

524 CMR: BOARD OF ELEVATOR REGULATIONS

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PART 1: SCOPE AND ADMINISTRATION

SECTION 1.1 GENERAL

1.1.1 Adoption and Title. The Board of Elevator Regulations (BER) adopts and incorporates by reference, the *ASME A17.1-2013/CSA B44.13 Safety Code for Elevators and Escalators*, (A17.1-2013). Additionally, the BER adopts and incorporates by reference, *ANSI/ASSEA 10.4-2016, Personnel Hoists and Employee Elevators on Construction and Demolition Sites* (A10.4-2016); *ANSI/ASSEA 10.5-2013, Safety Requirements for Material Lifts* (A10.5-2013) and; *ASME A18.1-2014, Safety Standard for Platform Lifts and Stairway Chairlifts* (A18.1-2014).

The above adoption, together with Massachusetts modifications as set forth herein, shall collectively comprise the *Massachusetts Board of Elevator Regulations*, and is referred to as 524 CMR.

524 CMR contains Part 1 – Part 38 (see Table of Contents for Part Titles).

1.1.2 Scope. Conveyance equipment is regulated as follows:

(1) Except as otherwise provided by statute, the provisions of 524 CMR shall control the design, construction, installation, relocation, alteration, demolition, decommissioning, reclassification or material change, maintenance and operation of all *elevators*, escalators, lifts, dumbwaiters, moving walks, and special hoisting equipment, covered herein in all buildings and structures.

The design, construction, installation, maintenance and operation of all miscellaneous hoisting and elevating equipment shall be subject to such special requirements as are deemed necessary by the Board of Elevator Regulations (BER) having jurisdiction to secure their safe operation. The provisions of 524 CMR shall not apply to portable elevating devices used to handle materials only, and located and operated entirely within one story.

(2) The provisions of 524 CMR are not retroactive except as specifically provided in 524 CMR; and except further that if, upon inspection of any device covered by 524 CMR, the equipment is found in dangerous or unsafe condition, or there is an immediate hazard to those riding on or using such equipment, or the method of operation in combination with devices used is considered inherently dangerous in the opinion of the state *elevator* inspector, the state *elevator* inspector shall notify the *owner* in writing of the condition as required by 524 CMR 1.11: *Unsafe Conveyance Equipment*.

Existing conveyance equipment regulated by 524 CMR, but not undergoing permissible construction, installation, repair, relocation, alteration, demolition, reclassification or material change shall be inspected in accordance with the governing requirements of that version of 524 CMR in effect at the time of acceptable completion of construction, installation, repair, relocation, alteration, classification change or material change as applicable.

Note that all previous and current editions of 524 CMR are available at the MA Division of Publications and Regulations in the Office of the Secretary of the Commonwealth (617-727-2831).

Also note that the Secretary of the Commonwealth is the singular legal keeper of the record of all Codes of MA Regulation (CMR), including 524 CMR.

(3) All equipment and devices covered by 524 CMR shall meet the requirements of the applicable codes in effect at the time of design, construction, installation, relocation, alteration, demolition, decommissioning,

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reclassification or material change.

EXCEPTIONS: All equipment and devices specifically exempted under the provisions of St. 1962, c. 288 and St. 1980, c. 324.

1.1.3 Authority. Refer to MGL c.143, §§ 68-71G

1.1.4 Intent. The purpose of this code is to establish the minimum requirements to safeguard the public health, safety and general welfare through regulatory control of the design, construction, installation, relocation, alteration, demolition, decommissioning, reclassification or material change, operation, inspection, testing and/or maintenance of conveyance equipment regulated herein.

1.1.5 Referenced Codes. Referenced codes include the specialized codes of M.G.L. c. 143, § 96 and other codes and regulations as identified in 101.4.1 through 101.4.3 and shall be considered part of 524 CMR to the prescribed extent of each such reference.

Work regulated by the specialized codes of M.G.L. c. 143, § 96 shall be designed, installed and inspected by individuals authorized to do so in accordance with the specialized codes. However, the impact of work regulated by the specialized codes of M.G.L. c. 143, § 96 and other codes and regulations on work governed by 524 CMR and within the jurisdiction of the *state elevator inspector*, shall be subject to inspection by the *state elevator inspector*.

1.1.5.1 Building Code of Jurisdiction. Reference to the *Building Code of Jurisdiction* shall be considered reference to 780 CMR: *The Massachusetts State Building Code*. 780 CMR is enforced by the building official.

1.1.5.2 Architectural Access. Any reference in this code to accessibility shall be considered reference to 521 CMR: *Architectural Access Board*. 521 CMR is enforced by the *building official*.

1.1.5.3 Electrical. Any reference in this code to the National Electrical Code (NEC) shall be considered reference to 527 CMR 12.00: *Massachusetts Electrical Code Amendments*. 527 CMR 12.00 is enforced by wiring inspectors.

1.1.5.4 Gas and Plumbing. Any reference in this code to National Gas and Plumbing Codes shall be considered reference to 248 CMR: *MA Fuel Gas and Plumbing Code*. 248 CMR is enforced by gas and plumbing inspectors.

SECTION 1.2 APPLICABILITY

1.2.1 General. Where there is a conflict between a general requirement and a specific requirement, the specific requirement shall be applicable. Where, in any specific case, different sections of 524 CMR specify different materials, methods of construction or other requirements, the most restrictive shall govern.

1.2.2 Other Laws. The provisions of this code shall not nullify any provision of applicable state or federal law. Massachusetts General Laws (M.G.L.s) and the Code of Massachusetts Regulations (CMRs) are often referenced in this code. It is the code user's responsibility to determine all applicable laws and regulations relevant to sections in 524 CMR.

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1.2.3 Application of References. References to Part or Section numbers, or to provisions not specifically identified by number, shall be construed to refer to such Part, Section or provision of 524 CMR

1.2.4 Referenced Codes and Standards. The codes and standards referenced herein shall be considered part of the requirements of 524 CMR to the prescribed extent of each such reference but limited in accordance with law. Where differences occur between provisions of 524 CMR and referenced codes and standards exist, the provisions of 524 CMR shall apply.

1.2.5 Partial Invalidity. In the event that any part or provision of 524 CMR is held to be illegal or void, this shall not have the effect of making void or illegal any of the other parts or provisions.

SECTION 1.3 – REGISTRATION NUMBERS REQUIRED

1.3.1 Registration Numbers for all Conveyance Equipment Regulated by 524 CMR. To provide a uniform system of identification of all *elevators*, dumbwaiters, moving stairways and other installed equipment that is regulated by 524 CMR, the following is required:

- (1) A permanent registration number shall be issued by the *Elevator* Section, Division of Inspection, Department of Public Safety. This number shall be noted on the approved layout or drawings and on all other documents pertaining to the unit during its life, *e.g.* data, records, permit applications, operating certificates, accident reports, decommissioning records.
- (2) A permanent record of the assigned registration numbers shall be maintained by the *Elevator* Section as directed by the Commissioner of Public Safety.
- (3) Registration numbers shall be permanently affixed/attached to all the following:
 - (a) Car crosshead front and center so as to be visible when the hoistway door is opened;
 - (b) Machine, pump unit or drive unit;
 - (c) On the certificate.
 - (d) The number shall also be affixed to the main line disconnect switch.
 - (e) Escalators, the plate shall be located near the handrail entrance brush on the side of the unit containing the stop/start section at each end of the unit and on the disconnect switch, controller or machine.
- (4) Registration numbers shall be a minimum of ½" in height and of a contrasting color from the background color on which it is applied or mounted. This identification number shall be applied in the form of a metal or plastic plate only.
- (5) Existing *Elevator* Equipment. All permit applications for the required annual safety test shall be posted with the permanent registration number to be assigned to the unit. The inspector shall also note the registration number on the operating certificate before it is issued. The *elevator* firm conducting the annual safety test for the inspector having jurisdiction shall post the registration numbers on the equipment.
- (6) Only one registration number shall be assigned to each *elevator*.
- (7) Permanent registration numbers shall not be assigned to builders' *elevators* installed under 524

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CMR 36.

TABLE 1.3 Department of Public Safety Regulated Conveyance Class Codes					
Auto Park Device	A	Outside Hoist	H	Residence (Private)	R (SFOO)
Chair Lift	C	Industrial Lift	I	Sidewalk	S
Dumbwaiter	D	Stage/Organ	K	Turbine	T
Escalator	E	Limited Use/Limited Application (LULA)	L	VRCs	V
Freight	F	Moving Walks	M	Wheel Chair	W
Casket Lift	G	Passenger	P	Shipboard	J

1.4 DUTIES AND POWERS OF *ELEVATOR* INSPECTORS OF THE DEPARTMENT OF PUBLIC SAFETY

1.4.1 Municipal and State Enforcement of 524 CMR. The *state elevator inspector* is hereby authorized and directed to enforce the provisions of 524 CMR in accordance with M.G.L. c. 143, §§ 68-71G, as applicable.

1.4.2 Applications and Permits. The *state elevator inspector* shall receive applications, review *construction documents* and issue *elevator permits* for *elevator* and ancillary systems and all other regulated conveyance systems, narrow to design, construction, installation, relocation, alteration, demolition, decommissioning, reclassification or material change, and for inspection of the *elevator* and ancillary systems and all other regulated conveyance systems for which such *permits* have been issued and enforce compliance with the provisions of 524 CMR.

1.4.3 Notices and Orders. The *state elevator inspector* shall issue, in writing, all necessary notices or orders to ensure compliance with 524 CMR. Also see 524 CMR, Part 1, Section 1.11 as such relates to unsafe equipment.

1.4.4 Inspections. The *state elevator inspector* shall observe all of the required inspections.

1.4.5 Identification. The *state elevator inspector* shall carry proper identification when inspecting *elevators* and ancillary systems in the performance of duties under 524 CMR.

1.4.6 Right of Entry. Where it is necessary to make an inspection to enforce the provisions of 524 CMR, or where the *state elevator inspector* has reasonable cause to believe that there exists a condition which is contrary to or in violation of 524 CMR which makes the *elevator* and related ancillary systems and other regulated conveyance systems unsafe, dangerous or hazardous, the *state elevator inspector* is authorized to enter the structure or premises at reasonable times to inspect or to perform the duties imposed by 524 CMR, provided that if such structure or premises be occupied that credentials be presented to the occupant and entry requested. If such structure or premises is unoccupied, the *state elevator inspector* shall first make a reasonable effort to locate the *owner* or other person having charge or control of the structure or premises

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and request entry. If entry is refused, the *state elevator inspector* shall have recourse to the remedies provided by law to secure entry.

1.4.7 Department Records. The Department of Public Safety, assisted by the *state elevator inspector*, shall keep official records of applications received, *permits* and certificates issued, fees collected, reports of inspections, and notices and orders issued. Such records shall be retained in the official records for the period required for retention of public records.

1.4.8 Liability. All claims of liability relative to *state elevator inspectors* shall be governed by M.G.L. c. 258.

1.4.9 Areas Prone to Flooding. See A17.1, Part 8.12.1, as further modified by 524 CMR, Part 35.

SECTION 1.5 PERMITS

1.5.1 Required. It shall be unlawful to construct, install, relocate, alter, demolish, decommission, reclassify or make material change, to any equipment for which provision is made or the installation of which is regulated by 524 CMR without first filing a permit application with the DPS. Refer to the DPS website at www.mass.gov/dps for permit application guidance.

Exception: Work Exempt from *Elevator Permit*. Except for activities which may require a *permit* pursuant to other laws, by-laws, rules and the specialized codes of M.G.L. c. 143, § 96, an *elevator permit* is not required for work not defined in 524 CMR, Part 10.

1.5.2 Repairs. Permit application or notice to the DPS *Elevator Division* is required for work defined in 524 CMR, Part 10.

1.5.2.1 Emergency Repairs. Where replacements and repairs governed by this code must be performed in an emergency situation, compliance with the detailed *elevator permit* application rules for an Emergency *Elevator Permit* / See the DPS website at www.mass.gov/dps for permit application guidance.

Note: Pursuant to the terms of the specialized codes of M.G.L. c. 143, § 96, 524 CMR procedures for emergency repairs do not apply to emergency repairs conducted under the specialized codes.

1.5.3 Application for an *Elevator Permit*. To apply for an *elevator permit*, the *owner* shall file a *permit* application on a form furnished by *DPS* at www.mass.gov/dps for permit application guidance.

1.5.3.1 Action on Application. An assigned *DPS State Elevator Inspector* shall examine or cause to be examined applications for *elevator permits*. Where proposed work has already received an *elevator permit* but scope of work changes, reapplication of permit is required along w/all required fees. The assigned *DPS State Elevator Inspector* shall issue or deny the *permit*, within 30 days of receipt of permit application. If the application or the *construction documents* do not conform to the requirements of 524 CMR and all pertinent laws (*see note below*) under the *DPS State Elevator Inspector's* jurisdiction, the *DPS State Elevator Inspector* shall deny such application in writing, stating the reasons therefore.

1.5.5 Validity of Permit. The issuance or granting of an *elevator permit* shall not be construed to be a *permit* for, or an approval of, any violation of any of the provisions of 524 CMR or of any other code or

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ordinance of the jurisdiction. *Permits* presuming to give authority to violate or cancel the provisions of this code or other ordinances of the jurisdiction shall not be valid. The issuance of a *permit* based on *construction documents* and other data shall not prevent the *DPS State Elevator Inspector* from requiring the correction of errors in the *construction documents* and other data. The *DPS State Elevator Inspector* is also authorized to prevent use of any device regulated by 524 CMR where in violation of this code.

1.5.6 Expiration. Every *elevator permit* issued shall become invalid unless the work on the site authorized by such *permit* is commenced within 365 days after its issuance. The *DPS State Elevator Inspector* is authorized to grant, in writing, one or more extensions of time, for periods not more than 180 days each. The extension shall be requested in writing and justifiable cause demonstrated.

Exception: In large projects where it is known that project completion will exceed 365 days, at the time of *elevator* permitting, identification of the expected duration of project will be allowed considered.

1.5.7 Suspension or Revocation. The *DPS State Elevator Inspector* is authorized to suspend or revoke a *permit* issued under the provisions of 524 CMR code wherever the *permit* is issued in error or on the basis of incorrect, inaccurate or incomplete information, or in violation of any ordinance or regulation or any of the provisions of 524 CMR.

1.5.8 Placement of Permit. The *permit* or copy shall be kept on the site and visible until the regulated conveyance is certified by DPS.

SECTION 1.6 SUBMITTAL DOCUMENTS

1.6.1 General. Submittal documents consisting of *construction documents*, statement of special inspections, if applicable, and other data shall be submitted with each *permit* application. The *construction documents* shall be prepared and stamped by a *registered design professional*.

1.6.2 Construction Documents. *Construction documents* shall be in accordance with Sections 1.6.2.1 through 1.6.2.5, as applicable.

1.6.2.1 General Information on Construction Documents. Although electronically filed, *Construction documents* shall be dimensioned and drawn upon suitable material. *Construction documents* shall be of sufficient clarity to indicate the location, nature and extent of the work proposed and show in detail that it will conform to the provisions of this code and relevant laws, ordinances, rules and regulations, as determined by *DPS*.

1.6.2.2 Base Flood Elevations. *Base flood* elevations shall be identified by the registered design professional when applicable and determined in accordance with methods set forth in the MA State Building Code (780 CMR).

1.6.3 Examination of Documents. *DPS* shall cause to be examined the subject submittal documents and shall ascertain by such examinations whether the construction indicated and described is in accordance with the requirements of 524 CMR and other pertinent laws or ordinances.

1.6.3.1 Approval of Construction Documents. When *DPS* approves all applicable *construction*

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documents, an *elevator* permit shall be issued.

NOTE: The date such **Construction Documents** are approved by the Commonwealth of Massachusetts Department of Public Safety, *Elevator* Division shall be considered the date of installation, relocation, or material change for that equipment.

SECTION 1.7 FEES

1.7.1 Payment of Fees. An *elevator permit* shall not be valid until the fees prescribed by law have been paid, in the amount established by the applicable governing authority.

1.7.2 Schedule of Permit Fees. For state *elevator permit* fees, see 801 CMR 4.02: *Rates for Installation, Repair, or Replacement of Elevators*.

1.7.3 Work Commencing Before an *Elevator* Permit is Issued. Any person who commences any work governed by this code on an *elevator* before obtaining the necessary *elevator permit* shall be in violation of this code and subject to penalties.

1.7.4 Cancellation of Scheduled Inspections. *Owner*-cancelled inspections within ten days of the scheduled inspection will result in forfeiture of all fees and a requirement to refile for said inspection.

1.7.5 Related Fees. Payment of the *elevator permit* fee shall not relieve the applicant or holder of the *elevator permit* from the payment of other fees that are prescribed by law.

SECTION 1.8 INSPECTIONS

1.8.1 General. Construction or work for which an *elevator permit* is required shall be subject to inspection by the *DPS State Elevator Inspector* and such construction or work shall remain accessible and exposed for inspection purposes until approved. Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid. It shall be the duty of the *permit* applicant to cause the work to remain accessible and exposed for inspection purposes and that all work shall be conducted, installed, protected and completed in a workmanlike and acceptable manner so as to secure the results intended by this code. Neither the *DPS State Elevator Inspector* nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

1.8.2 Required Acceptance Tests and Inspections. Acceptance tests and inspections shall be required on all new, relocated, altered, or decommissioned equipment subject to the provisions of 524 CMR.

1.8.3 Inspection Requests. It shall be the duty of the holder of the *elevator permit* or their duly authorized agent to notify the *DPS State Elevator Inspector* when work is ready for inspection. It shall be the duty of the *permit* holder to provide access to and means for inspections of such work that are required by this code. The *DPS State Elevator Inspector* shall require the *permit* holder or his representative to attend these inspections.

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1.8.4 Inspection Following Decommissioning. Following decommissioning of an *elevator* an inspection by the DPS State *Elevator* Inspector shall be required.

1.8.5 Periodic Inspections. The *DPS State Elevator Inspector* shall inspect periodically existing *elevators*, escalators, and other regulated conveyances and parts thereof. Annual tests and periodic inspections, as applicable, shall be required on all equipment covered by 524 CMR, except as otherwise modified by other provisions of 524 CMR or M.G.L. c. 143, § 64. Also see permit application posting requirements of 524 CMR 1.3.1 (5).

1.8.6 Inspection Certificates. The inspector shall issue a certificate to the owner of the *elevator* or to the person in charge thereof, who shall post the certificate in a conspicuous place in or near the cab or car of such *elevator*. When the certificate frame is an integral part of the car operating panel and it is required to open said panel, the certificate must be installed by a Massachusetts licensed *elevator* mechanic. When posted in the lobby, the certificate and the corresponding *elevator* must be identified. The certificate shall be posted in a vandal resistant frame.

1.8.6.1 Limited Certificate of Compliance. The state *elevator* inspector is authorized to issue a limited certificate of compliance for any equipment covered by 524 CMR which is hereafter being installed, relocated or altered, to permit its limited use by the person designated therein during the period of such installation, relocation or alteration. Such certificate shall be signed by the state *elevator* inspector, shall bear the dates of issuance, renewal and/or expiration, and shall designate the class of service allowed.

1.8.6.2 Time Limitation. Limited certificates of operation shall be issued for periods of not more than 30 days. The state *elevator* inspector is authorized to renew the limited certificates of operation for additional periods of not more than 30 days each.

SECTION 1.9 APPEALS

1.9.1 General. Appeals of orders, decisions, determinations and failures to act made by any state or local agency or any person or state or local agency charged with the administration or enforcement of the state *elevator* code or any of its rules and regulations, except the specialized codes of M.G.L. c. 143, § 96 relative to the application and interpretation of 524 CMR shall be addressed by the Board of *Elevator* Regulations appeals board in accordance with M.G.L. c. 143, § 70. An application to file an appeal may be found at www.mass.gov/dps/elevators.

SECTION 1.10 VIOLATIONS

1.10.1 Unlawful Acts. It shall be unlawful for any person, firm or corporation to construct, install, relocate, alter, demolish, decommission, reclassify or cause material change to any equipment regulated by 524 CMR, or cause same to be done, in conflict with or in violation of any of the provisions of 524 CMR.

1.10.2 Notice of Violation. The *DPS State Elevator Inspector* is authorized to serve a notice of violation or order on the person responsible for the construction, installation, relocation, alteration, demolition, decommissioning, reclassification or material change to any equipment regulated by 524 CMR, Such order shall direct the discontinuance of the illegal action or condition and the abatement of the violation and further note the availability of an *elevator* (conveyance) appeal process.

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1.10.3 Enforcement. Violations to 524 CMR shall be enforced in accordance with the applicable provisions of M.G.L. c. 143, §§ 68-71 and the governing regulations of 524 CMR.

1.10.4 Violation Penalties. Any person who violates a provision of 524 CMR or fails to comply with any of the requirements thereof in violation of the *approved construction documents* or directive of the *DPS State Elevator Inspector*, or of a *permit* or certificate issued under the provisions of 524 CMR, shall be subject to penalties as prescribed by the applicable provisions of M.G.L. c. 143, §§ 68-71 and the governing regulations of 524 CMR.

1.10.5 Notice (*Placarding*) of Dangerous Conditions. See MGL. C.143, § 65

1.10.5.1 Issuance. The *placard* shall be in writing and shall cite the 524 CMR violations observed and shall be issued to the owner, the owner's agent, or to the person doing the work. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order.

1.10.5.2 Unlawful Continuance. Any person who shall continue any work after having been served with a stop work order (*placarding/seal out of service*), except such work as that person is directed to perform to remove a violation or unsafe condition, shall be subject to penalties as prescribed by applicable portions of M.G.L. c. 143, §§ 68-71 and the governing regulations of 524 CMR.

SECTION 1.11 UNSAFE CONVEYANCE EQUIPMENT

1.11.1 Unsafe or Non-compliant Conditions. If upon inspection any equipment covered by 524 CMR is found in an unsafe condition, or not in accordance with the provisions of 524 CMR in effect at the time of its installation, or not in compliance with any of applicable Reference Standards, the state *elevator* inspector shall thereupon serve a written notice upon the building owner or lessee, or their designee, citing the section of 524 CMR or other referenced standard of which said equipment is in violation, stating the action required to bring the equipment into compliance, and the date when recommended repairs or changes shall be completed. After the service of such notice, it shall be the duty of the owner to proceed within the time allowed to make such repairs as are necessary to place the equipment in a safe and compliant condition. It shall be unlawful to operate such equipment after the date stated in the notice unless such recommended repairs or changes have been made and the equipment has been approved, or unless an extension of time has been secured from the state *elevator* inspector in writing. The state *elevator* inspector may withhold issuance of the inspection certificate until such time as the equipment is brought into compliance with all outstanding orders.

1.11.2 Power to Seal Equipment. The state *elevator* inspector in addition to any other penalties herein provided, shall have the power to seal out of service any device or equipment under his jurisdiction, covered by 524 CMR when in the case of emergency in the opinion of the state *elevator* inspector, such device is in a condition to render it unsafe for operation; or for willful failure to comply with 524 CMR.

1.11.2.1 Notice of Sealing Out of Service. Before sealing any device out of service, the state *elevator* inspector, except in the case of emergency, shall serve written notice upon the building owner or lessee stating intention to seal the equipment out of service and the reasons therefore.

1.11.2.2 Unlawful to Remove Seal. Any device sealed out of service by the state *elevator* inspector shall

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be plainly marked with a sign or tag indicating the reason for such sealing. Any tampering with, concealing, defacing, or removal of the sign tag or seal without approval of the state *elevator* inspector shall constitute a violation 524 CMR.

1.11.3 Matters Not Provided For. If upon inspection by a state *elevator* inspector, any equipment covered by 524 CMR is determined to be in an unsafe or atypical state due to a condition not specifically provided for in 524 CMR or ASME A17.1, the inspector may, in their discretion take whatever action is deemed necessary in the interest of public safety. If any action is taken pursuant to 524 CMR 1.11.3, the inspector shall provide written notice to the owner or the person in charge of the equipment clearly describing the malady and otherwise follow the requirements of M.G.L. c.143, § 65.

SECTION 1.12 CONVEYANCE APPROVAL PROCESSES

1.12.1 General. Conveyance equipment regulated by 524 CMR must conform to all requirements of 524 CMR and where such equipment lacks features required by 524 CMR or contains features different than those required of 524 CMR, to be allowed utilized in Massachusetts, such conveyance equipment shall first be approved by the Board of *Elevator* Regulations (BER).

Such approvals fall into one of three categories:

- (1) *Prototype approval* (required for *product approval*).
- (2) *Product approval* (required after *prototype approval* if more than one installation is sought).
- (3) *Variance approval* (Required when one installation is sought).

1.12.2 Approval Requirements. Application for *product approval*, *prototype approval* or *variance approval* shall be made on DPS application forms for such approval consideration (see www.mass.gov/dps). Any non-compliance with the requirements of 524 CMR must be specifically identified by 524 CMR Code section as part of any *prototype* or *variance approval* application.

1.12.2.1 Prototype Approval. If *product approval* is sought, *prototype approval* shall first be obtained by way of a variance request for each new prototype. All conveyance features which do not comply with 524 CMR shall be listed in the *prototype approval* application. A granted *prototype approval* shall be required prior to a permit for installation being issued by the Department of Public Safety *Elevator* Division.

1.12.2.2 Product Approval. *Product approval* must be obtained after installation is complete by way of an on-site review of the prototype by the Board of *Elevator* Regulations, or its designee. No further approvals will be required for future installations of the same conveyance model by the same manufacturer as long as it is manufactured and installed precisely according to the specifications of the *product approval* issued by the Board.

1.12.2.3 Variance Approval. Where prototype approval and/or product approval is not sought but where conveyance features do not comply with requirements of 524 CMR, variance approval is necessary. A granted variance shall be required prior to a permit for installation being issued by the Department of Public Safety *Elevator* Division.

(524 CMR 2.00: RESERVED)

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(524 CMR 3.00: RESERVED)

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524 CMR 4.00: ACCIDENT AND INJURY REPORTING REQUIREMENTS

4.01 Scope. 524 CMR 4.00 applies to all *elevators* as defined by M.G.L. c. 143, § 62 and 524 CMR. *Elevator owners* shall be responsible to ensure compliance with 524 CMR 4.00.

4.02 Definitions Unique to 524 CMR Part 4

Accident. An incident occurring on or caused by an *elevator* which results in *minor injury* or *serious injury* or death to a person.

Accident report. A report filed by the *owner* of an *elevator* on a form provided by the *Department*.

Board. Board of Elevator Regulations.

Commissioner. Commissioner of the *Department* of Public Safety.

Department. *Department* of Public Safety.

Elevator. The term *elevator* shall include escalators, moving stairways, dumbwaiters, moving walks, freight *elevators*, including those subject to St. 1962, c. 288, material lifts and dumbwaiters with automatic transfer devices, wheelchair lifts, automatic people movers and other associated devices, except stair lifts located and installed in residential homes, and all other devices that are commonly included within the *elevator* industry.

Inspector. An *elevator inspector* employed by the *Department* of Public Safety.

Injury. Any bodily harm necessitating some form of medical treatment to a person including fatalities and including, but not limited to: lacerations, bruises, burns, and sprains, and broken bones.

Minor injury. Bodily harm which may or may not require first aid or significant treatment, but can not be otherwise classified as a *serious injury*. This category shall include injuries in which treatment is limited to such things as the dispensation of over-the-counter medication or plastic adhesive strips, cleansing, rest, and other similar assistance.

Owner. The *owner* of an *elevator* or the *owner's* agent or designee.

Serious injury. Bodily harm that results in death, dismemberment, significant disfigurement, loss of a body part or use thereof, a bone fracture, severe lacerations or other significant harm that requires emergency medical attention or hospitalization.

Serious mechanical failure. Events in which the *elevator* experiences measurable damage/failure and where safety of the public or workers is potentially at risk.

4.03 Reporting Requirements

(1) Notification. All *accidents* involving *serious injury* must be reported by the *owner* to the *Department* by telephone within one hour of occurrence or promptly upon first learning of the *accident* if beyond that

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time frame. Notification telephone numbers can be found on the inspection certificates located inside the *elevator*. If the *accident* occurs on a weekend, holiday, or between the hours of 5:00 P.M. and 9:00 A.M. on a weekday, the *accident* must be reported to the Massachusetts Emergency Management Agency at (508) 820-2121.

(2) **Written Reports.** The *owner* of an *elevator* involved in an *accident* that results in a *serious injury* shall file a written *accident report* by facsimile or other electronic transmission with the *Department* within 48 hours of the *accident*. The report must be filed on the *accident report* form provided by the *Department*.

(3) *Serious mechanical failure* must be reported to DPS within 24 hours. Notification telephone numbers can be found on the inspection certificates located inside the *elevator*. If the *serious mechanical failure* occurs on a weekend, holiday, or between the hours of 5:00 P.M. and 9:00 A.M. on a weekday, the *serious mechanical failure* must be reported to DPS on the next business day.

4.04 Post-accident Requirements. Once an *owner* learns that a person has sustained a *serious injury* in an *elevator accident*, the *elevator* shall be immediately shut down until express consent to resume operation is granted by a supervisor of *elevator inspectors* employed by the *Department*. In the event of such an *accident*, the *owner* shall be responsible to ensure that the *elevator* and area surrounding the *elevator* are secured and are not disturbed, cleaned, or altered in any way until such time as an *inspector* has completed an investigation. The only exception to this requirement shall be acts in furtherance of ensuring the safety of the area or a person, or for the extraction of an injured person.

4.05 Violations. The *Department* may immediately shut down an *elevator* or revoke its inspection certificate, for any of the following violations:

- (1) Continued operation of an *elevator* without proper authorization after an *accident* involving *serious injury*;
- (2) Failure of an *owner* to notify the *Department* of an *accident* involving *serious injury* within an hour of its occurrence, or promptly after first learning of it;
- (3) Failure of an *owner* to submit an *accident report* to the *Department* within 48 hours of an *accident* involving *serious injury*;
- (4) Submission of an incomplete *accident report* by an *owner* to the *Department*;
- (5) Failure to secure an *elevator* and the area surrounding an *elevator* subsequent to an *accident* involving *serious injury* and prior to the inspection of the *elevator* and area by an *inspector*;
- (6) A violation of any provision of 524 CMR 4.00.

4.06 Shutdown Period and Appeal.

(1) Any *elevator* shut down pursuant to 524 CMR 4.05 shall remain shut down until express written authorization is given to the *owner* to resume operation from the *Department*. In determining how long an *elevator* shall remain shut down or whether to revoke a certificate of inspection, the *Department* shall

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consider the seriousness of the violation, the deleterious effect of the violation on the public, any good faith on the part of the *owner*, and the *owner's* history of previous violations.

(2) An *owner* may appeal a decision made pursuant to 524 CMR 4.05 to shut down an *elevator* or revoke an *elevator's* inspection certificate to the *Board of Elevator Regulations*. Such appeal must be made in writing and received by the *Board* within 30 days of the date of the *Department's* decision. The *Board* shall consider the factors outlined in 524 CMR 4.06(1) in reviewing the *Department's* decision. Appeals from the *Board's* decision shall be to Superior Court in accordance with M.G.L. c. 30A.

STATUTORY AUTHORITY

524 CMR 4.00: M.G.L. c. 143, § 68.

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524 CMR 5.00 ELEVATOR CONTRACTORS

5.01 Scope and Applicability. Unless specified elsewhere in 524 CMR, the provisions of 524 CMR 5.00 shall govern the registration, duties, responsibilities, and discipline of elevator contractors as the term is defined in 524 CMR 35.00: *Elevator, Escalator, Dumbwaiters and Moving Walks: Definitions*. No person or entity shall employ a Massachusetts licensed elevator mechanic(s), or be issued a permit in accordance with 524 CMR 1.5: *Permits*, for purposes of performing installation, alteration, modification, decommissioning maintenance, servicing, and/or repair of an elevator(s) without being registered with the Department of Public Safety, on behalf of the Board of Elevator Regulations, as an elevator contractor.

5.02 Registration.

(1) An application for a registration as an elevator contractor shall be made in writing on a form provided by the Department of Public Safety. No registration shall be issued unless the applicant has submitted a completed application evidencing all requirements of 524 CMR 5.00.

(2) An application for registration as an elevator contractor shall include:

(a) The official name of the elevator contractor, the permanent business address of the contractor, applicable contact information, and the name of a contact person(s) authorized to speak on behalf of the contractor.

(b) 1. For Corporations: an official document which lists the names and addresses of officers, directors, and major stockholders such as: a copy of the articles of incorporation, a current annual report as filed with the Secretary of the Commonwealth, a copy of the registration as a foreign corporation filed with the Secretary of the Commonwealth, or any other official documentation which lists the names and addresses of officers, directors, and major stockholders.

(b) 2. For Partnerships: either a copy of the current partnership agreement containing the requested information, or listing of the names and addresses of all partners on the application form.

(b) 3. For Applicants Using a DBA: a copy of the DBA certificate filed with a city or town pursuant to M.G.L. c. 110, § 5.

(c) The applicable registration fee as set in accordance with M.G.L. c. 7, § 3B.

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(3) On behalf of the Board of Elevator Regulations, the Department of Public Safety shall issue a certificate evidencing such registration to applicants that meet the requirements of 524 CMR 5.00 and have successfully completed the application. All registrations issued pursuant to 524 CMR 5.00 shall be valid for two years from the date of issuance unless otherwise suspended or revoked by the Board of Elevator Regulations.

(4) The registrant shall have the responsibility of reporting any change of mailing address, email address, contact person, and/or change of circumstance to the Department of Public Safety. The information on file at the Department of Public Safety shall be deemed accurate for purposes of notification unless changed by the registrant.

(5) The Department of Public Safety may require an applicant to appear in person to answer questions or provide documents in conjunction with an application for registration in addition to those required under 524 CMR 5.00.

(6) Any false statement in an application for registration under this section, or any action intended to subvert the intent of 524 CMR 5.00 may be deemed grounds for any of the following:

(a) denial of the application; or

(b) if the registration has already been issued, suspension or revocation of the registration.

5.03 Duties and Responsibilities. A registered elevator contractor shall have the following duties and responsibilities:

(1) to ensure that every person who performs work on behalf of the contractor as an elevator constructor, maintenance person and repairman in the construction, maintenance, alteration, modification, servicing, or repair of elevators holds a license therefor granted by the Board of Elevator Examiners in accordance with M.G.L. c. 143, § 71C(1), or a temporary license therefor granted by the Commissioner of Public Safety in accordance with M.G.L. c. 143, § 71C(2), or is an elevator mechanic apprentice working under the direct and immediate field supervision of a licensed elevator mechanic.

(2) to ensure that no work requiring a permit or a variance in accordance with 524 CMR is performed by any person working on behalf of the contractor prior to obtaining a permit or variance.

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- (3) to ensure that all necessary variances from 524 CMR that are reasonably foreseeable have been obtained prior to filing a permit, and to submit variance approval along with the permit application.
- (4) to ensure that all required permits and variances are posted all times where work is performed.
- (5) to include its Department of Public Safety's issued elevator contractor registration number and the signature of an authorized individual on all applications and correspondence filed with the Board of Elevator Regulations and / or the Department of Public Safety.
- (6) to ensure that adequate and proper personnel timely appear for all annual tests, fire tests, and other inspections scheduled with the Department of Public Safety.
- (7) to notify the building owner of an upcoming annual inspection within two (2) weeks of scheduling by the Department of Public Safety, including the need for the fire alarm company and / or emergency generator contractor if required.
- (8) to adequately prepare an elevator for an inspection, which shall include but not be limited to: adequate pre-testing of all equipment prior to scheduled inspection and proper notification to building owner pursuant to 5.03(6).
- (9) to cure all code violations subject to a 90-day work order issued by DPS within 90 days, ensuring that the elevator is adequately prepared for re-inspection. For a 60-day work order issued by DPS all work and proper documentation must be completed within the 60 day allotted timeframe.
- (10) to certify that an elevator has been pre-tested prior to annual inspection.
- (11) to provide accurate owner information to DPS.
- (12) to ensure that any elevator under contract for repairs or service is registered with the Department of Public Safety.
- (13) to timely file applications for annual inspections if given the authority to file those applications by the building owner.

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(14) to obtain an elevator owner's express consent to file any form on his or her behalf with the Department of Public Safety prior submitting the form.

(15) to ensure work performed and actions taken meet all applicable provisions in 524 CMR, including those codes adopted by reference therein, and M.G.L. c.143.

5.04 Discipline.

(1) Complaints. Any person may file a complaint against a registered elevator contractor. All complaints relative to a registrant must be in writing on a form provided by the Board of Elevator Regulations. All complaints must be received by the Board of Elevator Regulations within one year of the date of the alleged wrongdoing. The Board of Elevator Regulations may itself initiate a complaint at any time.

(2) Basis of Complaint. A complaint must allege wrongdoing by a registrant in the form of a violation of 524 CMR or M.G.L. c. 143.

(3) Review and Investigation of Complaints. The Board of Elevator Regulations may, in its discretion, investigate a complaint to determine whether a hearing will be held.

(4) Notice of Hearing. If the Board of Elevator Regulations determines that a hearing shall be held to resolve a complaint, reasonable notice shall be provided to the complainant and the registrant. Mailing of notice to the address on record with the Board of Elevator Regulations, and emailing the notice to the contact person identified by the registrant on the application for registration, shall be deemed satisfactory notice. The notice of hearing shall contain:

- (a) The name of the complainant (if provided).
- (b) The date, time and place of said hearing.
- (c) The location of the incident giving rise to the complaint.
- (d) A description of the situation giving rise to the complaint.
- (e) A copy of the complaint filed with the Board of Elevator Regulations.

(5) Hearing. Hearings convened pursuant to 524 CMR 5.00 shall be presided over by a Board of Elevator Regulations and conducted pursuant to 801 CMR 1.02: Informal/Fair Hearing Rules and M.G.L. c. 30A. Any party may be represented by legal counsel.

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If an elevator contractor, or a designee, does not appear for the hearing, the hearing may proceed in their absence and a decision rendered based upon the evidence presented, but only after a finding is made that the registrant was provided notice as required by 524 CMR 5.04(4).

(6) Subpoenas. The Board of Elevator Regulations may issue a subpoena in accordance with M.G.L. c. 30A, § 12 requiring the attendance and testimony of witnesses and the production of any evidence, including books, records, correspondence or documents, relating to any matter in question in the proceeding.

(7) Decisions and Discipline of Registrants. The Board of Elevator Regulations shall issue a written decision after the hearing in a reasonably prompt manner. If the Board of Elevator Regulations, acting on behalf of the Department of Public Safety, determines that a registrant has violated any provision of 524 CMR 5.0 or M.G.L. c. 143, they may suspend a registration for a fixed period of time, revoke a registration permanently, or issue a reprimand to the registrant. In reaching the decision the Board of Elevator Regulations shall consider any history of disciplinary issues, the severity of the offense, and any remedial action taken by the contractor. Further, the Board of Elevator Regulations may impose any terms and conditions upon a registrant which are reasonably calculated to ensure future compliance with 524 CMR and M.G.L. c. 143 by the registrant.

(8) Appeals. Any person aggrieved by a decision of the Board of Elevator Regulations may appeal such decision to the Board of Elevator Appeals in conformance with M.G.L. c. 143, § 70(b).

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524 CMR 8.00 PRACTICAL TESTS AND INSPECTIONS

8.01 GENERAL. 524 CMR Part 8 prescribes the practical tests and inspections required of regulated conveyance equipment in Massachusetts and supplements test and inspection requirements of A17.1-2013. Where Part 8 requirements conflict with A17.1 requirements, 524 CMR, Part 8 requirements prevail.

8.02 Practical Tests and Inspections. A practical test of all equipment governed by 524 CMR as required by M.G.L. c. 143, § 64, shall consist of the following:

(1) The initial “Acceptance Test” and subsequent annual tests and/or inspections shall be made of all equipment under the supervision of the *state elevator inspector*. Such tests shall conform to the following Acceptance Test: A contract load test at governing tripping speed where applicable shall be made for all new installations.

(2) Prior to returning to service any equipment which has undergone a major alteration, material change, or which has been placed out of service due to non-use, accident or a cause of injury, or at the discretion of the *state elevator inspector*.

(3) Subsequent Tests: A safety test with no contract-load shall be made in the presence of the *state elevator inspector*, once a year, or as otherwise specified by other sections of 524CMR or M.G.L. c. 143, § 64 of all safety devices and equipment to determine that they function as required by the applicable codes. It is further required that every fifth year a full-load safety test be conducted in the presence of the *state elevator inspector*. (Refer to 524 CMR 11.00 for *elevators* placed out of service.)

(4) Car and counterweight safeties and governors shall be tested as follows: Governor operated instantaneous type safeties or sliding type safeties of *elevators* shall be tested at rated speed by tripping the governor by hand. The governor shall be separately tested for tripping speed.

(5) Each governor shall be sealed directly after testing by the *state elevator inspector* conducting the test. No person other than a *state elevator inspector*, shall break or remove the seal.

(6) The application of a safety having no speed governor shall be obtained by a free drop test which may be made without detaching the ropes.

(7) Car and counterweight oil buffers, if any, shall be tested annually with no load on the platform at rated car speed, and with a full contract load every fifth year.

(8) Contract load test for hydraulic *elevators*: A contract load test under the supervision of the *state elevator inspector* shall be made of every hydraulic *elevator* or dumbwaiter before the equipment is placed in regular service.

(a) The test shall be made with no load and a test with full rated load on the car in order to determine the car speed under each specified condition of loading in both the up and down directions.

(b) A test check of the working pressure including, in case of pressure tanks, a check of the accuracy of the tank pressure gauge.

(c) A test of the relief valve by-pass pressure shall be made in accordance A17.1-2013.

(d) After the test of the relief valve setting and system pressure test, the following test shall be performed and witnessed by a Massachusetts licensed *elevator* inspector employed by the

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Department of Public Safety. Cylinders that are not exposed shall be tested as follows:

1. Note the amount of oil in the pit and seal leak collection container.
2. Park the *elevator* at a convenient location and open the main line disconnect.
3. Mark the level of the oil in the tank.
4. Wait at least 15 minutes and measure the amount that the car has moved down.
5. Compute the volume of oil loss as a result of the car movement as follows:

$$V = 3.1416 \times R^2 \times L$$

Where:

V = volume of oil in cubic inches

R = radius of plunger (in.)

L = movement of car (in.)

6. Compare this to the change in volume in the pit seal collection container and the tank.

Example: 1 = 7", Plunger diameter = 6"

$$V = 3.1416 \times 9 \times 7 = 198 \text{ in}^3$$

(Note: 231 in³ = 1 U.S. gallon)

7. If necessary, continue the test to verify the source of the leak.
8. If it is determined that a leak exists underground, the unit should immediately be taken out of service.

(9) All private residence *elevators* shall be tested and inspected every five years. A test with a capacity load will be performed during each test.

(10) All escalators will be tested with contract load at the time of acceptance and will have a brake data plate installed. All escalators with brake data plates may be tested thereafter by verifying the brake torque. If the environment in which a unit is operating makes the stopping capability of the brake questionable, a weight test will be used to reconfirm the torque setting of the brake.

(11) All existing escalators without brake data plates or units with more than one driving machine will be tested with contract load at five year intervals and whenever the stopping capability of the brake is questionable.

(12) All escalators will require annually a step/skirt performance index test complying with A17.1-2013.

8.03 Unsafe or Non-compliant Conditions. See 524 CMR, Part 1, Section 1.11.1.

8.03 Power to Seal Equipment. See 524 CMR, Part 1, Section 1.11.2.

8.04: Notice of Sealing Out of Service. See 524 CMR, Part 1, Section 1.11.2.1.

8.05 Unlawful to Remove Seal. See 524 CMR, Part 1, Section 1.11.2.2.

8.06: Matters Not Provided For. See 524 CMR, Part 1, Section 1.11.

REGULATORY AUTHORITY

524 CMR 8.00: M.G.L. c. 143, § 69.

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524 CMR 9.00 OPERATION OF NON-AUTOMATIC *ELEVATORS*

9.01 *Licensed operators: General*

No Person, Owner, Lessee, Employer or His Agent Shall Operate or Permit to be operated Any Non-Automatic *Elevator* Except By A Person Duly Licensed For Such Service By The Commissioner Of Public Safety, except:

(1) In case of emergency, such operation by a competent unlicensed person may be permitted for a period not exceeding two consecutive days, provided the Department of Public Safety is immediately notified. Such periods may be extended by the department where necessary to avoid undue hardship, but no single extension shall exceed a period of more than seven consecutive days.

(2) *Licensed operators* are not required for automatic operation or continuous pressure operation passenger or freight *elevators* or existing shipper rope *elevators*, when equipped with the proper safeguards. Where an operator has been designated to be in permanent charge of such *elevators* or where a car switch is employed, said operator shall be licensed.

(3) An operator's license shall not be required of an *elevator* contractor or of a qualified mechanic engaged in the construction, maintenance, or repair of *elevators* or *elevator* hoistways, or of an inspector having authority to inspect *elevators*.

9.02 *Granting of Licenses*

(1) Whoever desires to act as operator of *elevators* herein required to be operated by a licensed person shall make application to the department on blanks to be furnished by the said department. A license shall not be granted to a person under 18 years of age.

(2) The applicant shall be given a practical examination as to his knowledge of the operation of *elevators*, particularly as to the safeguarding of passengers and the requirements of 524 CMR 9.00, by an inspector or examiner having jurisdiction, and if found competent shall be granted a license by the executive head of the department. Such executive head may, however, delegate the power to grant licenses to any inspector of the department having jurisdiction.

(3) Licenses shall be issued until the date of birth of the licensee occurring more than 12 months but not more than 24 months after the effective date of such license. If any such license or the renewal thereof expires in an even year, any subsequent renewal shall expire on the next anniversary of the licensee's date of birth occurring in an even year. If any such license or renewal thereof expires in an odd year, any subsequent renewal shall expire on the next anniversary of the licensee's date of birth occurring in an odd year. A license issued to a person born on February 29th shall, for the purposes of 524 CMR 9.02(3), expire on March first. If a license has not been renewed within three years from the date of issuance, a re-examination shall be required.

(4) Should a license become lost, a duplicate thereof shall be granted upon application to the department granting the original license.

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(5) The applications and a record of the licenses issued shall be kept by such department.

9.03 Display of Licenses

A *licensed operator* shall at all times when operating an *elevator* be prepared to display his license on demand of the owner or tenant of the building, or of any person authorized to inspect the *elevator*, or of any police officer.

9.04 Revocation and Suspension of Licenses

(1) A willful falsification in the matter of a statement in an application shall be deemed sufficient cause for the revocation at any time of a license granted on said application.

(2) A license may be suspended or revoked by the Commissioner, if the holder is incompetent or untrustworthy or fails to comply with 524 CMR.

9.05 Instructions to Operators

Operators are required to Learn These Instructions Thoroughly and Keep a Copy Available For Use At All Times.

(1) Always open the service switch or lock the operating mechanism when placing the *elevator* out of service.

(2) Be sure the operating mechanism is in the “STOP” position before closing the service switch.

(3) Report any defects promptly to the person in charge.

(4) Do not attempt to make any repairs.

(5) Carry no passengers or freight while inspections, repairs, or adjustments are in progress, and operate the car only in response to directions from the inspector or person in charge. Do not move the car when anyone is in the pit or on top of the car except as he may direct.

(6) When in the opinion of the operator an excess load is to be carried, do not ride or allow others to ride on the *elevator*.

(7) Hoistway doors or gates shall always be closed and locked before the car is started. The car shall be brought to a stop at the landing level before either the car door or car gate where provided or the hoist way door or hoistway gate is opened manually.

(8) Keep car gates closed while car is running, and where no car gates are provided, keep passengers away from the open edge of the car platform.

(9) Limit the number of passengers or load to the contract capacity of the car and do not permit crowding or overloading.

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- (10) Do not reverse the operating device suddenly; stop the car before reversing.
- (11) Move operating device to the stop position on approaching the terminal landings. Do not depend on the terminal stops in the ordinary operation of the car.
- (12) Should the power go off while the car is in motion, move the operating device to the “STOP” position and start the car in the usual manner upon return of the power.
- (13) Familiarize yourself with the emergency devices, understand their function, and know how to operate them.
- (14) Should the car stop suddenly, shut off the power, call for the person in charge and operate the *elevator* only at their direction. While waiting, keep calm. Do not attempt to release any safety device; remember that it is safer to stay in the car until help arrives than to try to get out, and so instruct your passengers.
- (15) Should the car refuse to stop, do not attempt to jump off.
- (16) Before loading or unloading *elevators* with hand-rope type operation, lock the operating mechanism in the “STOP” position.
- (17) Never leave the car in the ordinary course of operation nor leave the operating mechanism unprotected. When going off duty for any reason, even for a few minutes, be sure that the power is disconnected or that the operating mechanism is locked and the hoistway doors are closed.
- (18) Always leave a hydraulic *elevator* operated by a lever at the lower landing with the lever in the position for down motion.
- (19) In running a belt-driven *elevator*, be sure to pull the hand-rope as far as possible when starting the car. In doing so, you throw the belt full on the tight pulley, and thus prevent it from slipping. In stopping, use the centering rope.
- (20) Never allow anyone to scuffle or fool on the *elevator*. It is always dangerous.
- (21) Never, under any condition, allow anyone to get on or off the car while it is in motion.
- (22) Keep your mind on your work. Always remain at your post while the car is moving, so that you can stop it quickly in an emergency.
- (23) If an accident causing material damage or injury to a person by an *elevator*, escalator, dumb-waiter, or other devices governed by 524 CMR, requires medical attention, the person having knowledge of the accident, be he the owner, lessee, operator, or other person in charge, shall immediately report such accident to the inspector having jurisdiction, who shall forthwith inspect such *elevator* or devices herein described. Said inspector shall file a complete written report of his inspection with the Commissioner of Public Safety.

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REGULATORY AUTHORITY

524 CMR 9.00: M.G.L. c. 143, § 69.

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524 CMR 10.00 REQUIREMENTS FOR PERMITS AND INSPECTIONS OF EXISTING *ELEVATORS* UNDERGOING ALTERATIONS, REPAIRS AND REPLACEMENT

10.01 GENERAL. 524 CMR Part 10 describes those activities for which an *elevator* permit is required and additionally, those activities for which an *elevator* permit and follow-on testing is required. For permit and permit and inspection purposes, 524 CMR, Part 10 replaces the applicable portions of A17.1-2013, Parts 8.7 and 8.8.

10.02 Alterations of *Elevators*, Escalators and Dumbwaiters Requiring a Permit

The following alterations, repairs and replacement of any equipment governed by 524 CMR shall be considered an alteration and shall only be performed by persons with a Massachusetts *Elevator* Mechanics License as a construction, maintenance or repair mechanic in accordance with M.G.L. c. 143, § 71B. Such alterations, repairs or replacement shall also require a permit to be filed with the Commonwealth of Massachusetts, Department of Public Safety, *Elevator* Division.

- (1) Replacement of ropes, or addition of rope equalizers, or rope fastening devices.
- (2) Change in guide rails.
- (3) Replacement of hoistway doors.
- (4) Addition of hoistway locking devices and car door or gate electric contacts.
- (5) Addition of or change in hoistway door and/or car door operating devices.
- (6) Addition of roller guide shoes.
- (7) Ventilation of hoistways and machinery spaces.
- (8) Addition to or replacement of car enclosures, floors, interior panels or addition or replacement of car and hall fixtures.
- (9) Replacement of more than three (3) consecutive damaged steps.
- (10) Replacement of step or drive chain.
- (11) Modification of existing deck barricade.

10.03 Alteration of *Elevators*, Escalators and Dumbwaiters Requiring a Permit and Test

The following alterations, repairs and replacement of any equipment governed by 524 CMR shall be considered an alteration and in addition requiring a permit to be filed with the Commonwealth of Massachusetts, Department of Public Safety, *Elevator* Division, and being performed by persons with a Massachusetts *Elevator* Mechanics License as a construction, maintenance or repair mechanic in

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accordance with M.G.L. c. 143, § 71B, shall also require a subsequent test witnessed by a Massachusetts licensed *elevator* inspector employed by the Department of Public Safety as listed under 524 CMR 8.01(2).

- (1) Increase in dead weight of car.
- (2) Increase in dead weight of counterweight.
- (3) Change in type of operation or control.
- (4) Replacement of or change in type of car or counterweight safety.
- (5) Replacement of driving machine by a new machine.
- (6) Replacement of existing controller to a new controller.
- (7) Replacement of existing machine brake to a new brake.
- (8) Addition of hoistway access switches and/or car top operating devices.
- (9) Addition of car-leveling or truck zoning devices.
- (10) Change in type of car loading classes A, B, C.
- (11) Installation, additions or alterations of fire emergency controls.
- (12) Replacement of any hydraulic control valves and/or overspeed valves.
- (13) Replacement of hydraulic plungers, cylinders, supply lines or complete jack units.
- (14) Decommissioning of *Elevator* or Escalators in accordance with 524 CMR 11.03.

REGULATORY AUTHORITY

524 CMR 10.00: M.G.L. c. 143, § 69.

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524 CMR 11.00 *ELEVATORS PLACED OUT OF SERVICE OR DECOMMISSIONED*

11.01 GENERAL. 524 CMR Part 11 sets minimum requirements for *elevators* and other regulated conveyances taken out of service and/or decommissioned and with or without intention to demolish said conveyance.

11.02 *Elevators Placed Out of Service.* All *elevators*, escalators, and dumbwaiters placed out of active service for a period not exceeding one year shall comply with the following:

(1) The owner or his agent shall notify the Department of Public Safety *Elevator* Division in writing, giving the date when the *elevator*, escalator, or dumbwaiter will be placed out of service, the reason for removal from service and the date of return to service. A current Inspection Certificate shall be required when placing it back in service during that year.

(2) The *elevator* main line disconnects shall be secured in an off position with the fuses removed.

11.03 Decommissioned Equipment. All *elevators*, escalators, and dumbwaiters placed out of active service for a period exceeding one year shall be classified as decommissioned and comply with the following:

(1) The owner or his agent shall notify the Department of Public Safety *Elevator* Division in writing giving the date the *elevator* or dumbwaiter will be decommissioned. A decommissioning permit shall be required. Note that decommissioned *elevators* cannot be brought back into service without conforming to 524 CMR for new construction.

(2) The car and counterweight shall be lowered to the lowest landing.

(3) All ropes removed.

(4) Main line fuses removed.

(5) Service switch opened and the cabinet sealed with a padlock.

(6) Where landing doors remain in place, the doors shall be bolted securely in the closed position from the hoistway side.

(7) When landing gates are in place, the landing openings shall be totally enclosed and strongly reinforced.

EXCEPTION: The lowest landing door shall be locked from the landing side.

(8) Hydraulic Decommissioning. When a hydraulic *elevator* is decommissioned the oil pipe line from the hoistway to the power unit, and the oil in the tank will be removed from the premises. The supply wires shall be disconnected at the main line switch and at the power unit.

(9) Inspection Required. Following decommissioning as described above, the decommissioned *elevator* shall be inspected by a DPS *Elevator* Inspector to ensure that the *elevator* car, counterweights, etc. have

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been safely decommissioned.

(10) Moving Stairway Decommissioning. Any moving stairway which is permanently removed from service shall have the electrical power supply disconnected by removing the fuses and disconnecting the wiring on the load side of the disconnect switch. A permanent barricade shall be erected at each landing of said stairway to prevent access.

REGULATORY AUTHORITY

524 CMR 11.00: M.G.L. c. 143, § 69.

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(524 CMR 25.00: RESERVED)

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524 CMR 26.00 CERTAIN ELEVATOR EQUIPMENT USED AS AUTOMOBILE PARKING DEVICES

Section

- 26.01 Reasons for Special Regulations for Power Operated Parking Devices
- 26.02 Reference to Safety Codes
- 26.03 Scope and Classification
- 26.04 Definitions
- 26.05 Construction of Hoistways and Hoistway Enclosures
- 26.06 Hoistway Gates in Non-Fire-Resistive Hoistways
- 26.07 Protection at Other Levels
- 26.08 Guide Rails, Guide Rail Supports and Fastenings
- 26.09 Car and Counterweight Buffers
- 26.10 Car Frames and Platforms: Design Requirements
- 26.11 Car Enclosures and Car Gates
- 26.12 Car and Counterweight Safeties and Speed Governors
- 26.13 Driving Machines
- 26.14 Roped Hydraulic Elevators
- 26.15 Requirements for Capacity and Loading
- 26.16 Terminal-Stopping Devices and Operating and Control Devices
- 26.17 Requirements for Suspension Means
- 26.18 Inspection, Tests, Maintenance and Alterations
- 26.19 Members of the Public Not Allowed Above Receiving Level
- 26.20 Operators to be Licensed

26.01 General. 524 CMR 26.00 has been developed in response to demands for a separate section of 524 CMR to cover the installation of certain elevator equipment in buildings or structures used exclusively for the parking of motor vehicles. It is felt that in many such installations, particularly where no person rides the elevator during the parking process, reasonable safety does not require that the elevators meet all of the requirements of 524 CMR (The Massachusetts Elevator Code) for conventional elevator installations.

26.02 Reference to Safety Codes. Installations shall be in accordance with accepted standards of engineering practice and, except as provided herein, shall conform to the minimum requirements of 524 CMR.

26.03 Scope and Classification.

Under Scope, 524 CMR 26.00 applies only to: Elevators used exclusively for the parking of automobiles where, during the parking process, each automobile is moved either under its own power, or by means of a power-driven parking device onto and off the elevator directly into parking spaces or cubicles in line with the elevator, where no persons are normally employed or stationed in the parking areas.

Also, devices used exclusively for the raising of automobiles above, or lowering them below, the point of loading automobiles on the device for the purpose of storing them on the device itself.

Exception: 524 CMR 26.00 does not apply to the design of the structure, of a crane or similar device on which the elevator may be mounted, or the design of any automobile parking dolly or mechanism, except the interlocking of the control of such device with the elevator control.

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Under Classification, elevator equipment subject to 524 CMR 26.00 shall be classified as follows:

Class I. Elevators on which, during the parking process, one attendant rides for the purpose of operating the elevator and for the purpose of operating a power driven parking device or dolly to move the automobile onto and off the elevator, but is not required to get off the elevator.

Class II. Elevators on which, during the parking process, one attendant rides for the purpose of operating the elevator and driving the automobile, under its own power, onto and off the elevator.

Class III. Elevators operated from a central dispatching station or stations and on which the garage attendants do not ride during the parking process, and the operation of the elevators and the entire process of parking the automobile is automatically controlled.

26.04 Definitions. Definitions in 524 CMR Part 35, shall apply to 524 CMR 26.00 installations unless otherwise modified herein.

26.05 Construction of Hoistways and Hoistway Enclosures. Hoistway and hoistway enclosures shall be constructed as follows:

- (1) For hoistway enclosures at levels where patrons deliver or receive motor vehicles, hoistway enclosures for Class I, II and III elevators shall be provided at all floors at which the customer delivers or receives his motor vehicle, hoistway enclosures shall be provided at portions of the hoistway accessible to the public.

Note: Enclosures may be perforated for their entire height and need not be higher than six feet.

- (2) For hoistway opening protection at floors where patrons deliver or receive motor vehicles, hoistway gates conforming to 524 CMR 26.06 shall be provided at each hoistway opening accessible to the public.

26.06 Hoistway Gates in Non-Fire-Resistive Hoistways. Hoistway gates in non-fire-resistive hoistways shall conform as follows:

- (1) Gates shall be power operated, or they may be opened under power and may close by gravity if means are provided to limit the closing speed. Power opening and closing devices shall conform to the requirements of 524 CMR, Part 35.

- (2) Gates may be perforated for their entire height, and need not be higher than six feet.

- (3) Hoistway gates on Class I, II and III elevators shall be provided with interlocks, mechanical locks and contacts, or separate mechanical locks.

EXCEPTION: Locking devices are not required on vertically sliding gates whose unbalanced weight is 65 lbs. or more when the car is not at the landing.

- (4) Means shall be provided to prevent movement of the car in either the vertical or horizontal direction away from a landing unless the gate at that landing is in the closed position.

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EXCEPTION: The means provided may permit horizontal movement of the car with the gate open in a zone of not more than two feet in either direction, provided that protective guards not less than six feet high and the width of the zone are installed on each side of the tower.

For cars having more than one hoistway or runway opening at a given loading position, a separate closing means shall be provided for each car door or gate and its corresponding hoistway or runway door or gate.

(5) The vertical clearance beneath the lower edge of the gate and the landing shall be not more than eight inches.

26.07 Protection at Other Levels. At levels other than floors where patrons deliver or receive motor vehicles, hoistway opening protection shall conform to the following:

(1) Adequate means shall be provided to retain the automobiles in the parking cubicles against the force of the wind or of gravity.

(2) Ropes or other dividers not less than 42" high shall be provided between the parking cubicles.

26.08 Guide Rails, Guide Rail Supports and Fastenings. Guide rails, guide rail supports and fastenings shall conform to 524 CMR, Part 35.

26.09 Car, Counterweight Buffers, Counterweights. Car and counterweight buffers shall conform to the following:

(1) Car and counterweight buffers shall conform to the following:

(a) For Class I and II Elevators, the car and counterweight buffers shall be installed in accordance with the requirements of 524 CMR, Part 35.

EXCEPTION: Spring buffers may be used under the following conditions:

1. For electric elevators whose rated speed is not more than 300' per minute.
2. For hydraulic elevators whose maximum speed in the down direction with rated load is not more than 300' per minute.
3. The stroke of spring buffers for car speeds exceeding 200' per minute shall be equal to or greater than the following:

201 - 250 ft. per min. - 6¼"

251 - 300 ft. per min. - nine inches

(b) For Class III Elevators, the car and counterweight buffers shall be required only where there are occupied spaces or passageways underneath the hoistway, in which case both car and counterweight buffers shall be installed in accordance with the requirements of 524 CMR, Part 35 provided that such buffers may be located at each side of the car frame.

(3) Counterweights, where provided, shall conform to 524 CMR, Part 35.

26.10 Car Frames and Platforms: Design Requirements. Car frames, car platforms and their guiding members of Class I, II and III elevators shall conform to the requirements of 524 CMR, Part 35.

EXCEPTIONS:

(a) The flooring may be perforated provided the openings will reject a ball having a

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diameter of two inches or more.

(b) Where a parking dolly is used the portion of the floor where the dolly travels may be depressed.

(c) Four corner suspension roped hydraulic elevators are not required to have car crossheads.

26.11 Car Enclosures and Car Gates. Cars shall be enclosed on all sides not used for entrance and exit, with enclosures conforming to 524 CMR, Part 35 provided that the enclosure need be only six feet high, may be of openwork construction for its entire height, and no car top shall be required.

EXCEPTIONS:

(a) For Class I and II Elevators the enclosures may be omitted provided:

1. The car can be operated from the car only and the car operating device is permanently located and is of a type which will return automatically to the stop position when the hand of the operator is removed.
2. The operator's station is protected on the outside with an openwork metal enclosure at least six feet high which will reject a ball 1½" in diameter and where no car gate is provided is located not less than four feet from the nearer end of the platform.
3. A metal railing at least 42" high is provided, on the sides of the car not used for entrance and exit.

(b) For Class III Elevators the enclosure specified may be omitted if a metal railing at least 42" high is provided on the sides of the car not used for entrance and exit.

A car gate shall be provided at each car entrance and shall be equipped with means to prevent the movement of the car in either the vertical or horizontal direction away from a landing unless the gate is in the closed position.

EXCEPTIONS:

(a) The means provided to prevent movement of the car may permit horizontal movement of the car with the gate open in a zone of not more than two feet in either direction provided protective guards not less than six feet high and the width of the zone are installed on each side of the tower.

(b) The car gate may be omitted provided the following conditions are conformed with:

1. Where a dolly is used, means are provided to prevent operation of the elevator unless the dolly is properly positioned on the car platform.
2. When the motor vehicle is on the car platform means are provided to prevent operation of the elevator, unless the motor car is properly centered on the platform so that no portion of the vehicle projects beyond the platform.
3. For Class I and II elevators where the elevator can be operated from the car only by means of a permanently located operating device of a type which will return automatically to the stop position when the hand of the operator is removed.

26.12 Car and Counterweight Safeties and Speed Governors. Car safeties conforming to 524 CMR, Part 35 shall be provided. All operating parts of the safety shall be protected from the elements.

EXCEPTIONS:

(a) Car safeties may be omitted on:

1. Direct plunger elevators.
2. On Class III elevators where there is no occupied space or passageway underneath

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the hoistway.

(b) The car safety device may be located in the upper part of the car frame instead of beneath the platform provided the car frame, car platform, car safety and the guide rails and their supports are designed to withstand the forces from loading and unloading and from application of the car safety at governor tripping speed with rated load on the platform within the stresses and deflections permitted by 524 CMR, Part 35.

Counterweight safeties shall be provided where there is an occupied space or passage underneath the hoistway.

Car or counterweight safeties, where required or used, shall be operated by speed governors conforming to 524 CMR, Part 35.

EXCEPTIONS: The tripping speed of speed governors for roped hydraulic elevators shall be based on the maximum speed attained by the elevator car in the down direction with rated load on the platform instead of on rated speed.

26.13 Electric and Hydraulic Driving Machines. Electric driving machines shall conform to the requirements of 524 CMR, Part 35.

Hydraulic driving machines, valves, piping, connections and tanks shall conform to the requirements of 524 CMR, Part 35.

EXCEPTION: Roped hydraulic driving machines may be used provided they conform to the applicable requirements of 524 CMR 26.14.

26.14 Roped Hydraulic Elevators. Piston rods of roped hydraulic elevators shall be so constructed and so roped that the piston shall be stopped before the car can be drawn into the overhead structure. Travel limiting stops of ample strength shall be provided in the cylinder to bring the piston to rest under full pressure without damage to the cylinder assembly or hydraulic system. Such stops shall be of the solid metal to metal type.

Traveling sheaves of roped hydraulic elevators shall be guided in metal guides. Sheave frames, where used, shall be of structural or forged steel having an elongation of not less than 14% in a length of two inches and shall be designed and constructed with a factor of safety of at least eight. A single continuous strap shall not be used for the sheave frame.

Cylinders, valves, piping, connections and tanks shall conform to the requirements of 524 CMR, Part 35. Piston rods of roped hydraulic elevators shall conform to the following:

(a) Piston rods in compression shall be designed and constructed in accordance with the applicable formula for plungers.

(b) Piston rods in tension shall be designed and constructed in accordance with the following formula:

$$W = 7500A$$

Where: W = Allowable gross load, pounds applied to piston rod

A = Net cross-sectional area at root of threads in square inches.

(c) Means shall be provided to prevent eccentric loading on piston rods and to equalize loading on piston rods where two or more are used.

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26.15 Requirements for Capacity and Loading. The capacity and loading requirements of 524 CMR 17.00 shall be conformed with, provided that the minimum rated load shall be based on the maximum weight of the motor vehicles to be parked and shall in no case be less than 5,000 lbs. per vehicle to be carried.

In addition to the information required by 524 CMR, Part 35, the crosshead data plate or a separate plate attached to the crosshead shall indicate the maximum speed of the car in the down direction with rated load on the platform for which the elevator is designed.

26.16 Terminal Stopping Devices and Operating and Control Devices. Terminal stopping devices shall conform to the requirements of 524 CMR, Part 35 for hydraulic elevators, provided that for roped hydraulic elevators there shall be installed, in addition to the terminal stopping devices therein specified, a separate automatic stop valve independent of the normal control valve and mechanically operated directly by the movement of the car.

Operating and control devices shall conform to the requirements of 524 CMR, Part 35 for electric elevators and for hydraulic elevators; additionally:

(a) Roped hydraulic elevators may have lever type operating devices provided they are self centering when released by the operator.

(b) The following electrical protective devices shall not be required:

1. Top of car operating device.
2. Stop switch on top of a car.
3. Hoistway door interlocks or electric contacts. (See 524 CMR 26.06(3)).
4. Car door or gate electric contacts. (See 524 CMR 26.11(2)).
5. Stop switch in pit.
6. Car emergency stop switch for roped hydraulic elevators with lever type operating devices.

Class III elevator cars shall be provided with a constant pressure operating device for operating the car for inspection, maintenance, and during emergencies, which shall be operative only when the operating device at the control dispatching station is inoperative. Means shall be provided at the central dispatching station for disconnecting the normal operating device and for making the constant pressure operating device in the car operative.

26.17 Requirements for Suspension Means. The suspension means for electric and hydraulic elevators shall conform to 524 CMR, Part 35. Car platforms may be suspended by wire ropes attached to each corner of the platform, subject to the following:

(1) A center car frame conforming in all respects to 524 CMR, Part 35 shall be provided except that the car crosshead may be omitted, providing:

(a) The car frame stiles extend partly above and partly below the car platform so that the vertical distance between the top and bottom guide shoes on the car frame is not less than 40% of the distance between guide rails or of the length of the car platform, whichever is greater.

(b) Guiding members or rope connections are so designed and installed as to prevent binding of the car frame in the guide rails when the car is raised and lowered.

(2) The car safety required by 524 CMR 26.12 is mounted on the center car frame located as required in 524 CMR, Part 35.

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- (3) The car safety shall be operated by a speed governor.

26.18 Inspection, Tests, Maintenance and Alterations. Inspections, tests, maintenance and alterations shall conform to the requirements of 524 CMR and of M.G.L. c. 143, § 64.

26.19 Members of the Public Not Allowed Above Receiving Level. No person other than those whose services are necessary for the operation, maintenance, or safety of the premises shall be permitted on an elevator or on any level other than the receiving level.

26.20 Operators to Be Licensed. No person shall operate, and no owner, lessee, employer or his agent shall cause or permit any elevator to be operated except by a person duly licensed for such service by the Commissioner of Public Safety.

EXCEPTION: An operator's license shall not be required of an elevator contractor or of a qualified licensed mechanic engaged in the construction, maintenance, or repair of elevators or elevator hoistways, or of an inspector having authority to inspect elevators.

(1) Granting of Licenses

(a) Whoever desires to act as an operator of elevators herein required to be operated by a licensed person shall make application to the Commissioner on blanks to be furnished by the Department of Public Safety. A license shall not be granted to a person less than 18 years of age.

(b) The applicant shall be given a practical examination as to his knowledge of the operation of elevators, and if found competent shall be granted a license by the Commissioner.

(c) Special licenses shall be issued for Class I, Class II, and Class III elevators respectively. No license shall be valid except for the class elevator for which it has been issued. Licenses shall be for the term of one year from the date thereof, and may be renewed yearly by the department. If a license has not been renewed within three years from the date of issuance, a reexamination shall be required.

(2) Display of Licenses. A licensed operator shall at all times when operating an elevator be prepared to display his license on demand of the owner or tenant of the building, or of any person authorized to inspect the elevator, or of any police officer.

(3) Revocation and Suspension of Licenses.

(a) A willful falsification in the matter of a statement in an application shall be deemed sufficient cause for the revocation at any time of a license granted on said application.

(b) A license may be suspended or revoked by the Commissioner, if the holder is incompetent or untrustworthy or fails to comply with 524 CMR 26.00.

REGULATORY AUTHORITY

524 CMR 26.00: M.G.L. c. 143, § 69.

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524 CMR 29.00: STAGE, ORCHESTRA, AND ORGAN CONSOLE ELEVATORS

Section

- 29.01 Definitions
- 29.02 Hoistway Construction
- 29.03 Clearance and Pits
- 29.04 Machine Rooms, Sheave Rooms and Secondary Levels
- 29.05 Hoistway Doors
- 29.06 Railings and Toe Boards
- 29.07 Guide Rails
- 29.08 Door Interlocks
- 29.09 Lifting Capacity
- 29.10 Stage Elevators
- 29.11 Control Apparatus for Orchestra and Organ Console Elevators
- 29.12 Driving Machines
- 29.13 Control and Operating Devices and Systems
- 29.14 Factor of Safety

29.01 Definitions. For purposes of convenience, Massachusetts definitions related to stage, orchestra, and organ console elevators are presented herein, rather than in 524 CMR, Part 35.

Car Aprons. Car aprons shall mean an enclosure of solid construction to enclose the space between the top of the hoistway enclosure and the underside of the platform when the platform extends above the top of the hoistway enclosure.

Orchestra Elevator. An orchestra elevator shall mean the platform for raising and lowering musicians of an orchestra in a substantially vertical direction at a speed not exceeding 15 feet per minute.

Organ Console Elevator. An organ console elevator shall mean a platform for raising and lowering an organ console including the organist, in a substantially vertical direction at a speed not exceeding 15 feet per minute.

Stage Elevators. A stage elevator shall mean a platform consisting of a section of the stage arranged to be raised and lowered to or above and below the stage level in a vertical direction at a speed not exceeding 15 feet per minute.

Standard Railing. A standard railing shall mean a railing not less than 42" in height with an additional rail between the top rail and the floor.

Toe Boards. Toe boards shall mean a board not less than six inches in height placed at right angles with floor or platform to prevent objects from falling from the floor or platform to the spaces below.

29.02 Hoistway Construction. The hoistways of Orchestra and Organ console elevators shall be of two hour fire resistive construction immediately below the top landing.

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The complete surface of the hoistway within the limits of travel shall be of smooth finish, devoid of surface roughness, and without any projections or recesses except for landing entrances, guides, and guide brackets, vertical slots where required for concealed guides, junction boxes and conduit or wiring. All projections or recesses at landing entrances shall be beveled on the underside or shall be guarded with metal plates. The angle of such bevels or guard plates shall not be less than 75° from the horizontal.

29.03 Clearance and Pits. A pit shall be provided at the bottom of every hoistway of such depth that when the platform is at its lowest limit of travel the distance between the lowest point of the underside of the platform framing shall be in accordance with the following: The clear vertical distance between the underside of the car platform or between the underside of any equipment attached thereto, exclusive of the car frame channels, car safety blocks, guide shoes and any aprons or guards attached to the car sill, and the pit floor when the car rests on the fully compressed buffer shall not be less than two feet. In measuring this clearance, the depth of any trenches or depressions in the pit shall not be included.

29.04: Machine Rooms, Sheave Rooms and Secondary Levels. All machine rooms shall be located above or below or contiguous to any side of the hoistway.

EXCEPTIONS: Oil hydraulic machine rooms and entrance to machine rooms shall be located not more than ten feet from any side of the hoistway.

29.05 Hoistway Doors. The bottom landing openings of hoistways shall be protected by sliding or swinging doors of 1½ hour fire resistive construction.

29.06 Railings and Toe Boards. Railings and toe boards shall be provided at floor levels of orchestra and organ console elevators.

29.07: Guide Rails. Steel guide rails shall be used for guides of stage and organ console elevators.

29.08 Door Interlocks. All hoistway landing doors shall be equipped with interlocks as described in 524 CMR, Part 35.

29.09 Lifting Capacity. The lifting capacity of an orchestra or console elevator shall be equal to a live load of not less than 25 lbs. per square foot of floor area of the platform. All railings, aprons, wiring conduits, *etc.*, shall be considered as part of moveable platforms.

29.10 Stage Elevators. The lifting capacity of a stage elevator shall be equal to a live load of not less than 75 lbs. per square foot of floor area of that platform.

29.11 Control Apparatus for Orchestra and Organ Console Elevators. Operating switches shall be provided in a suitable location on the platform of orchestra and console elevators.

An emergency stop switch, which will cut off the sources of power, shall be provided in the car adjacent to the operating device for all of the above elevators and shall be identified by the distinctive color of Red.

Emergency stop switches may be operated by buttons or levers but shall be of the manually opened and closed type so installed that when opened gravity will not tend to close the switch.

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An emergency stop switch shall be installed in the pit of every orchestra and console elevator.

A manually operated multiple disconnecting switch shall be installed in the main line of each electric orchestra or console elevator or motor generator set machine.

The disconnect switch shall be located adjacent to and visible from the elevator machine or motor generator set to which it is connected and shall, where practicable, be located in the machine room at the lock jam side of the entrance door.

29.12 Driving Machines. Where elevating screws are used they shall be of the direct connected type, either worm or beveled gears, and all gears shall be enclosed in a protective housing.

Where a stage, orchestra or console elevator is not supported or operated by screws, plungers or similar means, car safeties shall be provided under the platform capable of stopping and holding the platform with full rated load at any point of its travel.

29.13: Control and Operating Devices and Systems. Motor controller requirements are as set forth below:

(1) Motor Controller. A suitable lighted room shall be provided outside of the hoistway for the motor controller and brake unless the motor and controller and brake are located in the pit in which case masonry piers or columns shall be provided of sufficient strength to take the impact of a full loaded car.

(2) Location of Motor and Controller. Where the motor and controller are located in a hoistway pit or in a pit adjacent to the lifting platform, access to same shall be provided by means of a door entirely below the bottom of the platform when the platform is at its lowest limit of travel. This door shall be of sufficient width and height to make the entrance readily accessible.

(3) Terminal Limit Switches. Enclosed terminal limit switches located in the hoistway shall be provided and arranged to automatically bring the car platform to rest as it approaches either terminal landing.

(4) Final Limit Switches. Enclosed final limit switches shall be provided at the top and bottom of the hoistway arranged to cut off the current and stop the platform if it should travel beyond the terminal limit switch. Electric power elevators having winding drum machines shall have the stopping switches on the machines and also in the hoistway operated by the movement of the car.

29.14 Factor of Safety and Hoistway Requirements. See below:

(1) Elevator Platform Construction. The platform of stage, orchestra, organ console elevators shall be of steel frame construction designed with a safety factor of not less than six based on the rated load, uniformly distributed. All other parts of the equipment shall have a safety factor as required by 524 CMR, Part 35.

(2) Installations in the Same Hoistway. When orchestra and organ console elevators are installed in the same hoistway the adjacent sides shall be provided with solid dividing wall partitions with not less than ¾ hour fire resistive construction.

(3) When the travel of a stage, orchestra or organ console elevator extends above the top of the hoistway

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enclosure, aprons of substantial construction shall be provided on the platform of sufficient depth to enclose the space between the top of the hoistway enclosure and the underside of the platform plus three inches when the platform is at its limit of travel.

(4) The lower edge of the aprons shall be beveled at an angle of at least 75° with the horizontal.

REGULATORY AUTHORITY

524 CMR 29.00: M.G.L. c. 143, § 69.

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(524 CMR 30.00: RESERVED)

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524 CMR 31.00: CASKET LIFTS INSTALLED IN LICENSED FUNERAL HOMES, MEMORIAL CHAPELS, OR PREPARATION ROOMS.

Section

31.01: Definitions

31.02: Requirements

31.01: Definition unique to 524 CMR, Part 31

The term *casket lift* shall mean a car, cage, or platform raised or lowered substantially vertical in permanent guides or rails, including the necessary operating mechanism and used for the purpose of transporting caskets and related materials only. The lift shall be operated only from the landing by continuous pressure key operated switch. No person shall be permitted to ride on the car. Casket lift installations are not designed as freight elevators.

31.02: Requirements

(1) Hoistway Enclosures.

(a) The hoistway shall be of two hours fire resistive construction. The inside of the hoistway shall be of smooth finish without any projections or recesses except for landing entrances, guides and guide brackets, vertical slots when used for concealed guides, junction boxes and conduits for wiring.

EXCEPTIONS: For casket lifts not exceeding 15' travel, a hinged vertical lifting hoistway cover shall be permitted when the lifting arms on the car will open and close the hoistway cover automatically, and provided the key operated switch is located only at the hoistway cover landing. The hoistway cover shall be installed to automatically close when the car leaves the upper landing opening.

(b) Hoistway covers shall be made of not thinner than seven eighth inch stock strongly battened if of wood or of equally strong and steel metal construction and shall support a load of not less than 1,000 lbs. Hinges shall be of either T or heavy strap hinges secured to the floor with lag screws or otherwise bolted through the hoistway cover.

(c) All projections or recesses at landing shall be beveled on the underside, or shall be guarded with metal plates. The angle of such bevels shall be not less than 60° or more than 75° from the horizontal.

(2) Ventilation. Not compulsory if not required by cities and towns in the Commonwealth.

(3) Pits. A pit shall be provided at the bottom of every hoistway when the car is at the lowest landing, and the distance between the lowest point of the car platform framing and to the floor of the pit shall not be less than five inches. The clearance between the car and the hoistway shall not exceed 1½".

(4) Hoistway Doors. All landing openings shall be protected by swing or horizontal slide doors of solid construction and a fire test of 1½ hours fire rated assembly.

(5) Door Clearance. Landing doors shall be so located that the distance from the face of the

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doors to the edge of the hoistway shall not be more than four inches from the face of the door section nearest to the car.

(6) Vision Panels. Each door shall be provided with a vision panel not less than 20 square inches and the total area of one or more vision panels in any door shall be not more than 80 square inches. Each clear panel opening shall reject a ball six inches in diameter.

(7) Interlocks. All landing doors shall be equipped with electro-mechanical interlocks.

(8) Car Platform. The car platform size shall not exceed 96" long by 40" deep.

(9) Car Floor. The car floor shall be wood plank or steel plate supported by a steel frame.

(10) Car Enclosure. Casket lifts shall be enclosed with solid sheet steel partitions on the unused sides not less than 42" wide and 42" in height and shall be flush.

(11) Capacity. The full load capacity shall not exceed 750 lbs.

(12) Speed. The contract speed shall not exceed 25 feet per minute.

(13) Travel. The total travel of lifts serving more than one floor shall not exceed 25'.

(14) Control Operation. The car shall be operated from the landing opening only by key operated continuous pressure switch.

(15) Guide Rails. Steel guides shall be used on all installations.

(16) Car Safety. Cars suspended by ropes or chains of the winding drum type shall be provided with a car safety located within the car frame. The safety shall be of the instantaneous type.

(17) Machines.

- (a) May be of the winding drum type.
- (b) May be of the traction type.
- (c) May be of the hydraulic type.
- (d) The installation of belt driven and chain drive machines is prohibited.

(18) Hydraulic Electric Systems. The electric system shall be so interlocked that due to electrical power failure, the car platform will remain in the position to the power failure and will move only on the resumption of power when the operating key switch is activated to start operation.

(19) Hydraulic Valves. An overload relief valve shall be installed in the hydraulic circuit to prevent operation of the platform if loaded above rated capacity.

(20) Mechanical Stops. Mechanical stops shall be installed to prevent lifting platform from traveling above the predetermined level.

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(21) Hydraulic Piping and Connections. Flexible hose and fittings may be installed between the check valve or control valve and cylinder if they comply with the following requirements: Steel wire reinforced rubber covered hose shall have a bursting strength of ten times working pressure and the hose must be replaced at least once every six years.

(22) Ropes and Chains. Car platforms suspended by ropes or chains shall have not less than 2" steel ropes or equivalent number of steel roller or multiple link steel chains. Rope or chain fastenings may be thimbles and clamps or other approved type of fastening.

(23) Safety Factor. Suspension of car platforms by ropes or chains shall be at least six.

(24) Slack - Rope - Chain. A slack rope or slack chain switch shall be installed in connection with all machinery of the winding drum type which will automatically shut off the power and apply the brake and stop the machinery, if the load carrying platform is obstructed in its descent.

(25) Voltage. The maximum system or circuit potential permitted in the hoistway or landing operating devices shall not exceed 240 volts.

(26) Riders. All persons are prohibited from riding on a casket lift.

(27) Signs. A sign shall be provided on the car in a conspicuous location with letters at least one inch reading CAPACITY 750 POUNDS. A sign shall be located on the car reading NO RIDERS with letters one inch high.

REGULATORY AUTHORITY

524 CMR 31.00: M.G.L. c. 143, § 69.

524 CMR: BOARD OF ELEVATOR REGULATIONS

524 CMR 32.00: VERTICAL RECIPROCATING CONVEYORS

Section

- 32.01: Scope and Application
- 32.02: Definitions
- 32.03: Hoistway Enclosure
- 32.04: Backstops
- 32.05: Machine Rooms
- 32.06: Hoistway Doors and Gates
- 32.07: Car Enclosures
- 32.08: Driving Machines and Control Equipment
- 32.09: Operating Protective Devices
- 32.10: Practical Tests and Inspections
- 32.11: *Controlled Access Facility*
- 32.12: *Non-Controlled Access Facility*
- 32.13: Alterations

32.01: Scope and Application

(1) 524 CMR 32.00 is promulgated by the Board of Elevator Regulations pursuant to the authority granted by M.G.L. c. 143, §§ 68 and 71E.

(2) The standards in 524 CMR 32.00 shall apply to the new installation, alteration, and maintenance of power driven Vertical Reciprocating Conveyors (VRC) as defined in 524 CMR 32.02. A registered design professional shall indicate conformance to these requirements and any additional requirements under the Massachusetts State Building Code (780 CMR) verifying a safety factor of three for all structural components.

(3a) Vertical Reciprocating Conveyors shall be subject to inspection as provided in 524 CMR, Part 32.

(3b) Existing vertical reciprocating conveyors installed prior to April 15, 2009 shall be subject to the following requirements:

- Top and bottom limits;
- Backstops;
- Signage;
- Safeties (instantaneous or valve overspeed);
- Safety operated switches required on safeties;
- Suitable enclosure for machinery;
- Electrical and mechanical interlocks must be provided;
- Interlocks cannot be accessible from outside the hoistway;
- Corridor push button w/stop switches;
- Car light;
- Other if deemed a safety issue.

(4) Vertical Reciprocating Conveyor wiring and electrical equipment shall be installed in

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accordance with 527 CMR 12.00.

(5) No riders shall be permitted on Vertical Reciprocating Conveyors while the lift is in operation.

(6) Individuals performing work relative to the construction, maintenance, or repair of Vertical Reciprocating Conveyors within the Commonwealth shall be subject to the licensing requirements of M.G.L. c. 143, § 71B.

(7) A permit for installation, alteration, relocation, or material change of a Vertical Reciprocating Conveyor must be obtained from the Department of Public Safety in accordance with 524 CMR Part 1 prior to the commencement of any such work.

32.02: Definitions Unique to 524 CMR Part 32

The following definitions shall apply to the installation, alteration, repair and maintenance of equipment covered by 524 CMR 32.01:

ASME. American Society of Mechanical Engineers.

Controlled Access Facility. Any facility where the use of facility and access thereto is restricted only to persons leasing or otherwise using space.

Doubled-ended Platform. A lift that is capable of being loaded and unloaded from more than one side of the platform.

Electromechanical Interlock. A device that prevents the operation of the VRC unless all hoistway doors and car gates (when provided) are closed and locked when locking is possible when the lift is away from landing.

Final Limit Switch. An electromechanical switch, device or system actuated by position of the car causing the main drive power to be disconnected from the driving machine when the lift reaches floor level or if the lift travels beyond the terminal landings.

General Public. People other than employees or owner's agent of the facility where a VRC is installed and operated.

Travel Limit Switch. A device that mechanically limits the travel of the lift when the platform arrives or travels beyond the terminal landings. This device may be used in conjunction with a final limit device or system.

Vertical Reciprocating Conveyor (VRC). A power driven stationary conveyance permanently installed, and comprised of a car or platform that moves in guides, serves two or more floors or landings, and travels in a vertical or inclined direction. It is an isolated self-contained lift, and is not part of a mechanized conveyor system. VRCs are normally installed in a commercial or industrial area not accessible to the *General Public* or intended to be operated by the *General*

Public.

32.03: Hoistway Enclosure

- (1) The hoistways of all VRCs that penetrate any fully enclosed solid floor above the bottom landing shall be enclosed throughout their height and constructed in accordance with 780 CMR (Massachusetts State Building Code) in effect at that time of installation.
- (2) Where 524 CMR 32.03(1) does not apply, hoistway enclosures shall be constructed at each landing according to the following standards:
 - (a) Enclosure Height of the hoistway shall be not less than 96 inches (2440-mm) and shall terminate as determined by the highest part of the lift, machinery or relating support structure.
 - (b) Enclosures shall be constructed with material having the ability to withstand a 100 pound lateral force without deflection and reject a ball two inches (50-mm) in diameter.
 - (c) Where the VRC is adjacent to a stairway, the enclosure shall be of solid or perforated construction and shall not be less than 96 inches (2440-mm) above any step. Perforated construction shall reject a ball one inch (25-mm) in diameter.

32.04: Backstops

- (1) Where a double-ended platform is not accessible from both sides at a landing, the enclosure shall be provided with a backstop located on the hoistway enclosure opposite the landing opening. When car doors or gates are provided, backstops are not required.
- (2) The strength of the material used for the backstop shall be sufficient to withstand normal load impacts.
- (3) The backstop shall extend a minimum of 43 inches (1100-mm) high and not less than two inches (50-mm) below the platform or to floor level, as measured with the lift at floor level. The width of the backstop shall be not less than the clear opening.
- (4) The distance measured horizontally from the platform to the backstop shall not exceed 1½ inches (38-mm).

32.05: Machine Rooms

Machine rooms or suitable enclosures around machinery and control equipment shall be required and shall meet the requirements of A.17.1-2013 Section 2.7 except as modified by 524 CMR 35.00.

32.06: Hoistway Doors and Gates

- (1) The openings at each landing shall be provided with gates or doors that guard the full width of the opening and prevent entry to any hoistway area during material lift operation. Hoistway gates or doors shall extend vertically not more than two inches (50-mm) from the landing threshold and to a minimum height of 72 inches (1830-mm) above the landing

threshold.

- (2) The horizontal running clearance between the platform and landing threshold shall not be less than ½ inch (13 mm) nor greater than 1½ inches (40-mm).
- (3) The horizontal clearance between the platform edge and the inside surface of the hoistway door shall not exceed five inches (130-mm).
- (4) Each hoistway gate or door shall have an *Electromechanical Interlock* or combination mechanical door lock and contact to prevent the door from opening while the material lift is in operation and to prevent the material lift from operating if a door or gate is open at any landing. The interlock shall be located so it is not accessible from the landing side when the hoistway doors are closed. Access to the interlock through use of special tool is permitted provided the interlock is located not more than 84 inches (2130-mm) from floor level.
- (5) There shall be a sign on each landing door or gate reading "NO RIDERS." Letters on the sign shall be a minimum of two inches (50-mm) high and be a contrasting color to the surrounding background.
- (6) Power doors, when provided, shall conform to the following:
 - (a) Swing door closing force shall not exceed 10-lbf (45-N).
 - (b) Horizontal sliding or vertical operating doors closing force shall not exceed 30-lbf (133-N).
 - (c) The maximum closing speed for doors shall not exceed 1-ft/sec (0.305-m/s).
 - (d) The control device to open and close the door shall be within sight of the hoistway door it controls. Door control shall be of the constant pressure type and shall not be controlled automatically.

32.07: Car Enclosures

- (1) The enclosure on the sides not used for loading and unloading shall be constructed to prevent material from falling into or against the hoistway enclosure during operation and will be constructed to reject a two inches (50 mm) ball. In no case shall the enclosure be less than 43 inches (1100 mm) high.
- (2) Car Gates are not Required. Where provided, car gates shall be a minimum of 43 inches (1100-mm) high and provided with a gate switch contact to prevent operation of the lift unless the car gate is in the closed position.
- (3) A snap chain, drop bar or similar device may be installed across all loading sides of the lift platform.
- (4) A capacity sign shall be installed on conveyor and clearly visible showing the maximum rated capacity. The capacity sign lettering shall not be less than ¾ inch high.
- (5) A "NO RIDERS" sign shall be installed on the conveyor. The lettering shall not be less than ¾ inch high.

(6) Conveyors shall be equipped with an electric light or lights; not less than two lamps shall be provided. The minimum illumination at the landing edge of the conveyor platform when the landing doors are open shall not be less than five foot candles.

(7) A car light switch is not required on the conveyor, but it shall be required in the machine room.

32.08: Driving Machines and Control Equipment

(1) Driving machines, pump units and other equipment shall be permanently secured in place and shall not be supported by hooks, cables, chains, similar devices or configurations. Chain hoists, rope falls or similar hoisting devices are prohibited from use as the main driving machine.

(2) The diameter of drive sheaves for traction machines and drums shall not be less than 30 times the diameter of the hoisting cables. The diameter of all other sheaves shall not be less than 21 times the diameter of the hoisting cables.

(3) The controller, driving machine and other equipment requiring periodic service and repair shall be readily accessible. Where machines are located in the hoistway, a safe means of access shall be provided from outside the hoistway to facilitate maintenance and repairs. Where equipment access panels are located more than 72 inches (1830-mm) above floor level, stairs or fixed ladders shall be provided. Stairs and fixed ladders shall comply with *ASME A17.1.2.7.3.3.1*.

(4) Illumination of work areas containing machines and controls shall be provided with an electric light or lights; not less than two lamps shall be provided. The minimum illumination of not less than ten foot candles as measured at a point in front of the equipment. An electrical outlet conforming to 527 CMR shall be provided within 72 inches of the control equipment.

(5) Controllers shall not be located in the hoistway and shall be located in a control room.

(6) Machine rooms and/or control rooms shall meet the requirements of 524 CMR 35.00: Section 2.26.

(7) Machines located in a hoistway shall meet the minimum guidelines for a Machine Roomless (MRL) installation.

(8) By-pass pressure on hydraulic units shall be set not to exceed 150% of working pressure and shall be sealed.

(9) An overspeed valve (rupture valve) shall be installed in the oil line of hydraulic units between the overspeed valve and the jack. Only threaded or welded pipe may be used between the overspeed valve and the jack.

32.09: Operating Protective Devices

(1) Each conveyor suspended by wire ropes, chains or similar means shall be equipped with car safeties. The car safety shall be capable of stopping the car and sustaining the car with 125% of its rated load. Upon activation of the car safeties, an electric safety switch shall be provided that will cause the power to be disconnected from the main driving means.

(2) Each lift shall be provided with top and bottom travel limits and *Final Limit Switches*.

(3) Control stations shall be permanently installed on the outside of each landing. The control stations shall be in view of the hoistway and shall have an emergency mechanical set-reset type stop switch. The control stations shall be located at a point outside the hoistway so it is not possible for the same person to operate the control and ride the lift.

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32.09: continued

(4) A lift with a winding drum machine shall be provided with a slack rope switch or slack chain that will cause the main power to be removed from the driving machine. The device shall be of the manually reset type.

32.10: Practical Tests and Inspections

Before a conveyor is allowed to operate, the requirements of 524 CMR 8.00 shall be met, where applicable.

32.11: *Controlled Access Facility*

All employees who intend to use a VRC in a *Controlled Access Facility* shall be trained as to its safe operation. A record shall be kept on file by the facility documenting the individuals who have received such training. No employee of said facility may operate a VRC unless he or she has been trained on its safe operation.

32.12: *Non-Controlled Access Facility*

VRCs may not be operated by the *General Public*. If a VRC is located in a non-*Controlled Access Facility*, the area surrounding the VRC shall be secured so that members of the public do not have access to the unit. There shall be a sign on or adjacent to the unit reading "NO RIDERS." Letters on the sign shall be a minimum of two inches (50-mm) high and be a contrasting color to the surrounding background.

32.13: Alterations

Alterations to existing lifts shall cause the equipment affected by the alteration to comply with 524 CMR 32.00.

REGULATORY AUTHORITY

524 CMR 32.00: M.G.L. c. 143, §§ 68 and 71E.

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(524 CMR 33.00: RESERVED)

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(524 CMR 34.00: RESERVED)

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524 CMR 35:00: SAFETY CODE FOR *ELEVATORS* AND *ESCALATORS* A17.1-2013
and THE MASSACHUSETTS MODIFICATIONS OF THAT CODE

Massachusetts incorporates by reference, the SAFETY CODE FOR *ELEVATORS* AND *ESCALATORS* (ASME A17.1-2013/CSA B44-13) with the following Part 35 modifications for new and existing conveyance equipment regulated by 524 CMR and where permissible construction, installation, *repair*, relocation, *alteration*, decommissioning, classification change or *Material Change* is proposed.

See 524 CMR, Part 1 for general administrative requirements.

See Scope, Part 1, Section 1.01 of 524 CMR for a description of the Part numbering scheme utilized in 524 CMR in its entirety

A17.1, Part 1, Sections 1.1, inclusive and 1.2, inclusive are further modified by 524 CMR, Part 1, inclusive.

524 CMR does not adopt A17.2, A17.3, A17.4, A17.5 A17.6 or A17.7; other Referenced Standards identified in A17.1-2013, Section 9 are accepted to the degree that such are not in conflict with express requirements of 524 CMR.

Existing conveyance equipment regulated by 524 CMR, but not undergoing permissible construction, installation, *repair*, relocation, *alteration*, decommissioning, reclassification or *Material Change* shall be inspected in accordance with the governing requirements of that version of 524 CMR in effect at the time of acceptable completion of construction, installation, *repair*, relocation, *alteration*, classification change or *Material Change* as applicable.

Note that all previous and current editions of 524 CMR are available at the MA Division of Publications and Regulations in the Office of the Secretary of the Commonwealth (617-727-2831).

Also note that the Secretary of the Commonwealth is the singular Legal Keeper of the Record of all Codes of MA Regulation (CMR), including 524 CMR.

PART 1 GENERAL

SECTION 1.1 SCOPE

1.1.2 Equipment Not Covered by This Code

Add a new first paragraph that reads:

Although equipment identified in 1.1.2 (a) – (u) is not covered by A17.1, 524 CMR, Parts 36-38 additionally address: Personnel Hoists (Part 36), Material Hoists (Part 37), Platform and Stairway Chairlifts (Part 38).

1.1.3 Application of Parts. Add additional sentence as follows:

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Where parts of Codes and/or Standards, referenced by 524 CMR conflict with specific requirements of sections of 524 CMR, the section requirements of 524 CMR shall prevail.

SECTION 1.3 DEFINITIONS

In addition to Definitions contained in A17.1, Part 1, Section 1.3, inclusive, the following MA amendments are to be included in Section 1.3 (where Definitional conflicts exist, the MA Definition shall apply):

alteration: any change to equipment, including its parts, components, and/or subsystems, other than *maintenance, repair, or replacement*.

authority having jurisdiction: the organization, office, or individual responsible for enforcement of this Code. Where compliance with this Code has been mandated by legislation or regulation, the “*authority having jurisdiction*” is the *regulatory authority* (see *regulatory authority* and MGL c.143, §§ 62- 71G).

authorized personnel: persons who have been instructed in the operation of the equipment and designated by the owner to use the equipment.

control room, elevator, dumbwaiter, material lift: an enclosed control space outside the hoistway, intended for full bodily entry, that contains the motor controller. The room could also contain electrical and/or mechanical equipment used directly in connection with the *elevator*, dumbwaiter, or *material lift* but not the electric driving machine or the hydraulic machine.

control space, elevator, dumbwaiter, material lift in Massachusetts. NOTE: In Massachusetts, *control spaces* must satisfy the requirements for *control rooms*. The controller and motor controller must be in a *control room*.

DPS State Elevator Inspectors – See MGL c.143, §§ 62-66 and 71B.

elevator: Conveyance devices addressed in MGL c. 143, § 71E.

escalator: Certain conveyance devices addressed in MGL c. 143, § 71E.

machine room, elevator, dumbwaiter, material lift: an enclosed machinery space outside the hoistway, intended for full bodily entry, that contains the electric driving machine or the hydraulic machine. The room could also contain electrical and/or mechanical equipment used directly in connection with the *elevator*, dumbwaiter, or *material lift*.

maintenance: a process of routine examination, lubrication, cleaning, and adjustment of parts, components, and/or subsystems for the purpose of ensuring performance in accordance with the applicable Code requirements (See also *repair* and *replacement*).

MA-Registered Elevator Contractors – See 524 CMR, Part 5.

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MA-Licensed Elevator Mechanics – See MGL c.143, §§ 71B-71C.

MA-trained Firefighters – MA recognized firefighters, who, additionally, have received training in *elevator* emergency operations.

Material Change: The following shall be considered *Material Changes*:

- (a) If the speed of the *elevator* is increased.
- (b) If the capacity of an existing *elevator* is increased.
- (c) If the travel of an existing *elevator* is extended.
- (d) If the machine room of an existing *elevator* is relocated; or
- (e) If the classification of an *elevator* is changed from freight to passenger.

Exceptions: Any change from DC (direct current) to AC (alternating current) or any change in voltage shall not be considered a *Material Change*, provided that the speed or capacity of the installation is not increased.

material lift: an *elevator* designed or modified for the purpose of transporting materials that are manually or automatically loaded or unloaded and are not a vertical reciprocating conveyor (see 1.3). *Material lifts* without an automatic transfer device are Type A or Type B. On Type A *material lifts* no persons are permitted to ride. On Type B *material lifts* authorized personnel are permitted to ride.

modernization: see *alteration*.

Phase I Emergency Recall Operation: the operation of an *elevator* where it is automatically or manually recalled to the recall level and removed from normal service because of activation of firefighters' emergency operation.

Phase II Emergency In-Car Operation: the operation of an *elevator* by firefighters where the *elevator* is under their control.

private residence: a separate dwelling or a separate apartment in a multiple dwelling that is occupied only by the members of a single family unit.

private residence elevator: see *elevator* and *private residence*.

readily accessible: capable of being reached quickly for operation, renewal, or inspection, without requiring those to whom ready access is a requisite to climb over or remove obstacles or resort to portable ladders, chairs, etc.

regulatory authority: the person or organization responsible for the administration and enforcement of the applicable legislation or regulation governing the design, construction, installation, operation, inspection, testing, *maintenance*, or *alteration* of equipment covered by this Code. (See also *authority having jurisdiction*.)

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rehabilitation: see *alteration*; *maintenance*; *repair*; and *replacement*.

repair: reconditioning or renewal of parts, components, and/or subsystems necessary to keep equipment in compliance with applicable Code requirements. (See also *replacement* and *maintenance*.)

replacement: the substitution of a device or component and/or subsystems, in its entirety, with a unit that is basically the same as the original for the purpose of ensuring performance in accordance with applicable Code requirements. (See also *repair* and *maintenance*.)

REGULATORY AUTHORITY

M.G.L. c. 143, § 69.

PART 2 ELECTRIC *ELEVATORS*

SECTION 2.1 CONSTRUCTION OF HOISTWAYS AND HOISTWAY ENCLOSURES

2.1.3 Floor Over Hoistway

2.1.3.4 Area to Be Covered by Floor Delete entire paragraph and replace w/the following:

2.1.3.4 Area to Be Covered by Floor Where a floor over a hoistway is required by 2.1.3.1, the floor shall extend over the entire area of the hoistway and cover the entire machine room.

2.1.4 Control of Smoke and Hot Gases Delete all of 2.1.4 and replace with following:

2.1.4 Control of Smoke and Hot Gases:

2.1.4(a) Venting systems (or pressurization systems) for the elimination of (or preclusion of) smoke and gasses in the hoistway are required and shall be designed by MA-registered design professionals and installed by licensed HVAC personnel and certification (a stamped, written statement that hoistway ventilaton complies with 524 CMR) that such applicable code requirements have been met shall be displayed in the *elevator* machine room or control space.

2.1.4(b) “Temperature: The temperature of the *elevator* machine room or control space shall be maintained at not less than 50° F. and not more than 90° F. by natural air circulation or by an HVAC system.

2.1.4(c) Closed vents in *elevator* hoistways, required by 780 CMR, Chapter 13, shall be opened by: (1) machine room or control room and/or hoistway thermostat, designed to open at a temperature of not more than 90° F. (2) By a building fire alarm system, or (3) In the event of a power failure.

2.1.4(d) Vents shall not be located adjacent to the hoist ropes, governor rope, selector tape, or traveling cables.

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2.1.5 Windows and Skylights. Delete entire section and replace w/the following:

2.1.5 Windows and Skylights Windows in hoistway walls or *elevator* cars are prohibited. If the *elevator* hoistway is completely outside the general outline of the building, the rear wall of the car and the related hoistway wall can be of laminated safety glass with a maximum window frame depth of two inches. Curtain walls or window walls cannot enclose the hoistway. Windows and skylights and their frames and sashes in machine rooms shall conform to the requirements of 780 CMR: *The Massachusetts State Building Code* and 527 CMR: *Fire Prevention Regulations*.”

2.1.6 Projections, Recesses, and Setbacks in Hoistway Enclosures

2.1.6.2 Delete (b) and renumber (a), (b) and (d) as (a), (b) and (c) and otherwise amend to read as follows;

2.1.6.2(a) Delete: “100 mm (4 in.)” and Insert: “50 mm (2 in.)”.

2.1.6.2(b) Delete: “100 mm (4 in.)” and Insert: “50 mm (2 in.)”.

SECTION 2.2 PITS

2.2.4 Pit Access

2.2.4.4 delete and replace with:

2.2.4.4 Pits shall be accessible only to licensed elevator mechanics, authorized personnel accompanied by a licensed mechanic, and to other authorized personnel only after the equipment has been made safe by a licensed elevator mechanic. When access to the pit is via a pit door, signage reading: DANGER - ACCESS ONLY ALLOWED WHEN ACCOMPANIED BY A MASSACHUSETTS-LICENSED *ELEVATOR* MECHANIC shall be placed on the public side of the locked pit door. The signage letter size shall be a minimum of ¾ inch high and shall be of a contrasting color with that of the background.

SECTION 2.7 MACHINERY SPACES, MACHINE ROOMS, CONTROL SPACES AND CONTROL ROOMS

2.7.1 Enclosure of rooms and spaces. Change Title to read:

2.7.1 Enclosure of rooms and spaces, including ventilation and temperature requirements

2.7.1 Enclosure of rooms and spaces, including ventilation and temperature requirements.

Add a new second paragraph that reads:

For ventilation and temperature requirements for machine rooms and machine spaces, comply with the applicable requirements of 524 CMR, Part 35, Section 2.1.4.

2.7.3.4 Access Doors and Openings

2.7.3.4.1 Add a new (d):

(d) be identified with a sign that will read “*ELEVATOR* MACHINE ROOM - NO STORAGE ALLOWED” and on separate lines additionally add: “DANGER - ACCESS ONLY ALLOWED WHEN ACCOMPANIED BY A MASSACHUSETTS-LICENSED *ELEVATOR* MECHANIC” The letter size shall be a minimum of ¾ inch high and shall be of a contrasting color with that of

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the background.

2.7.3.4.1 Add a new (e):

(e) Per MGL c.143, § 71B, only Massachusetts-licensed *elevator* personnel are allowed in machine rooms, and control rooms. Where *unauthorized personnel*, for *maintenance* and other reasons must access such areas, they are statutorily-required to be accompanied by Massachusetts-licensed *elevator* personnel.

2.7.3.4.4 Delete entire paragraph and replace with:

2.7.3.4.4 Access doors for control spaces outside the hoistway shall conform to width and height requirements of Section 2.7.3.4.2

2.7.6 Location of Machinery Spaces, Machine Rooms, Control Spaces, Control Rooms and Equipment

2.7.6.3.2. Delete in entirety and Replace with:

2.7.3.6.2. The motor controller shall be located in a *control room*.

2.7.9 Lighting, Temperature, and Humidity in Machinery Spaces, Machine Rooms, Control Spaces, and Control Rooms

2.7.9.1 Lighting - In (b) Delete the phrase “where practicable” as shown below:

(b) for machine rooms and control rooms, inside the room and on the lock-jamb side of the access door.

2.7.9.1 Lighting – Add (c) that reads:

(c) “Motion or heat detecting devices used to turn (on or off) the lights in the machine room, pit, car, or the car top are prohibited.”

2.7.9.2 Temperature and Humidity Replace the first sentence as follows but otherwise retain the paragraph:

First sentence - Machinery spaces, machine rooms, control spaces, and control rooms shall be provided with natural or mechanical means to keep the ambient air temperature in the range of 50°F to 90°F and humidity in the range specified by the *elevator* equipment manufacturer to ensure safe and normal operation of the *elevator*.

SECTION 2.8 EQUIPMENT IN HOISTWAYS, MACHINERY SPACES, MACHINE ROOMS, CONTROL SPACES, AND CONTROL ROOMS

2.8.3 Pipes, Ducts, Tanks, and Sprinklers

2.8.3.3. Delete in its entirety and replace with the following:

2.8.3.3 Sprinklers shall not be permitted in power passenger or freight *elevator* hoistways, pits, machine rooms, or control spaces.

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2.8.3.3.1 thru 2.8.3.3.4 Delete in their entirety.

2.8.5 Air Conditioning

2.8.5.4 Delete all and replace with:

2.8.5.4 Should any access be necessary in or through *elevator* machine rooms, or machinery spaces, for any reason, all personnel shall be accompanied by a Massachusetts-licensed *elevator* mechanic.

SECTION 2.11 PROTECTION OF HOISTWAY OPENINGS

2.11.1.2 Emergency Doors in Blind Hoistways Replace (h) as follows:

(h) The locking system shall consist of the 3502 key and cylinder and Fire Service shall only be activated with the use of the 3502 key and cylinder. The possession of the Massachusetts Firefighters key number 3502 shall be limited to fire department personnel, Massachusetts licensed *elevator* mechanics and Massachusetts *elevator* inspectors employed by the Department of Public Safety. This key shall not be a part of a building master key system.

2.11.1.4 Access Openings for Cleaning of Car and Hoistway Enclosures.

Delete entire paragraph.

2.11.2 Types of Entrances

2.11.2.1 (d) Delete (d) in its entirety.

2.11.6 Opening of Hoistway Doors

2.11.6.2 Add a new (e) that reads:

(e) any exit leading from any *elevator* hoistway door to the outside of the building.

SECTION 2.12 HOISTWAY DOOR LOCKING DEVICES AND ELECTRIC CONTACTS, AND HOISTWAY ACCESS SWITCHES

2.12.6 Hoistway Door Unlocking Devices

2.12.6.1 General. Delete entire paragraph and substitute:

2.12.6.1 General Hoistway door unlocking devices shall be provided for use by Massachusetts licensed *elevator* mechanics and trained Firefighters at every landing where there is a passenger entrance. The types of hoistway door unlocking devices are subject to prior approval of the Massachusetts Board of *Elevator* Regulations. The use of unlocking device special tools by anyone other than Massachusetts licensed *elevator* mechanics and trained Firefighters is prohibited.

2.12.6.2.3 Delete entire paragraph.

2.12.6.2.4 Delete entire paragraph.

2.12.6.2.5 Delete entire paragraph.

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SECTION 2.14 CAR ENCLOSURES, CAR DOORS AND GATES, AND CAR ILLUMINATION

2.14.2.6 Access Panels. Delete entire section.

2.14.3 Freight Car Enclosures

2.14.3.1 Enclosure Material. Delete entire section and replace as follows:

2.14.3.1 Enclosure Material. Cab enclosure walls and the car top shall be made of metal without perforations, except for car gate(s) and the area above them.

2.14.4 Passenger and Freight Car Doors and Gates, General Requirements

2.14.4.5.1(d) Delete entire (d) section.

2.14.4.7 Vertically Sliding Doors and Gates

2.14.4.7.2 DELETE and Replace as shown:

2.14.4.7.2 Gates shall be constructed of metal, and shall be of a design that will reject a ball 50 mm (2 in.) in diameter, except that if multisection vertical lift gates are used, the panel shall be designed to reject a ball 10 mm (0.375 in.) in diameter.

SECTION 2.16 CAPACITY AND LOADING

2.16.4 Carrying of Passengers on Freight *Elevators*

2.16.4.1 DELETE and REPLACE as shown:

2.16.4.1 (a) Freight *elevators* may be used only by those persons required for handling freight.

(b) It shall be allowable at stated hours to carry employees, but not the general public, on a freight *elevator*, provided that the freight *elevator* conforms to the load-carrying requirements for passenger *elevators* and a special permit is granted by the enforcing authority subject to the following:

- 1) Car-switch operated *elevators* and continuous-pressure operated *elevators* shall be in charge of a licensed operator when used to carry employees at stated hours.
- 2) Stated hours shall be determined by the enforcing authority.

2.16.5 Signs Required in Freight *Elevator* Cars

2.16.5.1.3 Delete Section 2.16.5.1.3.

SECTION 2.26 OPERATING DEVICES AND CONTROL EQUIPMENT

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2.26.2 Electrical Protective Devices

2.26.2.21 In-Car Stop Switch In the second sentence, change “Group 1 Security” to “Group 2 Security”.

2.26.4 Electrical Equipment and Wiring

2.26.4.1 Add the following paragraphs:

2.26.4.1 Additionally:

(a) The main line disconnect switch or circuit breaker shall be located inside the machine room door or control room door. The operating handle shall be positioned on the side of the disconnect closest to the lock jamb and not more than 450 mm (18 inches) horizontally from the lock jamb. The handle shall be at a height of not more than 1700 mm (66 inches) above the finished floor at its highest point. In the case of multi-car machine rooms, the switches shall be grouped together as close as possible to that location.

(b) In the case of a machine room with double swing doors, the doors shall swing out and the switch(s) shall be on the wall adjacent to the hinge side of the active door panel.

(c) The switches shall be so designed that they may be locked out and tagged in the open position.

(d) If the fused disconnect switch or circuit breaker is not visible from the *elevator* machine to which it is connected, a second disconnect switch shall be installed that is visible from the machine.

SECTION 2.27 EMERGENCY OPERATION AND SIGNALING DEVICES

2.27.2 Emergency or Standby Power System

2.27.2.4.5 Add the following final paragraph:

2.27.2.4.5 Where an emergency or standby system is required by 780 CMR (*The Massachusetts State Building Code*), said system shall operate the *elevator* or *elevators* in the event of normal power failure, and the requirements of **2.27.2.1** through **2.27.2.5** shall be complied with. If an emergency or standby system is not required by building code but exists and operates the *elevator* or *elevators*, the requirements of **2.27.2.1** through **2.27.2.5** shall be complied with. If less than all cars can be run at the same time, all cars shall be sequenced one or more at a time to the fire recall floor automatically, after which the selector switch located at that floor, can designate a preferred car.”

2.27.3 Firefighter’s Emergency Operation: Automatic *Elevators*

2.27.3.1 Phase 1 Emergency Recall Operation

2.27.3.1.1 Add a new “(d)” that reads:

(d) The phase 1 hall key switch shall be marked with the off position vertical and in the center.

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The key shall be inserted with the cut side facing up.

2.27.3.1.6 Delete (j) and Replace with a new (j) which reads:

(j) When an *elevator*(s) has gone to the alternate level due to the activation of a fire alarm initiating device at the designated level, the manual activation of the fire-recall switch at the designated level shall cause the car to recall to that level.

2.27.3.3 Phase II Emergency In-Car Operation. Delete first sentence of the second paragraph and Replace with:

The key shall be removable in each position. The hold position in the center shall be vertical. The key shall be inserted with the cut side facing up.

2.27.3.3.7 Delete the first sentence of the second paragraph and Replace with:

For all installations performed under ASME A17.1, the firefighters' operation panel cover shall be openable with the use of a 3502 key. The key switch grooves shall be constructed and installed with the cut side facing up.

2.27.7 Firefighter's Emergency Operation: Operating Procedures

2.27.7.4 Delete entire section.

2.27.8 Switch Keys Delete entire section and replace with:

2.27.8 Switch Keys Firefighter's Emergency Operation shall only be activated with the use of the 3502 key and cylinder. The possession of the Massachusetts Fire Fighters Key number 3502 shall be limited to fire department personnel, licensed *elevator* mechanics and *elevator* inspectors and used only in the performance of their official duties. This key shall not operate any other switch unless specifically described in these regulations and shall not be a part of a building master key system.

2.27.9 Elevator Corridor Call Station Pictograph. Delete entire section and Replace as follows:

2.27.9 Fire Emergency Hall Buttons Signs. There shall be a sign securely fastened to the wall over every hall button station. Minimum size shall be 3¼" x 2¼". The lettering shall be impressed or engraved on a contrasting background, and shall read and be sized as follows:

SIGNAGE	LETTERING SIZE	LETTERING COLOR
In Case of	1/8 inch equals 14 point lettering	Color: Black
Fire	3/8 inch equals 30 point lettering	Color: Red
In This Building	1/8 inch equals 14 point lettering	Color: Black
Use Exit Stairways	3/16 inch equals 16 point lettering	Color: Red
Do Not Use This <i>Elevator</i>	1/8 inch equals 14 point lettering	Color: Black

2.27.10 Reserved for Future Use. Delete in entirety and Replace with:

2.27.10 Medical Emergency Elevators.

(1) Medical Emergency Elevators.

(a) All new buildings, or complete new additions to existing buildings in which an *elevator* is being installed, shall be provided with at least one passenger

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elevator designed to accommodate the loading and transportation of an ambulance gurney or stretcher (24" wide by 84" long with 5" radius corners) in its horizontal position. Complete new additions to existing buildings shall mean a hoistway constructed outside the confines or footprint of the existing building.

(b) The hoistway and car shall be provided with power operated passenger type horizontally sliding doors, minimum size to be 42" wide by 78" high. When center opening doors are used they shall be located on the narrow end of the car or car size and/or the door size will be altered to comply with 524 CMR 2.27.10(c).

(c) *Elevator* capacity, platform size, and entrance configuration of medical emergency *elevators* shall be capable of accommodating the designated gurney or stretcher with equivalent ease.

(2) Medical Emergency Key Switches and Markings.

(a) This *elevator* shall be controlled by a two position key switch at the main floor of a building and by a similar key switch in the car operating panel. The lock and key shall be that manufactured by Medeco Security Locks, Inc. and the key number shall be 65W-2650-T101-26-R7. The lock shall be arranged so that the switch shall be off when the key is in a vertical position and it shall be on when the key cut is facing approximately 90° to the right of the vertical. The key shall only be removable in the off position.

(b) Only *elevator* companies or manufacturers authorized by the Massachusetts Department of Public Safety, *Elevator* Section may order this lock.

(c) Only personnel authorized by the Massachusetts Department of Public Safety, *Elevator* Section may purchase this key.

(d) Both locks shall be identified with the words "MEDICAL EMERGENCY" engraved adjacent to the lock. The lettering shall be a minimum of 14 points with lettering or background color blue.

(3) Medical Emergency Operation.

(a) When the main floor key is turned to the on position, it shall activate a continuous audible signal in the car which can be the same signal used for fireman's service. It shall also activate a visual signal in the car and at the main floor key call station that reads Medical Emergency. All car calls shall be canceled and be unable to be re-registered. The car shall not accept any hall calls after this service is activated.

(b) When the car is in motion, the in car stop switch shall be de-activated.

(c) When the car is moving toward the main floor it shall return non-stop and open its doors on arrival. It shall not comply with 524 CMR 2.27(3)(b) until the car begins to move.

(d) When the car is moving away from the main floor it shall reverse direction at the next available floor without opening its doors and return non-stop to the main floor.

(e) When the car is at a floor, other than the main floor with its doors open, they shall close without delay, and the car return to the main floor.

(f) The car shall return to the main floor after being called by the EMS main floor switch and open its doors even if the main floor EMS key switch has been returned to the off position during travel. On arrival at the main floor the audible signal in the car shall cease.

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(g) Upon arrival at the main floor the doors shall open and if the main floor EMS key switch is "on" they shall remain open until that switch is turned "off". If the main floor EMS key switch is "off" the visual signals shall remain illuminated for a minimum of 60 seconds. During this delay the EMT must insert his key into the car control panel and turn it to the "on" position to retain control of the car. Upon expiration of the delay, without the key in the car being turned on the car shall return to normal service.

(h) If the *elevator* is an automatic car with attendant or independent service operation it shall activate its audible and visible signal and if on attendant service shall return to automatic operation after a minimum of 15 seconds and a maximum delay of 60 seconds and then proceed to the main floor.

(4) Car Operation.

(a) Upon entering the car it shall not accept a car call until the in car EMS key switch is turned to the on position. After turning that key on and registering a call, the car shall automatically close its doors and proceed to the call. All door zone detection devices shall be operative. If more than one call is registered, it shall stop at the first call and cancel all others at which time a second choice can be made.

(b) Upon arriving at the desired floor, the doors shall open automatically and the EMT shall remove his key when the switch is in the off position, the car shall then remain at that floor and will not accept a call or move away from that floor until the key is again turned on.

(c) The car must be returned to the main floor on EMS service and the key removed in its off position before returning the car to normal operation.

(d) If the car is on any form of special service such as inspection, firefighters, etc., when EMS service is initiated the audible and visible signals in the car shall be activated but the car shall not respond to the main floor EMS call.

(e) If the car has responded to a Medical Emergency call prior to a call for fireman's service, the EMT call for service shall not be overridden by firefighters service call until it returns to the main floor but the fireman's service audible and visible signals shall be activated.

(5) Designation. Medical Emergency Service shall be identified as follows:

(a) At the main floor this *elevator* shall be identified by the national medical symbol (star of life), shown below.

(b) These symbols (two) shall be permanently attached to the hoistway door frame on each side of that frame at right angles to the sill at a height not less than 66" and not more than 78" above the floor level at the sill.

(c) The symbol shall be blue in color with contrasting background, the staff and serpent shall be white.

(d) The symbol itself shall be two to three inches in height.

EXCEPTIONS: The following *elevator* installations need not comply with 524 CMR 2.27.10:

(a) *Elevators* in structures such as rock quarries, steel towers, dams, storage bins, smoke stacks, tanks (and other special industrial installations) where the *elevators*

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are used only by *maintenance* and operating personnel or in hospitals where the normal services of an EMT are available.

(b) *Elevators* in buildings or structures where each landing is at ground level or is accessible to ground by a ramp.

(c) *Elevators* in buildings or structures equipped with stairs that extend no more than one floor above or below the building entrance grade and with a configuration that shall accommodate the carrying of a gurney or stretcher on said stair and when said stair conforms to 780 CMR *et seq.* (the Massachusetts State Building Code) and is permitted by the *authority having jurisdiction*.

SECTION 2.28 LAYOUT DRAWINGS

2.28.1 Information Required on Layout Drawings. Add a new first sentence that reads:

2.28.1 Information Required on Layout Drawings For work requiring an *elevator* permit (see 524 CMR, Part 1, Section 1.5), permit applications and *elevator* layouts must be filed and approved by the DPS State *Elevator* Inspector having jurisdiction before any work can begin. All of the following requirements must be satisfied in Permit applications.

After **2.28.1(j)**, add additional information as follows:

(k) all plans for *elevator* installations shall be signed by a registered professional engineer or a registered architect and shall bear his registering stamp certifying that he has examined the plans and finds that the building will structurally support the *elevator* contract load plus its tare as they are shown on the *elevator* drawing. The architect or engineer shall not be responsible for any material on the *elevator* drawing. The complete installation shall comply with 524 CMR: *Massachusetts Elevator Code* at the time of filing;

(l) type of hoistway material to be used;

(m) height of hoistway in regard to roof of building. Fire rating of building roof;

(n) registered design professional stamped, written statement that hoistway ventilation complies with 524 CMR;

(p) type of hoistway doors, fire rating of doors must be shown on the layout, filling around hoistway door frames and headers for proper fire rating, grouting of landing sills;

(q) type of approved interlock;

(r) buffers, type and rating;

(s) governor, type and name plate data depicting tripping speed of the governor and that of the overspeed switch, construction of material of governor rope and size;

(t) hoist rope, size, number of, and breaking strength;

(u) type of safeties and location;

(v) type of drive machine, speed and capacity;

(w) type of control. Voltage and amperes.

(x) Base flood identification when applicable.

PART 3 HYDRAULIC *ELEVATORS*

SECTION 3.7 MACHINERY SPACES, MACHINE ROOMS, CONTROL SPACES AND CONTROL ROOMS

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In 3.7 “preamble” delete and replace as follows:

Hydraulic machines, motor controllers and/or motion controllers are not allowed in a hoistway or pit and shall be located in a machine room.

3.7.1.11 Location of Machine Rooms Create a new section 3.7.1.11 that reads:

3.7.1.11 Location of Machine Rooms When it is not possible to locate the machine room adjacent to the hoistway, in addition to all normal requirements, the following provisions shall apply:

- (a) The oil pipeline, from where it leaves the machine room to where it enters the hoistway, shall have a minimum of schedule 80.
- (b) The pipe shall have no fittings, bends or welding in it from the hoistway to the machine room.
- (c) The distance from the hoistway to the machine room shall not exceed three meters (ten ft.).
- (d) The oil line pipe shall always be visible for inspection.
- (e) Two-way voice communication shall be installed between the car and the machine room.

SECTION 3.19 VALVES, PRESSURE PIPING, AND FITTINGS

3.19.3.3.1 9(a) Delete and replace with:

Flexible hose and fitting assemblies shall:

- (a) not be installed between the jack and power unit, nor project into or through any wall. Installation shall be accomplished without introducing any twist in the hose, and shall conform with the minimum bending radius of SAE 100, R2 type, high pressure, steel wire reinforced, rubber-covered hydraulic hose specified in SAE J517.

3.19.3.3.1: Retain remaining requirements lettered (b) through (f).

3.19.4.7 Overspeed Valves Delete the paragraph and replace with:

3.19.4.7 Overspeed Valves Unless the hydraulic *elevator* is installed with a governor-operated safety, an overspeed (rupture) valve shall be provided and connections and attachments shall conform to 3.19.4.7.1 through 3.19.4.7.6.

3.19.4.7.3 Installation of Overspeed Valves Add a new first sentence.

3.19.4.7.3 Installation of Overspeed Valves On all hydraulic *elevators* the piping between the overspeed valve and the hydraulic jack shall be welded or threaded.

3.19.4.7.3 Installation of Overspeed Valves Retain the remaining language and numbering scheme of of 3.19.4.7.3.

SECTION 3.26 OPERATING DEVICES AND CONTROL EQUIPMENT

3.26.4 Electrical Protective Devices. Delete the first paragraph of 3.26.4 and Replace with:

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3.26.4 Electrical Protective Devices. Electrical protective devices shall be provided in conformance with 2.26.2, and the following requirements, except the words “driving-machine motor and brake” in 2.26.2 shall be replaced with “hydraulic machine,” and shall conform to 2.26.4 and 3.26.4.1 and 3.26.4.2.

3.26.10 Auxiliary Power Lowering Operation

3.26.10.3. Add a final sentence that reads:
The door open button shall remain operative.

SECTION 3.28 LAYOUT DATA

3.28.1 Information Required on Layout Drawing. Add a new first sentence that reads:

3.28.1 Information Required on Layout Drawing. For applications for any conveyance permitting (see 524 CMR Part 1, Section 1.5), *elevator* (all regulated conveyances) layouts must be filed and approved before any work can begin.

3.28.1 Information Required on Layout Drawing After 3.28.1(o), add the following additional information:

- (p) all plans for *elevator* installations shall be signed by a registered professional engineer or a registered architect and shall bear his registering stamp certifying that he has examined the plans and finds that the building will structurally support the *elevator* contract load plus its tare as they are shown on the *elevator* drawing. The architect or engineer shall not be responsible for any material on the *elevator* drawing. The complete installation shall comply with 524 CMR: *Massachusetts Elevator Code* at the time of filing;
- (q) type of hoistway material to be used;
- (r) height of hoistway in regard to roof of building. Fire rating of building roof;
- (s) registered design professional stamped, written statement that hoistway ventilation complies with 524 CMR
- (t) location of machine room, relative to the hoistway;
- (u) type of hoistway doors, fire rating of doors must be shown on the layout, filling around hoistway door frames and headers for proper fire rating, grouting of landing sills;
- (v) type of approved interlock;
- (w) buffers, type and rating;
- (x) governor, type if any and nameplate data depicting tripping speed of the governor and that of the over-speed switch, construction of material of governor rope and size;
- (y) hoist rope, size, number of, and breaking strength;
- (z) type of safeties, overspeed valve(s) and location;
- (aa) type of valve unit, pressure relief setting, piston size and travel;
- (bb) capacity and speed, voltage and current;
- (cc) Base flood identification when applicable.

PART 5 SPECIAL APPLICATION *ELEVATORS*

SECTION 5.2 LIMITED-USE/LIMITED-APPLICATION *ELEVATORS*

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SECTION 5.2.1 Electric Limited-Use/Limited-Application *Elevators*

SECTION 5.2.1 Add a scoping sentence that reads:

5.2.1 Electric Limited-Use/Limited-Application *Elevators* All Limited Use/Limited Application *Elevators* in Massachusetts are required to comply with the provisions of 521 CMR (MA Architectural Access Board Regulations) as applicable.

5.2.1.1 Construction of Hoistway and Hoistway Enclosures Add new final sentence that reads:

All hoistways and machine rooms shall be ventilated in accordance with the requirements of Part 35, section 2.1.4.

5.2.1.1.2 (a), (b) and (c): Delete (a) and renumber (b) and (c) as (a) and (b).

5.2.1.4.1 Bottom Car Clearance Delete and Replace as shown:

5.2.1.4.1 Bottom Car Clearance. *Elevators* shall conform to Section 2.4.1, inclusive.

5.2.1.4.2 Alternative to Bottom Car Clearance Requirements. Delete entire section.

5.2.1.7 Machinery Spaces, Machine Rooms, Control Spaces, and Control Rooms. Delete entire paragraph and replace with:

5.2.1.7 Machinery Spaces, Machine Rooms, Control Spaces, and Control Rooms. Machine rooms and machinery spaces shall conform to the requirements of section 2.7 except as modified by 524 CMR 35.00.

5.2.1.11 Protection of Hoistway Landing Openings Add a new 5.2.1.11(f) that reads:

(f) Landing door panels must be a minimum of 915 mm (36 in.) wide. Note: A tolerance of 16 mm (5/8 in.) is permitted.

5.2.1.11 Protection of Hoistway Landing Openings Add a new 5.2.1.11(g) that reads:

(g) Landing doors shall be set no more than the following dimensions from the hoistway edge of the landing sill, and shall be rated in conformance with the Massachusetts State Building Code 780 CMR.

(1) For swing doors – 19 mm (¾ in.).

(2) For horizontal sliding doors – 57 mm (2¼ in.), and shall have sight guards.

5.2.1.11 Protection of Hoistway Landing Openings Add a new 5.2.1.11 (h) that reads:

(h) Vision panels shall be installed in all swing doors per 2.11.7.1, except 2.11.7.1.6. The inside face of the glass must be substantially flush with the inside face of the door. If laminated safety glass is used, the Z97.1 marking on each piece of glass must be visible after installation. Note that conformance to MGL c.143, §§ 3T, 3U and 3V, as applicable, is also required.

5.2.1.13 Power Operation of Hoistway Doors and Car Doors and Gates. Delete 5.2.1.13 and substitute:

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5.2.1.13 Power Operation of Hoistway Doors and Car Doors and Gates. Power operation shall be as described in 521 CMR as

5.2.1.14 Car Enclosures, Car Doors, and Car Illumination. Delete (f) and replace with:
(f) Doors shall be of the horizontally sliding type and so arranged to reduce the possibility of pinching.

5.2.1.14 Car Enclosures, Car Doors, and Car Illumination. Add a new (n) that reads:
(n) Emergency battery operated lighting shall be provided in all Limited-use/Limited-application *elevators*.

EXCEPTION: If an emergency generator provides emergency car lighting within ten seconds after power failure, a battery operated lighting unit is not required.

5.2.1.27 Emergency Operations and Signaling Devices. Delete entire paragraph and Replace with: **5.2.1.27 Emergency Operations and Signaling Devices** Emergency operation and signaling devices shall conform to 524 CMR, 2.27.1 and 2.27.2 except 2.27.1.2. All Limited use/Limited application *elevators* shall be provided with a means of two-way conversation between the car and a point outside the hoistway or building attended 24 hours a day.

5.2.2.7 Valves, Pressure piping and Fittings. Delete sentence and Replace with:

5.2.2.7 Valves, Pressure piping and Fittings. Valves, pressure piping, and fittings shall conform to 3.19 except 3.19.3.3. Note that flexible hose is prohibited between the power unit and the jack.

5.2.2.14. Emergency Operations and Signaling Devices. Delete entire paragraph and replace with:

5.2.2.14. Emergency Operations and Signaling Devices. Emergency Operations and Signaling Devices shall conform to 5.2.1.27 as modified in 524 CMR 35.00.”

SECTION 5.3 *PRIVATE RESIDENCE ELEVATORS*

5.3.1.1 Construction of Hoistway and Hoistway Enclosure. Delete entire section 5.3.1.1 and Replace with:

5.3.1.1 Construction of Hoistway and Hoistway Enclosure. Hoistways and machine rooms shall conform to 2.1.1.1 and 2.7.1.1.

5.3.1.1.1. Delete and Replace with:

5.3.1.1.1 Each residential *elevator* shall have its own machine room, control space, or control room. Such machine room, control space or control room shall meet the following requirements:

- (1) it shall be enclosed with materials of the same fire rating as that required for the hoistway in the building in which they are installed;

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- (2) it shall be kept locked at all times when not being accessed by licensed or *authorized personnel*;
- (3) it shall not be located within, or at the top of, the hoistway;
- (4) it shall be provided with self-closing, self locking doors not less than 30 inches wide by 6 feet 6 inches high equipped with spring-locks that can be opened by hand from the inside of the machine room, control space or control room;
- (5) *elevator* controller and main line voltage disconnect equipment located within the control space shall conform to the NFPA 70 code regulation in effect at time of installation;
- (6) it shall be located at a maximum distance of ten feet from the hoistway;
- (7) minimum equipment clearances within 524 CMR and the National Electric Code may be calculated and obtained with the machine room, control space, or control room doors in the fully open position with flexible cords that adhere to NEC 400.4 to all external connections so equipment may be repositioned to meet the clear working space requirements of NEC 110.26(A);
- (8) all doors shall be identified with a sign that reads "*ELEVATOR* CONTROL SPACE"; and,
- (9) it shall have a light fixture(s) containing a minimum illuminance of 19 foot candles measured at floor level.

5.3.1.1.3 Hoistway Ventilation. Add a new section 5.3.1.1.5 that reads:

5.3.1.1.3 Hoistway Ventilation. When the hoistway is enclosed and the *elevator* services a garage or penetrates fire rated floors as required by the MA State Building Code, then the hoistway must be ventilated per the requirements of Section 2.1.4, inclusive.

5.3.1.7 Protection of Hoistway Openings

5.3.1.7.2 Clearance Between Hoistway Doors or Gates and Landing Sills and Car Doors or Gates. Delete: "75 mm (three in.)." and Replace with: "19 mm ($\frac{3}{4}$ in.)." Also delete: "125 mm (five in.) and Replace with: "75 mm (three in.)."

5.3.1.7.4 Locking Devices for Hoistway Doors and Gates. Delete **5.3.1.7.4** and substitute: Landing doors shall be provided with UL listed hoistway door interlocks.

5.3.1.8.3 Light in Car. Add a new final sentence that reads: Emergency battery operated car lighting shall be provided in all *private residence elevators*.

5.3.2 Private residence Hydraulic Elevators

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5.3.2.2 Driving Machines, Sheaves and Supports for Direct Plunger and Roped Hydraulic Driving Machines

5.3.2.2.3 Add a new subsection that reads:

5.3.2.2.3: Flexible hose shall not be installed between the power unit (pump) and the jack – also see Section 3.19.3.3.

SECTION 5.10 *ELEVATORS USED FOR CONSTRUCTION*

To the opening preamble of Section 5.10, Add the following additional paragraphs:

Devices included under the requirements of **SECTION 5.10**

(1) *Elevators* used for construction and other Workman's Hoists, except as regulated by 524 CMR, Part 36, shall be considered temporary workman's *elevators* and shall be installed by a person holding a Commonwealth of Massachusetts license for the construction, *maintenance* and *repair* of *elevators*. Either a licensed Massachusetts *elevator* mechanic or a licensed Massachusetts hoisting engineer only, shall operate them.

(2) Overhead Protection: There shall be installed on all *elevators* used for construction and workman's hoists and similar devices including open platforms used for the installation of *elevators* under construction or modernization, a roof to protect the workers from falling objects. The roof shall be constructed of solid material. Debris netting or similar overhead protection may be used up to three floors or 30 feet, whichever is greater.

(3) *Elevators* used for construction and workman's hoists and other similar devices must be equipped with one the following safety devices:

- (a) a safety device, which acts on a wire rope, which is supported independently from the rigging used to support and hoist the working platform;
- (b) a safety device, which grabs the wire rope, used to support and hoist the working platform;
- (c) instantaneous safeties.

(4) *Elevators* used for construction, workman's hoists and other similar devices must be provided with a 42" guard rail completely around the platform area and a 12" kick-plate completely around the platform area.

(5) Inspection and Load Tests: Once a piece of equipment has been approved and released by a private *elevator* contractor, it shall be re-classified and designated as a temporary workman's *elevator* and must be inspected by a state *elevator* inspector. The state inspection shall consist of a load and safety test. No non-*elevator* construction personnel shall be transported on such equipment until the releasing

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elevator contractor has faxed over an intended designation change to the Department of Public Safety. (Exception: non-*elevator* trade persons may be conveyed to perform work in or around the *elevator* hoistway.) Once the designation change is date stamped submitted to the Department of Public Safety, the equipment may be operated prior to the state inspection to convey construction personnel for a period not to exceed 30 days, if operated by a duly licensed *elevator* mechanic. Once the designated equipment passes inspection, the state *elevator* inspector shall issue a temporary use certificate which shall be valid for 90 days.

(6) Inspection and Load Test is not required by the State on open platforms used for the installation of *elevators* under construction or modernization.

PART 6 *ESCALATORS AND MOVING WALKS*

SECTION 6.1 *ESCALATORS*

6.1.2.2 Add a new paragraph that reads:

6.1.2.2 *Escalator* rooms shall be ventilated per Part 35, Section 2.1.4(a) but venting need not be directly to the outside of the building.

6.1.7 Lighting, Access and Electrical Work

6.1.7.3.2 Add a new second sentence that reads:

6.1.7.3.2 All access doors and side access panels shall be electrically contacted and render the *escalator* inoperative when open.”

Amend 6.1.7.3.3 to read: The key shall be of Group 1 Security (see 8.1).

6.1.7.3.3 Add a new final sentence that reads:

The key to side access panels shall be restricted to licensed *elevator* mechanics only.

6.1.7.4 Electrical Equipment and Wiring

6.1.7.4.1 Add a new final sentence:

A fused disconnect switch or circuit breaker shall be installed and connected into the power supply line of each *escalator*. Disconnect switches or circuit breakers shall be of the manually closed multi-pole type and be located with the upper machinery space of the *escalator*. Where circuit breakers are used as a disconnecting means, they shall not be of the instantaneous type and shall not be opened automatically by a fire alarm system.

SECTION 6.2 MOVING WALKS

6.2.1 Protection of Floor Openings

6.2.2.1 Protection Required. Add a new final paragraph that reads:

Moving walk rooms shall be ventilated per Part 35, Section 2.1.4(a) but venting need not be directly to the outside of the building.

6.2.7 Lighting, Access and Electrical Work

6.2.7.3.3 Delete the final sentence and Replace with:

The key shall be of Group 1 Security (see 8.1).

6.2.7.3.3 Add the following new additional final paragraph:

All access doors shall be electrically contacted and render the moving walk inoperative when open.

PART 8 GENERAL REQUIREMENTS

SECTION 8.1 SECURITY

8.1.1 General. Delete in its entirety and Replace with:

8.1.1 General. Key(s) used to access or operate *elevator*, *escalator*, moving walk, dumbwaiter, and *material lift* equipment shall conform to the following:

(a) Keys used to open any other lock in the building shall not access or operate the devices classified as Security Group 1, 2, 3, or 4.

(b) The same key shall be permitted to access or operate all of the devices within only one assigned group.

(c) Only MA-licensed *Elevator* personnel shall have access to all assigned groups.

8.1.2 Group 1: Restricted. Delete and Replace with:

8.1.2 Group 1: Restricted. Group 1 covers access or operation of equipment, (including machine spaces, control spaces and hoistways) restricted to licensed *elevator* personnel only.

8.1.2 Group 1: Restricted. Additionally, Delete all notes, (a) – (w)

8.1.3 Group 2: Authorized personnel. Delete and Replace, as follows:

8.1.3 Group 2: Authorized personnel. Group 2 covers access or operation of equipment by authorized and licensed *elevator* personnel.

NOTE: See the following:

(a) Requirement 2.7.3.4.2, machine room and control room access doors.

(b) Requirements 2.7.3.4.3 and 2.7.3.4.4, machinery spaces and control spaces as specified.

(c) Requirement 2.14.7.2.1(b), car light control switch or its locked cover.

(d) Requirement 3.19.4.1, access to manually operated shutoff valve.

(e) Requirement 5.6.1.25.2(b), rooftop *elevator* keyed operation switch.

(f) Requirement 6.1.6.2.1(d), *escalator* starting switch.

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- (g) Requirement 6.1.7.3.3, *escalator* side access door to interior.
- (h) Requirement 6.2.6.2.1(d), moving walk starting switch.
- (i) Requirement 6.2.7.3.3, moving walk side access door to interior
- (j) Requirement 2.26.2.21, in-car stop switch or its locked cover.
- (k) Requirements 2.27.2.4.1 and 2.27.8, emergency or standby power access selector switch.

8.1.4 Group 3: Emergency Operation. Delete and Replace as follows:

8.1.4 Group 3: Emergency Operation. Group 3 covers access or operation of equipment by emergency, and licensed *elevator* personnel. The key required to operate the locks identified in (a) – (e) below shall be the Massachusetts firefighter’s 3502 key.”

- (a) Requirements 2.27.2.4.1 and 2.27.8, emergency or standby power access selector switch.
- (b) Requirements 2.27.3.1.1 and 2.27.8, *Phase I Emergency Recall Operation* switch.
- (c) Requirements 2.27.3.3 and 2.27.8, *Phase II Emergency In-Car Operation* switch.
- (d) Requirement 2.26.2.21, in-car stop switch or its locked cover.
- (e) Requirements 2.27.8, Firefighters Emergency Operation (FEO) switch, 2.11.1.2(i), emergency door in blind hoistway, and 8.4.4.1.1, top emergency exits shall all be operated by the Massachusetts firefighter’s 3502 key.

SECTION 8.4 *ELEVATOR SEISMIC REQUIREMENTS*

8.4.4 Car Enclosures, Car Doors and Gates, and Car Illumination

8.4.4.1 Top Emergency Exits

8.4.4.1.1 Delete in entirety and Replace with:

8.4.4.1.1 The requirements specified in 2.14.1.5 shall apply except that the top emergency exit shall be so arranged that it can be opened from within the car by means of MA Firefighters 3502 key with a keyed spring-return cylinder-type lock and the top emergency exit shall opened from the top of the car without the use of a key. The possession of the Massachusetts Firefighters key number 3502 shall be limited to *trained fire department personnel* and Massachusetts licensed *elevator* mechanics. This key shall not be a part of a building master key system.

SECTION 8.6 *MAINTENANCE, REPAIR, REPLACEMENT, AND TESTING*

8.6.1 General Requirements

8.6.1.1 *Maintenance, Repair, and Replacement*

8.6.1.1.2 Delete (c), retaining only (a) and (b).

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8.6.1.2.2 On-Site Documentation. Delete all of (b)(1-4) and Replace with:
(b) Annual inspection must be performed in accordance with 524 CMR, Part 8, as applicable

8.6.1.2.2 On-Site Documentation Delete (d)(2)

8.6.4 Maintenance and Testing of Electric Elevators

8.6.4.9.1 Add a new Section 8.6.4.9.1 that reads:

8.6.4.9.1 The cleaning of the exterior of transparent car enclosures or transparent hoistway enclosures from inside the hoistway shall be performed only by licensed *elevator* personnel.

SECTION 8.10 ACCEPTANCE INSPECTIONS AND TESTS

8.10.1.1 Persons Authorized to Make Acceptance Inspections and Tests

8.10.1.1.1 Delete entire section and Replace with:

8.10.1.1.1 The acceptance inspection shall be conducted by licensed *elevator* mechanics witnessed by an *elevator* inspector employed by the Massachusetts Department of Public Safety.

8.10.1.1.3 Delete in entirety.

8.10.1.2 Accreditation of Certifying Organizations Delete in entirety.

8.10.1.3 Applicability of Inspection and Test Requirements. Delete (a) and substitute: “524 CMR.”; also Delete (c) .

SECTION 8.11 PERIODIC INSPECTIONS AND WITNESSING OF TESTS

8.11.1 General Requirements for Periodic Inspections and Witnessing of Tests

8.11.1.1 Persons Authorized to Make Periodic Inspections and Tests. Delete in entirety and Replace with:

8.11.1.1 Persons Authorized to Make Periodic Inspections and Tests. Periodic inspections shall be made by licensed *elevator* mechanics witnessed by an inspector employed by the Massachusetts Department of Public Safety.”

8.11.1.2 Applicability of Inspection Requirements Delete (c) and Replace with “524 CMR” and Delete Notes 1 and 2.

8.11.1.3 Periodic Inspection and Test Frequency. Delete and Replace with:

8.11.1.3 Periodic Inspection and Test Frequency. See 524 CMR 8.

8.11.2 Periodic Inspection of Electric Elevators

8.11.2.1 Periodic Inspection Requirements. Delete in entirety and Replace with:

8.11.2.1 Periodic Inspection Requirements. See 524 CMR 8.

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8.11.3 Periodic Inspection of Hydraulic *Elevators*. Delete in entirety and Replace with:
8.11.3 Periodic Inspection of Hydraulic *Elevators*. See 524 CMR 8.

8.11.4 Periodic Inspection of *Escalators* and Moving Walks

8.11.4.1 Periodic Inspection and Test Requirements. Delete in entirety and Replace with:
8.11.4.1 Periodic Inspection and Test Requirements. See 524 CMR 8.

REGULATORY AUTHORITY

524 CMR 35.00: M.G.L. 143, § 69.

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524 CMR 36:00 PERSONNEL HOISTS AND EMPLOYEE ELEVATORS ON CONSTRUCTION AND DEMOLITION SITES

Massachusetts incorporates by reference, *ANSI/ASSE A10.4-2016, Personnel Hoists and Employee Elevators on Construction and Demolition Sites* with the following Part 36 Massachusetts modifications for new and existing conveyance equipment regulated by 524 CMR.

Note that MGL c.143, §§ 62-71E overlay on all aspects of ANSI/ASME A10.4 as herein adopted as do all other MA General Laws having applicability.

Due to operator and/or worker and/or general public safety concerns, use of this A10.4 Standard in Massachusetts, may require a variance request and approval based on DPS Elevator Inspector review of the Elevator Permit application construction documents and/or field observations.

3. DEFINITIONS

3.4 Authorized Personnel. Amend by adding the final sentence that reads:
Also see *MA-Licensed Elevator Mechanics* per MGL c.143, §§ 71B-71C.

3.48 Qualified Person. Add a new final paragraph that reads:
In Massachusetts, registered design professionals (RDPs) must satisfy requirements set forth by the Division of Regulations for architects and engineers; persons performing work regulated by the Specialized Codes (refer to MGL c.143, § 96 as it relates to electrical, plumbing, gas-fitting, etc.) must be licensed accordingly and personnel physically working on elevator machines and regulated accessories must be *MA-licensed Elevator Mechanics*.

3.49 Qualified Elevator Inspector (QEI). Delete and replace with:
3.49 Qualified Elevator Inspector. See MGL c.143, §§ 62-66 and 71B.

17. CAR ENCLOSURES

17.6 Car Top Emergency Access. Delete reference to Section 17.6.4 and Replace with reference to Section 17.6.5.

17.6.5 Add a new Section 17.6.5 that reads:

17.6.5 Operation of the car with top emergency exit open is permissible only when a Massachusetts licensed elevator mechanic is available to assist in the movement of the elevator. The Car shall not be operated at a speed of more than 0.75 m/s (50 ft. /min.) when properly opened by authorized personnel. The emergency exit shall be supplied with a 3502 security key that shall allow only emergency personnel and licensed mechanics to open the exit.

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24. OPERATING AND OPERATION DEVICES AND CONTROL EQUIPMENT

24.1.4 Wireless Control – Delete this Section in its entirety.

24.1.5 Design Principle for Wireless Control– Delete this Section in its entirety.

24.2.16 Add a new Section 24.2.16 that reads:

24.2.16 Emergency Control Operation (ECO). Emergency Control Operation (ECO) shall serve the purpose of supporting the Fire Department in an emergency situation only. Emergency Control Operation shall be installed when Firefighters Service phase I and II are not available and fully functional.

24.2.16.1 Add a new Section 24.2.16.1 that reads:

24.2.16.1. Upon initial completion of installation and prior to placing each elevator used for construction into service, a representative of the installing company and the operating company shall meet with the Fire Department having jurisdiction to review the operation of each elevator. The Fire Department having jurisdiction will leave written proof of the review upon completion and this document will be needed for the elevator to pass the initial inspection as well as subsequent inspections with the Department of Public Safety Elevator Division.

24.2.17 Phase I Emergency Control Operation. Add a new Section 24.2.17 that reads:

24.2.17 Phase I Emergency Control Operation. A three position key-operated switch shall be installed in front of each elevator or bank of elevators and shall be located at the level determined by the Fire Department having jurisdiction. The three position switch shall be labeled “Emergency Control Operation” and its positions marked “RESET,” “OFF,” and “ON” (in that order), with the “OFF” position as the center position. The “Emergency Control Operation” letters shall be a minimum of 25.4 mm (1.0 Inch) high, red in color with a contrasting background.

24.2.17.1. Add a new Section 24.2.17.1 that reads:

24.2.17.1. The key used to operate the Phase I ECO switch shall be removable in the “ON” and “OFF” positions.

24.2.17.2. Add a new Section 24.2.17.2 that reads:

24.2.17.2. All Phase I ECO switches shall be provided with an illuminated visual signal to indicate when Phase I emergency recall operation is in effect. The visual signal shall maintain illumination until the elevator is returned to normal operation.

24.2.17.3. Add a new Section 24.2.17.3 that reads:

24.2.17.3. When an ECO switch is in the “ON” position, a visual beacon lamp, red in color, shall illuminate the elevator cab and an audible signal shall be provided to alert the attendant to return nonstop to the designated level. The visual beacon shall remain illuminated during the entire Emergency Operation procedure. A visual signal in the car operating panel shall read “EMERGENCY OPERATION- RETURN TO LEVEL_” (insert level designated to be the Emergency Operation access floor). The audible and COP visual signals shall remain in effect until the elevator is returned to the recall floor and phase II is enacted.

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24.2.18 Phase II Emergency Control Operation. Add a new Section 24.2.18 that reads:

24.2.18 Phase II Emergency Control Operation. A two position key operated switch, located in the car operating panel, shall override the operators disable key (5.10.7.1) in the event that no operator is on site and/or the unit is not in operation. This two position switch shall be labeled “Emergency Control Operation” and its positions marked “OFF” and “ON” in that order. The “Emergency Control Operation” letters shall be a minimum of 25.4 mm (1.0 inch) high, red in color with a contrasting background. The key used to operate the Phase II ECO switch shall be removable in the “OFF” position only.

24.2.19 Switch Keys. Add a new Section 24.2.19 that reads:

24.2.19 Switch Keys. The key switches required for ECO Phase I and Phase II shall be operable by the 3502 key only (cut side up).

24.2.20 Removing Elevator from Normal Operation. Add a new Section 24.2.20 that reads:

24.2.20 Removing Elevator from Normal Operation. When not in use, the construction elevator shall be left at the designated fire control floor or floors and shall also be left with the operators disable key switch (5.10.7.1) in the off position state so that it may be commandeered by a trained firefighter for emergency purposes only. When a construction elevator equipped with Emergency Operation is inoperable and not able to be left in a disabled state of normal operation without elevator personnel on site, the Fire Department having jurisdiction shall be notified.

24.2.20.1 Add a new Section 24.2.20.1 that reads:

24.2.20.1 An operator’s disable security key switch shall be installed in the car station labeled “OPERATION” and its position shall be marked “OFF” and “ON” in that order. The “Operation” letters shall be a minimum of 12.7mm (0.5 inches) high with a contrasting background. When in the “ON” position, the unit shall run as intended. When in the “OFF” position, the unit shall be disabled. Each unit shall be left in the off position when not fully attended by a licensed elevator mechanic or operating engineer.

24.2.21 Return to Normal Operation. Add a new Section 24.2.21 that reads:

24.2.21 Return to Normal Operation. Upon completion of use in Emergency Operation, the responding Fire Department shall lock out / tag out the construction elevator(s) until a Massachusetts licensed elevator mechanic arrives on site to review each elevator and is satisfied with the condition of each unit. The Massachusetts Licensed Elevator Mechanic may then reset the unit(s) and returning the construction elevator(s) to normal operation.

24.2.21.1. Add a new Section 24.2.21.1 that reads:

24.2.21.1. An “Emergency Control Reset” momentary reset switch shall be located in the elevator controller for the purpose of returning the elevator to normal operation. The “Emergency Control Reset” switch in the lobby must be in the reset position for the “Emergency Control Reset” switch in the controller to reset the elevator to normal attendant operation. Only a Massachusetts licensed elevator mechanic shall reset an elevator used for construction from Emergency Control Operation to normal operation.

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26. INSPECTIONS AND TESTS OF PERSONNEL HOISTS

26.1.2 Persons Authorized to Witness Installation and Annual Acceptance Inspections and Load Tests. Delete the first paragraph and replace with:

26.1.2 Persons Authorized to Witness Installation and Annual Acceptance Inspections and Load Tests. Inspections and load tests as defined in 26.1.1 shall be witnessed by a DPS Elevator Inspector employed by the MA Department of Public Safety.

26.1.2 Persons Authorized to Witness Installation and Annual Acceptance Inspections and Load Tests. In the second paragraph, Replace the phrase as shown:

26.1.2 Persons Authorized to Witness Installation and Annual Acceptance Inspections and Load Tests. ~~The following tests should be witnessed by a qualified elevator inspector (QEI) employed or authorized by the enforcing authority.~~ The following tests shall be witnessed by a DPS Elevator Inspector employed by the MA Department of Public Safety:

26.4.2 Persons Authorized to Make Periodic Inspections and Tests. Delete the paragraph and Replace with:

26.4.2 Persons Authorized to Make Periodic Inspections and Tests. Periodic inspections and load tests shall be made by a DPS Elevator Inspector of the Department of Public Safety.

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524 CMR 37:00 SAFETY REQUIREMENTS FOR MATERIAL HOISTS

Massachusetts incorporates by reference, *ANSI/ASSE A10.5-2013, Safety Requirements for Material Hoists*, with the following Part 37 Massachusetts modifications for new and existing conveyance equipment regulated by 524 CMR.

1. General Add a new preamble under General that reads:

1. General.

MGL c.143, §§ 62-71E and related regulations of 524 CMR overlay on all aspects of A10.5 as herein adopted as do all other MA General Laws and regulations having applicability.

Due to operator and/or worker and/or general public safety concerns, use of this A10.5 Standard in Massachusetts, may require a variance request and approval based on DPS Elevator Inspector review of the Elevator Permit application construction documents and/or field observations.

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524 CMR 38:00 SAFETY STANDARDS FOR PLATFORM LIFTS AND STAIRWAY CHAIRLIFTS

Massachusetts incorporates by reference, *ASME A18.1-2014, Safety Standard for Platform Lifts and Stairway Chairlifts*, with the following Part 37 Massachusetts modifications for new and existing conveyance equipment regulated by 524 CMR.

1. INTRODUCTION Add a new preamble under INTRODUCTION that reads:

1. INTRODUCTION

MGL c.143, §§ 62-71E and related regulations of 524 CMR overlay on all aspects of ASME A18.1 as herein adopted as do all other MA General Laws and regulations having applicability.

Due to operator and/or worker and/or general public safety concerns, use of this A18.1 Standard in Massachusetts, may require a variance request and approval based on DPS Elevator Inspector review of the Elevator Permit application construction documents and/or field observations.

1.1.1 Equipment Covered by this Standard. Add a new final paragraph that reads: “The requirements of 521 CMR must be satisfied in order to utilize this Standard.”

1.3 Definitions. Add a new first paragraph that reads:

1.3 Definitions. The definitions of 524 CMR shall override definitions of A18.1 where applicable.

Table 1.5-1 Reference Documents – Delete reference to QEI (latest edition).

2.13 Code Data Plate. Add the requirement that state identification requirements of 524 CM Part 1 must also be included.

10.2.1 Inspections and Test Periods. Delete in entirety and Replace with: “Refer to 524 CMR for test and inspection requirements.”