A18.1-2003

§ 3142. General Requirements.

(a) Conveyances covered by ASME A18.1-2003, section 1.1, Scope, and

Article 42 of title 8 shall comply with ASME A18.1-2003, Safety Standard for Platform Lifts and Stairway Chairlifts, which is hereby incorporated by reference, and the following:

(1) Group II, sections 3094.2(r) and 3094.5.

(2) Power doors shall comply with ANSI/BHMA A156.19-1997, American National Standard for Power Assist and Low Energy Power Operated Doors, which is hereby incorporated by reference.

~~(b) Acceptance inspections and tests shall comply with ASME A18.1-2003, section 10.4, that are applicable to the type of elevator installed or altered.~~

~~(c) Periodic inspections shall comply with ASME A18.1-2003, section 10, applicable for the type of elevators involved.~~

~~(d) Periodic tests shall comply with section 3141.6(c), (e), and (f) and ASME A18.1-2003, section 10.3.~~

~~(e) Periodic tests shall be witnessed by a Certified Competent Conveyance Inspector (CCCI) or a Division CCCI. Periodic tests witnessed by a CCCI shall be reported to the Division by the CCCI on a form provided by the Division, or equivalent, within 21 days of the test. The information required to be reported shall include:~~

~~(1) The name of the CCCI witnessing the test;~~

~~(2) Type of test performed;~~

~~(3) Name of the CQCC and CCGM who performed the test;~~

~~(4) The date of the test; and~~

~~(5) Results of the test.~~

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

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Article 45. RESERVED

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

Article 46. RESERVED

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

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Group V. Conveyance Installations for Which the Installation Contract was Signed on or After (insert OAL effective date here)

Article 47. Conveyances Installed under Group V

§ 3147. Scope.

Conveyances installed under the ESO shall comply, as applicable, with ASME A17.1-2019, ASME A18.1-2020, and ASME B20.1-2021, which are incorporated by reference, as amended by the ESO.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

§ 3147.100. Conveyances Covered by ASME A17.1-2019 as amended by the Group V Elevator Safety Orders.

(a) Conveyances shall comply with ASME A17.1-2019 Safety Code for Elevators and Escalators, except sections 1.2.1 Purpose, 2.7.5.3 Working Platforms, 2.7.5.4 Working Platforms in the Line of Movement of the Car or Counterweight, 2.7.5.5 Retractable Stops, 2.8.6 Miscellaneous Equipment, 2.14.1.6.2, 4.3 Hand Elevators, 5.8 Marine Elevators, 5.9 Mine Elevators, 5.11 Wind Turbine Tower Elevators, 5.12 Outside Emergency Elevators, 8.6.5.8 Safety Bulkhead, which are not incorporated by reference.

(b) No references to ASME A17.7/CSA B44.7 contained in ASME A17.1-2019 are incorporated by reference and conformance with the requirements of A17.7/CSA B44.7 shall not substitute for strict compliance with the Elevator Safety Orders.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

§ 3147.101. General Requirements.

Conveyances covered by ASME A17.1-2019 shall comply with the following general requirements:

(a) The key(s) for the elevator machine room, control room and/or machinery space door(s) shall be kept in the elevator pit. The key(s) shall be properly identified, located near the pit stop switch and shall be accessible from the pit access door. In buildings with banks of multiple elevators, the key(s) shall be kept in the pit of the elevator with the lowest State of California elevator identification number.

- (b) Except as amended herein, all electrical equipment and wiring shall comply with the California Code of Regulations, Title 24, Part 3, California Electrical Code in effect at the time of installation or alteration. The required access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment. The clear working space about motor controllers, motion controllers, operational controllers and other electrical equipment likely to require examination, adjustment, servicing or maintenance while energized shall comply with subsections 110.26(A), 620.5(A)(1), or 620.5(D) of the 2019 California Electrical Code.
- (c) All references to the International Building Code (IBC) in the ASME A17.1-2019 standard shall mean the California Code of Regulations, Title 24, Part 2, California Building Code of record for the building.
- (d) Door-locking devices, oil buffers, car and counterweight safety devices, speed governors, plunger-engaging safety devices (plunger gripper) and suspension means requiring engineering testing per ASME A17.1-2019, section 2.20.11 shall be approved by the Division and shall comply with the criteria contained in ASME A17.1-2019, sections 2.12, 2.17, 2.18, 2.20, 2.22.4 and 3.17.3; and title 8, subsections 3105(b), 3106(b), 3106.1(b), 3108(f), 3110(a) and 3147.101(e).
- (e) Data required for suspension-means approval:
- (1) One complete set of assembly and detail drawings of the suspension member and related equipment shall be submitted to the Division and shall show the following:
- (A) Material, construction, dimensions, manufacturer's part number(s) and manufacturer's marking(s) for identification of the suspension member.
- (B) Values of the data as marked on the suspension member data tag, required by ASME A17.1-2019, section 2.20.2.2.2.
- (C) Values of the data as marked on the crosshead data plate required by ASME A17.1-2019, section 2.20.2.1.
- (D) Technical criteria, data, diagrams and documentation used in the determination of essential safety requirements and parameters of the suspension member, including, but not limited to:
1. Factor of safety.
 2. Residual-strength monitoring.

3. Broken suspension member detection.
4. Inspection and replacement criteria.
5. Selection criteria, certification and installation of suspension member connections.
6. Limitations of suspension member speed, if any.
7. Minimum sheave and drum diameters.
8. Sheave material criteria.
9. Limitations of weather exposure or other ambient conditions.
10. Considerations regarding the use of the suspension member under emergency conditions (i.e., fire, earthquake, etc.).

- (2) The results of tests performed on the suspension member in accordance with ASME A17.1-2019, section 2.20.11.
- (3) The results of performance testing of the suspension member under elevator operating conditions for its range of application, as required by ASME A17.1-2019, section 2.20.3.

(f) Control equipment and devices.

- (1) The following control equipment and devices shall not be installed or utilized until a written acceptance has been granted by the Division:
 - (A) Control systems utilizing static (solid state) motor or motion control.
 - (B) Control systems containing or utilizing Safety Integrity Level (SIL) rated circuits, devices or components.
 - (C) Devices that detect suspension-member residual strength.
 - (D) Automated devices that interact with operation control (e.g., automated robot systems).
- (2) Detailed information applicable to the equipment being evaluated shall be submitted to the Division. The information shall include, but is not limited to:
 - (A) Complete certifications, listings, ratings and reports from third party testing, certifying and accrediting agencies. Electrical listings and certifications shall be performed by qualified electrical testing

laboratories recognized by the Occupational Safety and Health Administration (OSHA).

(B) Descriptive and technical engineering data.

(C) Procedures and methods for testing, verification and inspection.

(D) Descriptive and technical information describing how the equipment complies with the Elevator Safety Orders.

(E) Photographs, figures and diagrams.

(F) Dimensional drawings and characteristics.

(G) Model, type, marking data, listing and rating information.

(H) Wiring diagrams and circuit details.

(g) Passage through machine rooms, control rooms and machinery spaces to gain access to other equipment or other parts of the building is prohibited.

(h) Access to machine rooms, control rooms and machinery spaces shall not be through a restroom, locker room, dressing room or a locked tenant/owner space.

(i) Conveyances in jails and penal institutions are exempt from the requirements related to firefighters' emergency operation where the recall of elevators will interfere with security.

(j) Scissor-type collapsible gates are prohibited.

(k) Looped pull straps are prohibited.

(l) Aramid fiber suspension ropes are prohibited.

(m) Hoistway door unlocking devices (e.g., lunar keys) are prohibited.

(n) Car and hoistway access panels for cleaning glass on observation elevators are prohibited.

(o) Permanent ink markers shall not be used as a means for recording information on required data tags. Clearly legible, permanent marking or embossing methods are permitted.

(p) Surface projections such as reinforcing rods, snap ties, screws, etc., protruding from the hoistway enclosure walls are prohibited.

- (q) The dimension specified as 100 mm (4 in.) in ASME A17.1-2019, section 2.1.6.2, shall be 50 mm (2 in.).
- (r) A Certified Competent Conveyance Mechanic (CCCM) shall provide safe access to water removal systems located in the pit.
- (s) A guard shall be required between adjacent pits. The guard shall extend not less than 2000 mm (79 in.) above the level of the higher pit floor. Where openings are provided in the guard, they shall not exceed 50 mm (2 in.). Where a ladder is installed adjacent to a guard, the guard shall extend not less than 2000 mm (79 in.) above the top rung or rungs used as handgrips (see subsection 3147.101(t)). The screen shall extend not less than 305 mm (12 in.) horizontally on each side of the ladder.

~~NOTE to subsection 3147.101(s):~~ A single horizontal structural element at the top of a pit ladder, used to stabilize the vertical side rails, is not considered a rung or handgrip.

EXCEPTION to subsection 3147.101(s): The guard may be omitted if the vertical clearance between the underside of the car sling when resting on a fully compressed buffer and the bottom of the pit is not less than 2000 mm (79 in.).

- (t) Pit ladders shall comply with ASME A17.1-2019, section 2.2.4.2, and the following:
- (1) The ladder rungs, cleats, or steps shall be a minimum of 400 mm (16 in.) wide.
 - (2) The ladder shall be fixed in place with a clear horizontal running clearance of not less than 20 mm (0.8 in.) nor more than 51 mm (2 in.) between the ladder and the car (or any equipment attached thereto).
 - (3) Side rails, if provided, shall have a clear distance of not less than 115 mm (4.5 in.) from their centerline to the nearest permanent object. When obstructions are encountered, the 115 mm (4.5 in.) hand clearance on each side of the ladder can be reduced or eliminated by extending the ladder rungs as hand grips 1200 mm (48 in.) above the sill of the access door; and
 - (4) Retractable pit ladders are prohibited.
- (u) Counterweight guards, if perforated, shall reject a ball 13 mm (0.5 in.) in diameter.
- (v) The pit light switch shall be located adjacent to the pit ladder, within 450 mm (18 in.) to 915 mm (36 in.) above the access landing when access to the

elevator pit is through the lowest landing door.

(w) Safe access to elevated equipment in the elevator pit and on the underside of the car shall be as follows:

(1) When the car is at the lowest landing and the distance from the pit floor to the underside of the plank channels, slings or means for checking the oil level of oil buffers exceeds 2100 mm (83 in.) but is less than 2515 mm (99 in.), an inspection platform shall be permanently installed in the pit to provide access to the equipment. The platform shall be able to support in any position at least 2000 N (450 lbf), with a load concentration of at least 1000 N (225 lbf) over an area of 40000 mm² (64 in.²) with a factor of safety of not less than five.

(2) When the car is at the lowest landing and the distance from the pit floor to the underside of the plank channels, slings or the means for checking the oil level of oil buffers exceeds 2515 mm (99 in.), an inspection platform shall be permanently installed in the pit to provide access to the equipment. The platform shall be able to support in any position at least 2000 N (450 lbf), with a load concentration of at least 1000 N (225 lbf) over an area of 40000 mm² (64 in.²) with a factor of safety of not less than five. The platform shall be equipped with an OSHA-compliant permanent ladder and on each open side, guardrails.

(x) The area of the car top outside the car top railing, where provided, shall have a minimum vertical clearance of not less than 1100 mm (43 in.) at maximum upward movement.

EXCEPTION to subsection 3147.101(x): For areas outside the car top railing that are clearly marked, the minimum vertical clearance may be reduced to not less than 100 mm (4 in.). The marking shall consist of alternating 100 mm (4 in.) diagonal red and white stripes.

(y) Two unobstructed horizontal areas shall be provided on the car enclosure top. An intrusion into the horizontal areas on the car enclosure top is permitted if it is not more than 30 mm (1.25 in.) in height x 30 mm (1.25 in.) in width x the length of the horizontal area. The two areas shall not overlap. The areas shall be within the projection of the car enclosure top exclusive of the area outside of the standard railing, where provided. The areas shall be clearly identified. The horizontal areas shall be:

(1) not less than 350 mm (14 in.) x 585 mm (23 in.) when a vertical clearance of not less than 1100 mm (43 in.) is provided at maximum upward movement; or

(2) not less than 350 mm (14 in.) x 350 mm (14 in.) when a vertical clearance of not less than 1400 mm (55 in.) is provided at maximum

upward movement.

- (z) Equipment attached to the car enclosure top shall not obstruct the point of access to the components of equipment that require maintenance or inspection (see subsection 3147.101(cc)).
- (aa) The maximum horizontal clearance between the edge of the car platform sill and the hoistway enclosure or fascia plate as specified in ASME A17.1-2019, section 2.5.1.5.1, shall not be extended or eliminated when car door interlocks are provided.
- (bb) The 450 mm (18 in.) maintenance clearance, as required by ASME A17.1-2019, section 2.7.2.3, shall be provided in the direction(s) necessary to perform maintenance tasks.
- (cc) When a machinery space or control equipment is located inside the hoistway, and full bodily entry to the elevator car top is required for inspection, maintenance, minor repairs, minor replacements or testing, the following requirements shall be met:
- (1) The car-top working surface shall have an unobstructed workspace at the point of access to driving machines, motors, brakes and governors; and
 - (2) The components of the driving machines, motors, brakes and governors that require inspection, maintenance, minor repairs, minor replacements or testing that are located outside the car-top railing or outside the car top if a car-top railing is not installed, shall be installed not more than:
 - (A) 815 mm (32 in.) horizontally from the inside edge of the car-top railing, or from the edge of the car top if a car-top railing is not installed, where the component is mounted 1525 mm (60 in.) or less vertically above the car-top working surface; or
 - (B) 525 mm (21 in.) horizontally from the inside edge of the car-top railing, or from the edge of the car top if a car-top railing is not installed, where the component is mounted more than 1525 mm (60 in.) but not more than 1825 mm (72 in.) vertically above the car-top working surface.
- ~~NOTE to subsection 3147.101(cc):~~ Other components of the elevator system can be outside the specified ranges.
- (3) The top of the components of driving machines, motors, brakes and governors that require inspection, maintenance, minor repairs, minor replacements or testing shall be located no more than 1975 mm (78 in.) vertically above the car-top working surface when the components are

located within the standard railing or from the edge of the car-top perimeter if a car-top railing is not installed.

(4) The maximum vertical dimensions for access to the top of the components of driving machines, motors, brakes and governors that require inspection, maintenance, minor repairs, minor replacements or testing shall be measured from the car top working surface when the means to prevent unexpected vertical car movement has been engaged.

(5) Driving machines, motors, brakes and governors shall not be installed in locations that require inspection, maintenance, minor repairs, minor replacements or testing from an adjacent hoistway.

~~NOTE to subsection 3147.101(cc)(5):~~ Minor repairs and minor replacements are tasks that can be safely performed by a single worker using common hand tools.

(dd) Stairs shall be provided for access to overhead machinery spaces containing the driving machine, for Part 2 elevators.

(ee) All elevators subject to the requirements of ASME A17.1-2019, Part 2 or Part 3, shall have hoistway access switches regardless of rated speed.

(ff) The car-top emergency exit shall reside within the perimeter of the car-top railings, if car-top railings are provided or required. If the standard railing placement impedes on the clear passageway to the elevator car top, the intermediate rail and toe board shall be moved to the perimeter of the car top in the area of the emergency exit only, and subject to the following:

(1) The top rail of the standard railing may overlap (not in vertical alignment with the toe board and intermediate rail) the emergency exit a maximum of 254 mm (10 in.) on one side only. The intermediate rail and toe board shall be installed in such a manner that a parallelepiped volume in accordance with ASME A17.1-2019, section 2.14.1.5.1(b)(2) can pass through the emergency exit to the car enclosure top; and

(2) The area between the top rail and intermediate rail of the standard railing, in the area of the emergency exit only, shall be enclosed with a solid metal panel or openwork metal panel not less than 2.2 mm (0.087 in.) thick and capable of rejecting a ball 100 mm (4 in.) in diameter. Where provided, openings in the metal panels shall not present sharp edges.

(gg) Car-top emergency exits for elevators installed in partially enclosed hoistways are prohibited, unless bolted in the closed position, by no less than four bolts that can only be removed from the car top.

(hh) Spring-return-type oil buffers shall be provided with a switch to monitor the position of the buffer plunger. The switch shall be monitored by the elevator control system. If the plunger does not return to its fully extended position within 90 seconds from compression, the following shall apply:

(1) A car standing at a landing shall remain stopped, power operated doors shall open and then within 15 seconds initiate reclosing, except on Firefighters' Emergency Operation, then the door shall conform to A17.1-2019 section 2.27.3,

(2) A car travelling between landings shall automatically stop at the next available landing. Upon reaching the landing, power operated doors shall open and then within 15 seconds initiate reclosing, except when on Firefighters' Emergency Operation the doors shall conform to A17.1-2019 section 2.27.3,

(3) Once at a landing the elevator shall be prevented from restarting except on hoistway access or inspection operation,

(4) The in-car door-open button(s) shall remain operative; and

(5) The elevator shall remain out of service until the control system is manually reset.

(ii) A means to prevent unexpected vertical car movement shall be required for all new elevator installations where the driving machine or governor is installed inside the hoistway. In addition to the requirements of ASME A17.1, section 2.7.5.1.2, the means to prevent unexpected car movement shall be capable of being engaged in multiple positions, if required, to comply with the access requirements for the components of driving machines, motors, brakes and governors (see subsection 3147.101(cc)).

(jj) Elevator motor controllers and motion controllers shall be located in a machine room or control room dedicated to elevator equipment, and shall comply with the following:

(1) A permanent and unobstructed path of not more than 7.62m (25 ft.) in distance shall be provided between the control room or machine room door and the elevator hoistway door (or the nearest hoistway door for a group of elevators).

(2) The distance from the machine room or control room door to the elevator hoistway door may be greater than 7.62m (25 ft.) when the machine room or control room is located directly above the hoistway as is typical for conventional overhead electric traction elevator installations.

(3) All electrical clearances in the machine room or control room shall be

provided and maintained with the door to the room in the closed position. The door shall not swing into the required electrical clearances.

(4) The door shall be labeled "ELEVATOR CONTROLLER" with letters not less than 51 mm (2 in.) high on a contrasting background.

(5) A permanent sign shall be mounted no less than 1200 mm (48 in.) and no greater than 1975 mm (78 in.) high on the elevator entrance jamb of all elevators at their designated level adjacent to the "FIRE RECALL" switch and adjacent to the fire alarm control unit. The sign shall read "ELEVATOR CONTROLLER LOCATED ON LEVEL "INSERT THE LEVEL OR FLOOR NUMBER HERE"." The sign shall be a minimum of 6 mm (.25 in.) high on a contrasting background. If all the elevators in a lobby share a common control room or machine room a single sign at the designated level, adjacent to the "FIRE RECALL" switch shall be permitted in lieu of individual signs for each elevator.

~~NOTE to subsection 3147.101(ji):~~ Substitute name or number of the floor or floor level for " " in the above signage.

EXCEPTION to subsection 3147.101(ji): Conveyances covered by ASME A17.1-2019, sections 4.1, 4.2, 5.3, 5.4, 5.7 and 5.10 are exempt from this requirement.

(kk) Shunt trip electrical equipment, referred to in ASME A17.1-2019, section 2.8.3.3.2, may reside in elevator machine rooms and control rooms if incorporated into the design and function of the listed mainline power supply disconnecting means. Shunt trip equipment not incorporated into the design and function of the listed mainline power supply disconnecting means shall not be located in rooms and spaces dedicated to elevator equipment.

(ll) Air-conditioning equipment, referred to in ASME A17.1-2019, section 2.8.5, shall not be installed inside the hoistway.

~~(NOTE to subsection 3147.101(ii):~~ Air-conditioning equipment installed pursuant to ASME A17.1-2019, section 2.14.2.3.3 is not prohibited.)

(mm) Emergency doors for an elevator installed in a single blind hoistway, as required by ASME A17.1-2019, section 2.11.1.2, are prohibited.

(nn) In addition to the requirements of ASME A17.1-2019, section 2.14.1.7.1, car-top railings, where provided, may be inset from the perimeter of the car top only to the extent necessary to comply with the minimum required horizontal railing clearances (see subsection 3147.101(pp), but in no case more than 300 mm (12 in.).

~~(NOTE to subsection 3147.101(nn):~~ It is not required that the railing be

attached to the car enclosure.}

EXCEPTION to subsection 3147.101(nn): The car-top railing may be inset more than 300 mm (12 in.) to the extent necessary to comply with the minimum required horizontal railing clearances to driving machines and where a means is provided to prevent a person from standing in the area outside the car-top railing. The area outside the railing where the machine encroachment occurs shall:

1. Include a sheet metal guard attached to the car-top railing with a minimum slope of 40 degrees from the horizontal to within 50 mm (2 in.) of the car top outside edge; and
2. The guard shall be marked with alternating 100 mm (4 in.) diagonal red and white stripes.

~~NOTE to subsection 3147.101(nn):~~ Car top clearances outside the railing shall be measured from the car top and not from the required sheet metal guard.

(oo) A sign with the words “CAUTION DO NOT STAND ON OR CLIMB OVER THIS RAILING”

shall be provided wherever car top railings are installed. The sign shall conform to the requirements of ANSI Z535.2 or ANSI Z535.4, whichever is applicable. The sign shall have letters not less than 25 mm (1 in.) high on a contrasting background. The sign shall be made of durable material and shall be permanently attached to the railing. The sign shall be visible from the entrance side of the car top.

(pp) ASME A17.1-2019, section 2.14.1.7.2, shall be amended as follows:

The following minimum clearances shall be provided from the car top railing to building structure, fixed (structural, mechanical and electrical) objects mounted in the hoistway and elevator equipment in relative motion to the car top railing:

- (1) when the car has reached its maximum upward movement
 - (A) 300 mm (12 in.) vertically; and
 - (B) 600 mm (24 in.) horizontally toward the centerline of the car enclosure top.
- (2) throughout the hoistway, 300 mm (12 in.) horizontally in the direction toward the hoistway enclosure.
- (3) The horizontal clearance required by 3147.101(pp)(2) throughout the

hoistway may be reduced to no less than 100 mm (4 in.) for the following:

- (A) suspension means and their associated devices,
- (B) governors and their structural supports,
- (C) governor ropes,
- (D) governor rope guards,
- (E) selector tapes,
- (F) traveling cables,
- (G) traveling cable hangers mounted directly to the hoistway wall,
- (H) flexible metal conduit,
- (I) driving machines located in the hoistway, excluding bedplates and structural supports,
- (J) guide rails and guide rail brackets projecting less than 150 mm (6 in.) horizontally on either side of the guide rail,
- (K) mounting brackets and assemblies attached to the guide rails making a horizontal projection less than 150 mm (6 in.) in length,
- (L) horizontal electrical raceways and fixtures attached directly to the hoistway wall protruding less than 50 mm (2 in.) into the hoistway,
- (M) the hoistway wall and vertical electrical raceways attached directly to the hoistway wall,
- (N) horizontal hoistway projections, recesses and setbacks whose top and/or bottom surfaces are beveled (see also subsection 3147.101(q)),
- (O) counterweight assembly (see subsection 3147.101(vv) for top-of-car inspection operation when approaching the counterweight),
- (P) counterweight displacement-detection devices,
- (Q) hoistway landing entrances and their components (including sills, sill guards, doors, fascia plates, hangers, tracks, track supports and entrance frames),

(R) compensation means and their connections; and

(S) equipment and structural supports that are effectively guarded against shear hazards by the position of the components listed in subsection 3147.101(pp)(3).

(4) The horizontal clearance may be reduced to no less than 100 mm (4 in.) for objects making a horizontal projection 150 mm (6 in.) or greater in length, if the underside of the object is suitably protected by one of the following methods:

(A) Beveling the underside of the projection with a solid material at an angle of not less than 60 degrees with the horizontal:

1. The exposed edge of the angle shall be rolled or formed to prevent sharp edges,
2. The bevel shall not create a nip point by intersecting with, or terminating too closely to, any other object or device; and
3. The material shall be suitably attached to prevent it from being deformed, dislodged or deflected into required running clearances.

(B) Screening with a perforated metal guard with openings that will reject a ball 50 mm (2 in.) in diameter:

1. The screening shall span the full horizontal length of the object,
2. The screening shall extend vertically from the underside of the object to the point in the hoistway where the car top resides when the car is on its fully compressed buffer; and
3. The material shall be suitably attached to prevent it from being deformed, dislodged or deflected into the required running clearances.

(qq) Speed governor, oil buffer and elastomeric buffer marking plates shall include the manufacturer's model identification.

(rr) A car speed-sensing device that is part of the redundantly monitored speed control system is permitted as an alternative to a speed-reducing switch provided on the governor (see ASME A17.1-2019, section 2.18.4.2.5) subject to the following:

(1) The car speed-sensing device shall be located on machinery or

- equipment that is directly driven by car movement;
- (2) If the speed-sensing device is a motor-mounted encoder, it shall only be used on direct drive machines (i.e., no gear reduction is permitted between the drive motor and the suspension means);
 - (3) A separate car speed-sensing means shall continuously verify the proper operation of the speed-sensing device;
 - (4) Power shall be removed from the driving-machine motor and brake if failure is detected in any of the speed-sensing devices or means;
 - (5) Control system parameters utilized in the speed-reducing system shall be held in non-volatile memory;
 - (6) A traction-loss detection means, in accordance with ASME A17.1, section 2.20.8.1, shall be required; and,
 - (7) A successful test of this alternative speed-sensing device and the speed-reducing functionality of the speed control system shall be conducted at least once a year (a record of the test shall be made part of the maintenance records subject to ASME A17.1-2019, section 8.6.1.4).
- (ss) All references to ASME A17.6 - Standard for Elevator Suspension, Compensation, and Governor Systems shall be to the 2017 version of the standard.
- (tt) The residual-strength detection means as required by ASME A17.1-2019, section 2.20.8.3, shall be a device that utilizes a proven methodology to monitor the physical properties of the suspension's coated or covered load-carrying members.
- (1) The device shall be capable of converting data received through its monitoring function into an accurate estimate of the remaining residual strength of each load-carrying member at any time during its operational life cycle,
 - (2) The device shall be capable of detecting changes in the residual strength that may occur due to unusual or unforeseen conditions,
 - (3) The device shall be properly installed and functional at all times,
 - (4) If the device becomes nonfunctional, or is removed, the elevator is permitted to operate for a period of five days, at which time a replacement device shall be installed, tested and properly functional or the elevator shall be placed out of service. The date the device is found nonfunctional or removed shall be conspicuously documented on the outside of the elevator controller; and

(5) If the device is removed or disconnected from the suspension means, the newly restored device shall be tested for proper operation prior to the elevator being returned to service.

~~NOTE to subsection 3147.101(tt):~~ A device that utilizes a trip counter or bend cycle counter may be used as a means to determine when the suspension has reached the end of its normal useful life as determined by the suspension manufacturer's lifecycle replacement criteria; however, such a device is not a substitute for the residual strength detection means.

(uu) In addition to the required top-of-car inspection operating station, operating devices for inspection operation shall also be permitted in the car, in a machine room, in a control room or incorporated into an inspection and test panel. Operating devices for inspection operation in all other locations, including the pit, are prohibited.

(vv) ASME A17.1-2019, section 2.26.1.4.2, top-of-car inspection operation shall be amended to include the following operational requirements for all Part 2 Electric Elevators:

(1) A car traveling in the up direction shall automatically stop at a point where the car top is between 2130 mm (84 in.) and 3000 mm (120 in.) from:

(A) the horizontal plane described by the lowest part of the overhead structure or other overhead obstruction; and

(B) the lowest part of the counterweight assembly, except when the counterweight is located in a remote counterweight hoistway.

(2) A momentary audible signal, audible at the location where the inspection operation is activated, shall sound when the automatic stop is initiated; and

(3) Subsequent to the automatic stop, upward car movement shall be reinitiated by releasing, then re-engaging, the continuous-pressure devices of the top-of-car inspection operating device.

(ww) An emergency audible signaling device shall be provided on all elevators. The audible signaling device shall:

(1) be actuated by a push button located in or adjacent to the car operating panel subject to the following:

(A) the push button shall be visible and permanently identified with the "ALARM" symbol (see ASME A17.1-2019, section 2.26.12.1); and

- (B) the identification shall be on or adjacent to the “ALARM” push button.
- (2) have a sound pressure rating of not less than 80 dBA nor greater than 90 dBA at 3 m (10 ft.).
- (3) be located inside the building and audible inside the car and outside the hoistway; and
- (4) be duplicated as follows for elevators with a rise greater than 30 m (100 ft.):
- (A) one device shall be mounted on the car; and
- (B) a second device shall be placed at the designated level.
- (xx) Access panels in elevator car enclosures that open into the hoistway for maintenance and inspection of equipment located outside the car enclosure, are prohibited.
- (yy) Fixed or retractable ladders and stairs located inside the hoistway for access to equipment installed inside the hoistway are prohibited.
- EXCEPTION to subsection 3147.101(yy): Pit ladders and ladders to platforms for access to the underside of the car and for checking the oil level of oil buffers in deep pits (see subsection 3147.101(w)).
- (zz) Where sheaves and other equipment requiring inspection and maintenance are located in the hoistway overhead, they shall be provided with a means of access from outside the hoistway, unless they can be accessed while standing on the car top working surface, within the car top railings, if provided.
- (aaa) The light switch for machine rooms, control rooms and machinery spaces shall be located as follows:
- (1) at the point of entry for machinery spaces that do not require full bodily entry,
- (2) at the point of entry inside the hoistway for machinery spaces that do require full bodily entry; or
- (3) inside the room on the lock-jamb side of the access door for machine rooms and control rooms.
- ~~NOTE to subsection 3147.101(aaa):~~ Motion sensing switches and timed lighting switches are prohibited.
- (bbb) A means for testing and maintaining fire alarm initiating devices without having to enter the hoistway, in accordance with ASME A17.1-2019,

section 2.8.2.4, shall be required for all elevators.

(ccc) Guarding of equipment shall be as follows:

(1) The following conditions and equipment located in machine rooms, control rooms and machinery spaces shall be suitably guarded to prevent accidental contact:

(A) Driving machine sheaves and suspension means whose vertical projection upon a horizontal plane extends beyond the base of the machine,

(B) Exposed external moving parts such as gears, sprockets, sheaves, drums, shafts and their driving ropes, chains or tapes for selectors, floor controllers or signal machines,

EXCEPTION to subsection 3147.101(ccc)(1): Guards are not required for equipment located more than 2130 mm (7 ft.) above the floor or working surface or more than 915 mm (3 ft.) horizontally from the inside edge of the car top railing or from the outside edge of the car top if car top railing is not required.

(C) The nip points created by the intersection of the suspension means and drive sheave or deflection sheave of traction machines where the machine frame does not provide protection against accidental contact,

(D) All moving parts of the equipment in sheave spaces shall be completely enclosed by sheet metal, expanded metal or grillwork,

EXCEPTION to subsection 3147.101(ccc)(1)(D): Guards are not required for equipment located more than 2130 mm (7 ft.) above the secondary sheave space floor or working surface or more than 915 mm (3 ft.) horizontally from the inside edge of the car top railing or from the outside edge of the car top if car top railing is not required.

(E) The moving parts of equipment in overhead sheave spaces having a ceiling height of less than 1975 mm (78 in.); and

(F) The moving parts of equipment in overhead sheave spaces that must be passed over or closely approached in order to gain access to the governor.

(2) The following conditions and equipment located in the elevator hoistway or on the elevator car shall be suitably guarded to protect against accidental contact:

(A) Nip points created by the intersection of the suspension means and

the driving-machine sheave, secondary sheaves and underslung sheaves.

(B) Sheaves attached to and mounted above the car crosshead shall be completely enclosed with solid sheet metal. Handholds shall be provided on each side of the guard.

(C) Nip points created by the intersection of the suspension means and sheaves mounted within the car crosshead or underneath the car.

(D) Nip points created by the intersection of the suspension means attached to the crosshead of the car frame and secondary or deflecting sheaves located on the hoisting side of overhead machines, except where the bottom of the sheave is more than 2.13 m (7 ft.) above the crosshead when the car is at the top terminal landing or the sheave is located in a separate overhead machinery space; and

(E) Ventilating fans or blowers.

(ddd) Adjustable guide-rail brackets shall be fixed in their final position by pinning bolts or by welding as specified by the manufacturer. Such means shall have a factor of safety of not less than five.

(eee) Part 2 and Part 3 elevators shall be equipped with a self-leveling system that will automatically bring and maintain the car at floor landings within a tolerance of 13 mm (0.5 in.) under rated loading to zero loading conditions.

(fff) Driving machines and hydraulic machines (power units) for elevators and dumbwaiters shall not be located in the pit.

(ggg) Films applied temporarily to the handrails of new or existing escalators and moving walks are prohibited.

(hhh) Emergency Responder Radio Coverage (ERRC) equipment shall be permitted to be installed within the elevator hoistway for exclusive use by emergency responders. It shall be designed, installed and maintained so as not to create an interference with elevator operation, inspection, repair or maintenance.

(1) ERRC equipment in the hoistway shall be limited to radiating coaxial cable(s). Prior to installation of radiating coaxial cable(s) in the hoistway, layout drawings shall be coordinated with the elevator installer indicating acceptable installation locations for the radiating coaxial cable(s).

(2) ERRC equipment and associated wiring shall not be installed in elevator machinery spaces, machine rooms and control rooms, except as

permitted in this section.

(3) Radiating coaxial cable(s) shall be installed per the manufacturer's installation instructions in a non-metallic conduit originating outside the hoistway.

(A) Multiple radiating coaxial cable(s) shall be permitted in the hoistway.

(B) The installation of radiating coaxial cable(s) shall not reduce required horizontal clearances.

(C) Radiating coaxial cable(s) shall be supported at the upper point of entry into the conduit external to the hoistway. The lower ends of conduit(s) terminating in the hoistway shall be capped or closed.

(D) Radiating coaxial cable(s) shall only be installed, removed and serviced from outside the hoistway.

(4) Components of ERRC equipment inside cars shall be installed within the elevator car enclosure for exclusive use by emergency responders. These components shall:

(A) be installed, serviced, tested and be accessible only from inside the elevator car enclosure;

(B) not be accessible to the general public;

(C) be installed and identified in accordance with California Electrical Code, California Building Code and California Fire Code, in effect at the time of installation or alteration;

(D) be limited to:

1. antenna;

2. remote repeater unit;

3. power supply supporting the remote repeater unit;

(5) Antenna(s) installed in the car enclosure shall comply with the following:

(A) Non-radiating coaxial cables connecting the antenna to the radio frequency source shall be permitted to be included in the elevator traveling cable(s), if permitted by the California Electrical Code,

(B) Non-radiating coaxial cables from the antenna to the elevator traveling cable shall be permitted to pass through and/or terminate in

the car operating panel. A Certified Competent Conveyance Mechanic (CCCM) shall provide access and supervise work performed in the car operating panel enclosure; and

(C) Non-radiating coaxial cables feeding the antenna in the car shall be permitted to pass through the machinery spaces, machine rooms, and control rooms;

(6) Remote repeater units and associated power supplies installed in the car enclosure shall comply with the following:

(A) Fiber optic cables connecting remote repeater units shall be permitted to be included in the elevator traveling cable(s), if permitted by the California Electrical Code,

(B) Power for remote repeater units shall be permitted to pass through the elevator traveling cables,

(C) When the power source for a remote repeater unit is not in the elevator car enclosure, the power feeders for the remote repeater unit shall be permitted to terminate in the elevator controller in the machine room or control room. The installation shall be in accordance with the California Electrical Code in effect at the time of installation or alteration. A CCCM shall provide access and supervise work performed in elevator control equipment enclosures; and

(D) Repair, replacement and testing of the remote repeater unit(s) by authorized personnel shall be permitted.

(7) Locations of ERRC radiating coaxial cable(s), antenna(s) and access panels shall be provided on layout drawings.

(iii) Whole-Hoistway Lighting. The hoistway of electric, passenger and freight elevators shall be provided with permanent lighting of not less than 50 lx (5 fc). This illumination level excludes shadows created by the elevator cab or components attached thereto. The illumination level shall be measured at the center of the car top and shall provide 50 lx (5 fc) throughout the travel of the car when the car top lights are in the off position and hoistway doors are closed. Components of the lighting system shall be guarded against accidental contact. Components requiring maintenance or service shall be located in conformance with subsection 3147.101(cc).

(1) Whole-hoistway lighting shall conform to the following:

(A) Manually controlled light switches for whole hoistway lighting shall be located within the hoistway enclosure and accessible from:

1. the pit access door; and

2. the top landing.

(B) The light switches for illumination of pits and machinery spaces in the hoistway shall be permitted to activate whole hoistway lighting.

(C) Whole-hoistway lighting shall turn on automatically when:

1. the access enable switch for any car in the hoistway is in the "ENABLE" position,

2. an inspection operating device for any car in the hoistway is in the "INSPECTION" position; or

3. Firefighters' Emergency Operation is in effect.

(D) The manually controlled whole-hoistway light switches shall not turn off the lighting when any of the conditions in subsection 3147.101(iii)(1)(C) are in effect.

(E) Control signal(s) shall be provided to the building system for lighting the hoistway when any of the conditions in subsection 3147.101(iii)(1)(C) are in effect.

(2) If the building is equipped with emergency or standby power, the whole-hoistway lighting shall be on the same emergency power system as the elevator system.

(3) The location for whole-hoistway lighting fixture(s) shall be provided on the layout drawings.

(4) Access for the purposes of installation and maintenance of equipment related to this system residing in the elevator hoistway shall be facilitated only by a CCCM.

(iii) The pit access ladder shall be provided with an electrical device that will cause electric power to be removed from the elevator driving-machine motor and brake or hydraulic machine (see ASME A17.1-2019, section 3.26.4) when a person is detected on the ladder. The device is required to detect the person directly by weight and shall activate when more than 9 kg. (20 lb.) is applied to any rung of the ladder. Mercury tube switches shall not be used. The device shall be tested for proper function annually.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

§ 3147.102. Elevators Used for Construction.

Elevators used for construction shall comply with ASME A17.1-2019, section 5.10, except as amended herein:

(a) Jobsite Requirements for Elevators Used for Construction.

- (1) A trained and authorized person shall be stationed at, and operate the controls in, the elevator car at all times while the elevator is accessible and available for use. Training shall include at least conveyance operation and emergency procedures such as entrapment, elevator fire, earthquake conditions or other emergency procedures associated with conveyance operations;
- (2) There shall be available at all times an effective means of two-way voice communication between the operator and a second person at a different location on the jobsite while the elevator is staffed by an operator;
- (3) There shall be an effective means of two-way voice communication (wired or wireless) between the conveyance operator and all landings. This communication system shall be provided at each landing and be operable at all times while the elevator is in use, i.e., an annunciator next to the operator's station in the car that can be activated from the landings;
- (4) An emergency plan and procedure to include items such as entrapment, elevator fire, earthquake conditions or other emergency procedures associated with conveyance operations shall be developed and made available upon request to the Division during any inspection;
- (5) A durable sign with lettering not less than 13 mm (0.5 in.) high on a contrasting background shall be conspicuously posted inside the elevator car indicating:
 - (A) The conveyance is for construction use only; and
 - (B) The conveyance shall be operated only by an authorized person.
- (6) Durable signs with lettering not less than 13 mm (0.5 in.) high on a contrasting background shall be conspicuously posted at all landings instructing the elevator user how to summon the conveyance; and
- (7) The conveyance shall be parked and secured against unauthorized access during non-working hours.

(b) Hoistway doors for all elevators used for construction shall be provided with interlocks conforming to ASME A17.1-2019, section 2.12.2.

- (c) Operation of the car with the top emergency exit open is permissible only when the load cannot be carried totally within the car enclosure and the operation is under the direct supervision of a Certified Competent Conveyance Mechanic (CCCM). The CCCM shall operate the elevator while positioned on the car top using car top inspection operation controls.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

§ 3147.103. Elevator Seismic Requirements.

Elevator seismic requirements shall comply with ASME A17.1-2019, section 8.4, except as amended herein:

- (a) Elevator seismic requirements shall apply to all electric elevators with counterweights, and direct-acting or roped-hydraulic elevators, except Limited Use, Limited Application (LULA) elevators and Private Residence elevators.
- (b) The layout drawings shall include the nominal weight (pounds per foot) of the guide rail sections and the maximum car and counterweight (where applicable) rail bracket spacing detail for the entire height of the hoistway.
- (c) A suspension member displacement-detection means in accordance with the requirements of ASME A17.1-2019, section 8.4.3.1.5, shall be provided on all electric elevators with counterweights.
- (d) Traveling cables shall be restrained from significant lateral movement near the midpoint of elevator travel.
- (e) The momentary reset switch for terminating earthquake mode, if located in a controller enclosure in a machine room or control room, shall be a Group 1 restricted key switch, in accordance with ASME A17.1-2019, section 8.1.2.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

§ 3147.104. Escalator and Moving Walk Seismic Requirements.

Escalator and moving walk seismic requirements shall comply with ASME A17.1-2019, section 8.5, except as amended herein:

- (a) The escalator and moving walk seismic requirements apply to all escalators and moving walks.
- (b) The Certified Qualified Conveyance Company (CQCC) who intends to install a new escalator or moving walk shall submit to the Division, along with the

notification of intent to install, the following:

(1) Layout drawings, including the building-specific seismic design parameters assigned to the escalator(s) and/or moving walk(s).

(2) The design story drift at the sliding end support(s).

(3) Seismic calculations required by the ESO.

(4) Details of equipment supports, restraints and connections to the building; and

(5) Certification of the drawings, calculations and details by a California-licensed engineer who is competent in seismic design and qualified under the Professional Engineers Act.

(c) The vertical and horizontal seismic forces applied to the balustrades of escalators and moving walks shall be in accordance with ASME A17.1-2019, section 8.5.1, and in no case shall the seismic force be less than 50 lb/ft (pound-force per lineal foot) of exposed handrail length from the entry newel tangent to the exit newel tangent.

(d) Intermediate supports, when used, shall be free to move laterally in all directions. Motion restraints at intermediate supports are prohibited.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

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

(a) Platform lifts and stairway chairlifts shall comply with ASME A18.1-2020 Safety Standard for Platform Lifts and Stairway Chairlifts, which is hereby incorporated by reference, as amended by the ESO.

(b) Except as amended herein, all electrical equipment and wiring shall comply with California Code of Regulations, Title 24, Part 3, California Electrical Code in effect at the time of installation or alteration.

(c) Platform lifts and stairway chairlifts may be locked for security reasons but shall remain unlocked during normal business hours.

(d) General Requirements for Vertical Platform Lifts:

(1) The running clearance between the platform enclosure walls that extend less than 2000 mm (79 in.) above the platform floor and the vertical face of the machine housing shall be not less than 50 mm (2 in.) nor more than

75 mm (3 in.).

(2) When the bottom runway door is equipped with an electric strike lock, a battery backup shall be provided to electrically unlock the door for emergency evacuation in case of power failure.

(e) Combination mechanical locks and electric contacts, inclined platform lift safety devices and inclined stairway chairlift safety devices shall be approved by the Division and shall comply with the criteria contained in ASME A18.1-2020, section 2.1.1.4, 3.8, 4.8, 9.9.1 and 9.9.2.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.

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

(a) Vertical and inclined reciprocating conveyors shall comply with ASME B20.1-2021 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.

(b) All automated transfer devices and systems associated with vertical and inclined reciprocating conveyors are excluded and not subject to these orders.

(c) Except as amended herein, all electrical equipment and wiring shall comply with California Code of Regulations, Title 24, Part 3, California Electrical Code in effect at the time of installation or alteration.

(d) Permanently installed electrical lighting shall provide 5 fc. of illumination in the conveyor hoistway, at each landing and in the area of the controller and machine. ~~(NOTE to subsection 3147.300(d): This requirement is not intended to require the installation of dedicated light fixtures, but to insure ensure proper illumination of these spaces.)~~

(e) In addition to the requirements of ASME B20.1-2021, sections 6.6.2 and 6.21.2, the guarding of inclined and vertical reciprocating conveyors shall be as follows:

(1) The runway of the conveyor shall be fully enclosed to a minimum of 2438 mm (96 in.) high at each floor level. If the ceiling height is less than 2438 mm (96 in.), the vertical space should be filled. If the enclosure is of open-work construction, it shall reject a ball 50 mm (2 in.) in diameter.

(2) Whenever solid access doors are used, an audible or visible means shall be provided at each landing to indicate arrival of the conveyor.

(3) Landing doors and gates at each floor level, including the uppermost landing, shall be a minimum of 1829 mm (72 in.) high.

(f) The guarding requirements of ASME B20.1-2021, section 5.9.1.1, shall also apply to machinery spaces.

(g) The guarding exception referred to in ASME B20.1, section 5.9.1.3, is not incorporated by reference.

(h) The provisions of ASME B20.1, section 5.11.2(b) relating to automatic and remote control shall apply only to vertical and inclined reciprocating conveyors that include automated transfer devices and systems and are not capable of being loaded and unloaded by workers or the general public.

(i) In addition to the manufacturer's nameplate required by ASME B20.1, Appendix I, section I-4.1, a separate plate of similar construction indicating the conveyor's rated capacity and speed shall be provided and permanently secured next to the manufacturer's nameplate.

(j) A capacity plate, with numbers not less than 25 mm (1 in.) high shall be installed in a conspicuous position inside the carrier of the conveyor. The plate shall be of such material and construction that the letters and figures stamped, etched, cast or otherwise applied to the face of the plate shall remain permanently and readily legible.

NOTE: Authority cited: Sections 142.3 and 7323, Labor Code. Reference: Sections 142.3 and 7323, Labor Code.