

NEII Response to CA DOSH CHART and Proposed Code Change Rationale
Submitted to CA DOSH January 22, 2015

Major Differences Between “ASME A17.1 – 2013” and Draft Revised Elevator Safety Orders (Group V) Prepared on September 17, 2014

(Version 10/9/14)

	Topic	ASME A17.1 – 2013	Draft Revised Elevator Safety Orders (Group V)	DOSH Rationale	NEII Response
1	New products	Elevator company and third-party certifiers approve products and installations <i>Section 1.2</i>	CA retains jurisdiction over safety of new products <i>Section 3147.2102(a)</i>	To ensure the safety of new products.	ASME 17.7 Code provisions do not overrule the existing authority CA has to accept/deny a permit or approve/disapprove code compliance. And, CA actually benefits by an independent organization (i.e., third party certifiers) reviewing technology for code compliance at no cost. But it is important to clarify that third-party certifiers only assess if a new technology is code compliant (as good or better safety) and at no time do they “approve” project permits or installations as indicated in by DOSH. Rather than rejecting this provision, NEII recommends inserting language to clarify that CA retains its authority to deny a new technology even if it accompanied by a third-party certificate verifying code compliance. Additional note: Rejecting A17.7 will increase variances.
2	Projections and recesses in the hoistway	Allows 4-inch projections and recesses <i>Section 2.1.6.2</i>	Allows 2-inch projections and recesses <i>Section 3147.2201(b)</i>	To prevent workers from standing on, or placing tools on, a projection or recess in the hoistway, thus preventing workers and objects from falling down the hoistway. (The 2-inch dimension came from an earlier version of A17.1.)	If a person is outside handrail and on the projection, he/she is already in violation of OSHA safety standards and company policies. Rules should not be developed to address actions already in violation of current requirements. The 4” requirement has been in the ASME national model codes since 2000 and in the Canadian B44 code since 1990. NEII agrees that the 2” provision was in earlier versions of the code, but emphasizes that the issue was discussed by the code committees and the consensus was that 2” is needlessly restrictive, so it was changed 15 years ago based in part on the 10-year prior history in Canada.

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3	Pit ladder width	Allows 9" width <i>Section 2.2.4.2.2</i>	Allows 14" width <i>Section 3147.2202(c)</i>	To allow workers to place both feet on a rung at the same time so the worker can switch feet and use the correct foot to step out of the pit onto the landing. Also to be consistent with the ladder-width requirement in the General Industry Safety Orders enforced by Cal/OSHA.	<p>The proposed changes in this area will impact both new and existing elevators, with the most significant impact on modernizations.</p> <ul style="list-style-type: none"> - It is unreasonable to restrict design flexibility in this manner so that highly trained and experienced workers can "switch feet." - Since 1994, the national model codes have provided codes have allowed a range for the width of pit ladders to accommodate various circumstances. <p>In response to the second statement of rationale, the Fed OSHA has recognized that elevator pit ladders are unique, used by trained personnel and should not be treated in a nonspecific fashion. The CA Safety Orders are, however, generic in the requirements related to fixed ladders. NEII would argue that instead of applying a nonspecific provision to elevator pit ladders, the CA Safety Orders should be modified to accurately reflect the federal provisions recognizing this unique and specialized industry.</p> <p>Additional note: This proposed change will Increase variances.</p>
4*	Vertical clearance on the car top for areas outside the railing	Allows 4 inches of vertical clearance <i>Section 2.4.7.1</i>	Requires 43 inches of vertical clearance <i>Section 3147.2204(b)</i>	To prevent workers occupying the car top outside the car top railing from being crushed or forced to jump off the car top if the elevator ascends to the top of the hoistway.	<p>If a person is outside handrail without Fall Protection, he/she is already in violation of OSHA safety standards. Rules should not be developed to address actions already in violation of current requirements.</p> <p>NEII is unclear what DOSH is suggesting about workers being forced to jump off of the car top since there is refuge space on the car top as required by code. Clarification is requested.</p> <p>The section identified by DOSH [3147.2204(b)] is related to "above the car top enclosure" and NOT RESTRICTED to the area outside of the railing as implied.</p>

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5	5-year test conditions	<p>5-year periodic tests can be done at less than full load and full speed</p> <p><i>Sections 8.6.4.20.1(b), 8.6.4.20.4(b), and 8.6.4.20.10(b)</i></p>	<p>5-year periodic tests must be done at full load and full speed</p> <p><i>Section 3147.2806(a)</i></p>	<p>To test actual, worst-case emergency conditions (e.g., to ensure that safeties are still working).</p>	<p>NEII strongly disagrees with DOSH’s rationale that actual tests are necessary.</p> <p>Alternative testing procedures are based on physics principles that do not change. Unknown/assumed variables are used during the initial testing of full load/full speed and then applied consistently moving forward. With alternative test methods, these unknowns are measured and then known for each elevator.</p> <p>Specific to the reference in parentheses that full load/full speed is the only way to ensure that safeties are still working, alternative testing requires that the car at rated speed be stopped, and that stopping at overspeed be verified.</p> <p>This will increase the risk of damaging equipment during testing therefore reducing public safety if that damage or degradation is not readily evident and equipment is placed in public service as a “walking wounded” only to later fail.</p> <p>Additional note: Full load/full speed tests increase worker safety issues and increase the potential risk to the riding public.</p>

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6	Working platforms	Allowed anywhere in the hoistway <i>Section 2.7.5.3</i>	Not allowed <i>Section 3147.2207(a)</i>	The rules in A17.1 – 2013 on the use of working platforms are not fully developed. For example, platforms could be placed in the line of movement of the car and counterweight.	<p>Codes are always being reviewed and updated, but the provisions related to working platforms (and all other issues) are “fully developed” when published.</p> <p>Yes, platforms could be placed in the line of movement, however this is only half of the “example.” The ASME code also requires electrical protective devices (EPDs) and other explicit protections. DOSH currently accepts EDPs as protection from car movement for other code requirements. Moreover, the working platform electrical protective device is assigned the highest safety level in the code – a SIL rating of 4 based on an IEC risk assessment process.</p> <p>Additional note: If DOSH has a concern over the specific example provided, then why are ALL working platforms banned?</p>

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7*	Location of driving-machine, motor, brakes, and governor	May be installed anywhere in the hoistway <i>Section 2.7.2.2</i>	Must be installed where they can be safely reached from the car top when the car top is level with the top landing <i>Section 3147.2207(b)</i>	Driving-machines, motors, brakes and governors installed in inaccessible locations in the hoistway may: 1. cause workers and inspectors to engage in risky behavior to do their job (e.g., standing on the car top railing to inspect equipment, which creates a risk of falling) 2. prevent workers and inspectors from doing their job thereby endangering the riding public 3. create a confined space requiring a confined space permit as part of a program enforced by Cal/OSHA	NEII will address each point in DOSH’s rationale separately. 1. Standing on the car top railing would be an OSHA violation, as would many of the other “risky behavior” examples DOSH typically references in our discussions. As stated previously, rules should not be developed to address actions already in violation of current requirements. 2. DOSH needs to be more specific about what is preventing “workers and inspectors from doing their jobs.” MRL elevators are being maintained by elevator mechanics and being inspected successfully around the country and in CA today. And, if the riding public is truly in danger, it is the responsibility of DOSH to shut down the equipment in question. 3. OSHA or DOSH has not required confined space permits on the MRLs approved by DOSH and in operation in CA today. In addition, this issue is not unique to MRLs and DOSH does not require confined space permits on traditional units. Additional note: Eliminates all MRLS designs that have already been approved by DOSH and are in operation in CA today.

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8*	Location of controller	May be installed in the hoistway <i>Section 2.7.6.3.2</i>	Must be installed in a machine room or control room <i>Section 3147.2207(g)</i>	Controller in the hoistway: 1. violates CEC requirements for ready accessibility and maintenance of clear workspace 2. may create a confined space requiring a confined space permit	The rationale provided is not based on code language or fact. The controller can be safely accessed by elevator personnel and workspace is provided in accordance with the CA Electrical Code. The hoistway is not a permitted confined space. The atmosphere does not change based on the car location and no actual or potential atmospheric hazard exists. Neither OSHA nor DOSH has required confined space permits on designs approved by DOSH and in operation in CA today.
9	Openings in the walls or ceiling of the elevator	Allowed <i>Sections 2.14.2.2(f), 2.14.2.2(g) and 2.14.2.6</i>	Not allowed <i>Section 3147.2214(a)</i>	Openings other than the entrance doors or emergency exit allow members of the riding public to stick their arms, head, or objects out of the elevator car. This can cause them to get injured by fixed objects in the hoistway or an adjacent elevator as it passes.	The DOSH rationale implies that the riding public cannot “stick their arms...outside of the elevator car” through the entrance door (and emergency exit), which is not accurate. Other openings are no different and require the same safe guards by the A17.1 code. NEII believes, however, that DOSH considers entrance doors and emergency exits to be “safe” from the risks identified because of the protection provided by Electrical Protective Devices (EPDs). EPDs also guard other hoistway openings, but DOSH will not allow them under this requirement. EPDs are either acceptable protection of hoistway openings or they are not.

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10	Emergency exit	Can be located anywhere on the car top <i>Section 2.14.1.5.1</i>	Must be located on the car top within the car top railings <i>Section 3147.2214(b)</i>	When people get trapped in a malfunctioning elevator and must be rescued by first responders and elevator personnel, all parties should be afforded the fall protection provided by the car top railings.	NEII contends that this proposed change is unnecessary and actually creates a conflict with the proposed setback requirement for car top railings - especially for small capacity cars where it is not possible to satisfy both requirements together. A17.1 requires the car top railings placement, affords the fall protection stated in the rationale and mandates a clear exit. This is an example of unintended consequences when altering the A17.1 code.
11*	Car top railing clearances	Protects worker's hand at very top of the hoistway <i>Section 2.14.1.7.2</i>	Protects worker's whole body everywhere in the hoistway <i>Section 3147.2214(e)</i>	To adequately protect all parts of a worker's body from crushing and shearing hazards in the hoistway	Car top railings are employed to prevent fall hazards and are not intended to be mechanism for preventing crushing hazards. In addition, the references to "whole body" and "all parts of a worker's body" imply that the provision is to address situations of a worker outside the perimeter. Workers are not supposed to go beyond the railings onto the car perimeter or stand on top of railings – these are both OSHA violations. This may add a new hazard as a 12" space outside the protective railing may encourage a worker to stand outside the railing as that space would likely not exist with the A17.1 requirement. As stated previously, rules should not be developed to address actions already in violation of current requirements.
12	Governor speed reducing switch	Must be on the governor <i>Section 2.18.4.2.5(a)</i>	<u>Not</u> required to be on the governor <i>Section 3147.2218(a)</i>	The Division has supported a permanent variance that allows this. If draft revised safety orders are adopted, the variance will no longer be required.	NO OBJECTION

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13	Aramid fiber ropes	Allowed <i>Sections 2.20 and 2.20.4.2</i>	Not allowed <i>Section 3147.2220 (a) and (b)</i>	Aramid fiber ropes were allowed by a temporary experimental variance. After several catastrophic failures (ropes breaking, causing elevator car and counterweight to drop), OSHSB issued permanent variances requiring that aramid fiber ropes be replaced with reduced diameter traction steel ropes.	NEII does not disagree that there was an issue with certain aramid fiber ropes previously. However, NEII and its member companies are not aware of any aramid ropes meeting the current A17.1 and A17.6 requirements that have failed. It is inappropriate to ban a technology that may meet the code requirements now or at some point in the future.

The asterisks (*) identify rules in the draft revised Elevator Safety Orders (Group V) that will prevent the marketing of some current approved MRL designs. These rules pertain to the configuration of the elevator installation. Some MRL designs can be modified to meet these rules, and all of the manufacturers have non-MRL designs that already comply with the rules. The rules do not in any way inhibit the marketing of new technology (see item #12) or the marketing of the most energy efficient equipment. They are, however, necessary to establish a minimum level of safety for workers, inspectors, elevator personnel, first responders, and the riding public.

NEII RESPONSE TO ENDNOTE: NEII contends that there are no current MRL designs that would meet the provisions of the draft revised Elevator Safety Orders (Group V). All current designs would have to be modified, but engineering principles and other restrictions in the proposed code changes would impose too many restrictions and increase costs so much that result will be the elimination of MRLs for the CA market. And, while all manufacturers may have non-MRL designs that already comply with the rules, eliminating MRLs moves the state backwards as it relates to industry innovations, increased energy efficiency, space savings and other benefits.

DOSH’s statement that the rules do not “in any way” inhibit the marketing of new technology is misleading, as the proposed codes changes clearly inhibit innovation and marketing of new and old designs. Further, the reference of #12 as an example of this assertion is disingenuous. The proposed rules must be considered en whole because the regulated community must comply with all provisions. NEII has indicated in previous meetings and will provide additional commentary to support its position that the proposed rules will create a regulatory environment that shuns the most current technologies and restricts the ability to introduce others as developed by banning categories of equipment, etc. and increasing the need to use the variance process, which is challenging at best.

NEII believes that many of the proposed changes in the draft revised Elevator Safety Orders (Group V) are not necessary to establish a “minimum level of safety” and, in some cases, may create safety concerns.