From:
Sent: Thursday, August 25, 2016 9:37 AM
To:

Cc:
Subject: FW: 524CMR - 35:00 - 3.17 - Roped Hyd comments
Attachments: Section 3.17 from 524cmr35 - searchable.pdf; Page 14-for New Installations 524CMR 35 from proposed-524-cmr-05232016.pdf; Section 3.17 - 2013 A17.1.pdf

Importance: High

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning,

Please review the email chain below and the attachments for all upcoming code/comment reviews.

- Ruthy

From: Hosler, Deirdre Ann (DPS)
Sent: Thursday, August 25, 2016 8:49 AM
To: Barros, Ruthy (DPS)
Cc: Carley, Stephen (DPS); Sampson, Stephen (DPS)
Subject: FW: 524CMR - 35:00 - 3.17 - Roped Hyd comments
Importance: High

Hi Ruthy,

Please send this email chain and attachments to all the BER members at your earliest convenience. This will be up for discussion at the next Board meeting, along with any other written public comments. To that end, we need to have plenty of time to do 'code review' at the next meeting. Is there room on the schedule? Please feel free to come by and discuss if we need to move stuff around, etc.

Deirdre Ann Hosler
Deputy General Counsel
Department of Public Safety

From: Peter Wallace
Sent: Monday, August 22, 2016 12:46 PM
To: Carley, Stephen (DPS)
Cc: Sampson, Stephen (DPS)
Subject: FW: 524CMR - 35:00 - 3.17 - Roped Hyd comments
Importance: High

Stephen,

It was nice to reconnect today.

The email issue was a period at the end of the address when copied from the MESA announcement.

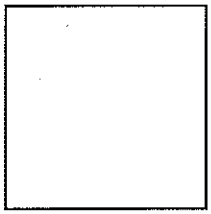
Peter

Peter Wallack

Consultant

Phone

Mobile:



From: Peter Wallack
Sent: Monday, August 22, 2016 9:54 AM
To:
Cc:

Subject: 524CMR - 35:00 - 3.17 - Roped Hyd comments
Importance: High

Stephen,

It looks like Stephen Carley's email is no longer valid.

Suggest that the current 524CMR section 3.17 be retained for Rope Hyd. Elevators.

A17.1 -2013 does not make provision for the remote resettable governor.

There are certain applications where the governor is on an exterior wall of a hoistway [Front & Side in and exterior corner of a building] without reasonable access or limited overhead access.

Thanks,
Peter

35.00: continued

SECTION 3.7 MACHINE ROOMS AND MACHINERY SPACES

3.7.1 Location of Machine Rooms

After the last paragraph add a new paragraph as follows:

"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 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 be visible for inspection after installation."

(e) "A over speed (rupture) valve shall be installed on the jack casing."

(f) "Two-way voice communication shall be installed between the car and the machine room."

(g) "If machine room ventilation is accomplished by the used of a horizontal duct, the duct shall have the same fire-rating as the hoistway, and contain an exhaust fan powered from a normal and an emergency source activated by a thermostat or fire alarm initiating device in the machine room. Make-up air supply when needed shall be as described in 524 CMR 35.00 **2.1.4** (4)."

Add a new **3.7.2 Clearance Around Hydraulic Machines**

Hydraulic elevator power units shall have a minimum of two feet clearance on at least two sides of the unit; the other two sides shall be a minimum of two inches from the machine room walls or other units. If this cannot be obtained, an oil cooling system shall be installed."

SECTION 3.8 ELECTRICAL EQUIPMENT, WIRING, PIPES, AND DUCTS IN HOISTWAY AND MACHINE ROOMS

Delete sentence and add: "Electrical equipment, wiring, pipes and ducts shall conform to **2.8** with Massachusetts modifications to **2.8.2** and **2.8.4**."

SECTION 3.11 PROTECTION OF HOISTWAY-LANDING OPENINGS

Delete first sentence and add: "Protection of hoistway-landing openings shall conform to **2.11** with Massachusetts modifications to **2.11.2, 2.11.6**."

SECTION 3.14 CAR ENCLOSURES, CAR DOORS AND GATES, AND ILLUMINATION

Add to the first sentence the words: as modified by 524 CMR 35.00:

SECTION 3.16 CAPACITY AND LOADING

3.16.4 Carrying of Passengers on Freight Elevators

3.16.4 Delete entire sentence and substitute: "The requirements of 524 CMR 17.15(4) shall apply."

3.16.5 Signs Required in Freight Elevator Cabs

3.16.5 Delete entire sentence and substitute: "The requirements of **2.16.5** shall apply except 2.16.5.13"

SECTION 3.17 CAR AND COUNTERWEIGHT SAFETIES

3.17.1 Car Safeties Add an additional sentence in the first paragraph as follows: "On roped hydraulic elevators with governor-operated safeties, access to the governor may be omitted if the governor is self-resetting, releases when the car is raised, and can be electrically tripped from the machine room. Governor operation of roped hydraulic safeties may be omitted if a safety valve is installed at the jack casing. The safeties will continue to function as broken rope safeties."

35.00: continued

SECTION 3.18 HYDRAULIC JACKS

3.18.3.8.3 Delete (a), (c) and (d) and add to (b): "All new cylinders installed below ground shall be provided with schedule 40 or greater PVC liner surrounding it for corrosion protection as described by **3.18.3.8.**"

SECTION 3.19 VALVES, PRESSURE PIPING, AND FITTINGS

3.19.3.3 Flexible Hydraulic Connections

Delete entire section including **3.19.3.3.1** and **3.19.3.3.2.** and substitute: "Flexible connections between the jack and the power unit are prohibited in Massachusetts."

3.19.4.7 Overspeed Valves

Delete the first sentence and substitute: "Unless the hydraulic elevator is installed with a governor-operated safety, an overspeed (rupture) valve shall be provided and their connections and attachments shall conform to **3.19.4.7.1** through **3.19.4.7.6**, with modification to **3.19.4.7.3**."

3.19.4.7.3 Installation of Overspeed Valves

At the end of the section add a new sentence: "On all hydraulic elevators installed after July 25, 2008, the piping between the overspeed valve and the hydraulic jack shall be welded or threaded."

SECTION 3.26 OPERATING DEVICES AND CONTROL EQUIPMENT

3.26.4 Electrical Protective Devices

Add the following:

(a) "The main line disconnect switch or circuit breaker shall be located inside the machine room door on the lock jamb side of that door and not more than 450 mm (18 in.) from the jamb to the operating handle, which shall be at a height of not more than 1700 mm (66 in.) above the finished floor. "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."

3.26.10.3 Add: "The door open button shall remain operative."

SECTION 3.27 EMERGENCY OPERATION AND SIGNALING DEVICES

Add a second paragraph as follows: "Massachusetts modifications **2.27.3.1.1** (d), **2.27.3.1.6** (n), **2.27.3.3, 2.27.8, 2.27.9**, and **2.27.10** shall apply to all hydraulic elevators."

SECTION 3.28 LAYOUT DATA

3.28.1 Information Required on Layout Drawing

Add: "Applications and elevator layouts must be filed and approved before any work can begin."

After **3.28.1**(o), add additional information as follows:

(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) location of hoistway and machine room vents, size of vents;

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.

No Section 3.17 for Remote setting Gov. and no Access Panel.

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 *elevator*s 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:

generally apply and shall be modified to suit the specific conditions and requirements in each case.

SECTION 3.16
CAPACITY AND LOADING

3.16.1 Minimum Rated Load for Passenger Elevators

The requirements of 2.16.1 shall apply.

3.16.2 Minimum Rated Load for Freight Elevators

The requirements of 2.16.2 shall apply, except, in 2.16.2.2.4(c) the wording "hydraulic jack, hydraulic machine, pressure piping and fittings" shall be substituted for the wording "driving-machine motor, brake and traction relation."

3.16.3 Capacity and Data Plates

The requirements of 2.16.3 shall apply, except:

(a) requirement 2.16.3.2.1(a) shall not apply to hydraulic elevators.

(b) on data plates (see 2.16.3.2.2), the weight of the plunger is not to be included in the weight of the complete car, even though it is attached. The plunger weight is to be indicated independently. The operating speed in the down direction shall also be indicated.

(c) requirement 2.16.3.2.2(c) applies only for roped-hydraulic elevators.

(d) requirement 2.16.3.2.2(e) applies only where car safeties are provided.

3.16.4 Carrying of Passengers on Freight Elevators

The requirements of 2.16.4 shall apply, except 2.16.4.3 shall not apply to hydraulic elevators.

3.16.5 Signs Required in Freight Elevators

The requirements of 2.16.5 shall apply.

3.16.6 Overloading of Freight Elevators

The requirements of 2.16.6 shall apply, except 2.16.6(b) shall not apply to hydraulic elevators.

3.16.7 One-Piece Loads Exceeding the Rated Load

Requirement 2.16.7 shall not apply. One-piece loads exceeding rated load shall not be carried on hydraulic elevators.

3.16.8 Additional Requirements for Passenger Overload

Requirement 2.16.8 shall not apply. Hydraulic passenger elevators shall be designed based on 100% of rated load.

3.16.9 Special Loading Means

The requirements of 2.16.9 shall apply.

SECTION 3.17
CAR SAFETIES, COUNTERWEIGHT SAFETIES, PLUNGER GRIPPER, AND GOVERNORS

3.17.1 Car Safeties

Car safeties shall be provided for roped-hydraulic elevators and shall be permitted to be provided for direct-acting hydraulic elevators. When provided, car safeties shall conform to 2.17, and to 3.17.1.1 through 3.17.1.3.

3.17.1.1 The slack-rope device required by 3.18.1.2 shall be permitted to be an additional means of activating the car safety on roped-hydraulic elevators using hydraulic jacks equipped with plungers. The slack-rope device required by 3.18.1.2.5 shall be an additional means of activating the car safety on roped-hydraulic elevators using hydraulic jacks equipped with pistons. (ED)

3.17.1.2 The safety shall be of a type that can be released only by moving the car in the up direction. To return a car to normal operation after a safety set, the car shall be moved hydraulically in the up direction. For repairs of obvious or suspected malfunction, the car shall be permitted to be raised by other means capable of holding the entire car weight. Prior to releasing the other means, the car shall be run hydraulically in the up direction.

If an auxiliary pump is used to move the car in the up direction to release the safeties, it shall

(a) have a relief valve that limits the pressure to not more than 2.3 times the working pressure

(b) be connected between the check valve or control valve and the shutoff valve

3.17.1.3 The switches required by 2.17.7 shall, when operated, remove power from the hydraulic machine motor and control valves before or at the time of application of the safety.

3.17.2 Counterweight Safeties

Counterweight safeties, where provided in accordance with 3.6.2, shall conform to 2.17, provided that safeties shall be operated as a result of the breaking or slackening of the counterweight suspension ropes, irrespective of the rated speed of the elevator.

3.17.3 Plunger Gripper

A plunger gripper shall be permitted to be provided for direct-acting hydraulic elevators using hydraulic jacks equipped with plungers. A plunger gripper shall be capable of stopping and holding the car with its rated load from the actual measured tripping speed per Table 2.18.2.1 and shall conform to 3.17.3.1 through 3.17.3.9. In Table 2.18.2.1 the words "rated speed" shall be replaced by "operating speed in the down direction."