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Technical Bulletin

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Existing Elevator and Barrier Free Lifting Device, Door, and Clearance Requirements

"Providing for Michigan's Safety in the Built Environment"

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EXISTING ELEVATOR AND BARRIER FREE LIFTING DEVICES

Issue

Revisions to the State Elevator Rules included an amendment to the provisions governing the existing installations of elevators and barrier free lifting devices. Rule R408.7031 of the State Elevator Rules provides:

"Existing elevator and barrier free lifting devices shall comply with sections 2.11.4 and 2.14.4 of the ASME A 17.1 code."

Does this revision require existing barrier free lifting devices which were properly installed to the rules at the time of installation, to now be modified to comply with sections 2.11.4 and 2.14.4 of ASME A 17.1 code? Further, is there an impact upon the Barrier Free Design Requirements for access when complying with the new Elevator Rule?

Discussion

First, the answer to the initial question above is yes. The adoption of Rule R408.7031 now requires that existing barrier free lifting devices which were properly installed to the rules at the time of installation to be modified to comply with the newly adopted rule.

Second, we now recognize that by adopting Rule R R408.7031, we may have inadvertently created a potential for conflict with the Barrier Free Design Requirements. Given the fact that the intent of this code was not to impinge on the Barrier Free Requirements we are taking action to suggest Options to consider, for complying with the requirements.

If the hoistway entrance doors measure 36 inches or more in width, you may find either Option1 or 3 alone may provide compliance with the requirements.

If the hoistway doors measure less than 36 inches in width, and you are considering either Option 2 or Option 3, we highly recommend the use of the swing free hinge in Option 4 to reduce impact on the barrier free requirements.

Option 1: One method to consider would be to move the hoistway door face closer to the elevator as a method to fulfill the clearance requirements. This may require the hoistway door interlock to be moved or modified. If the door frames are steel they may have to be removed and replaced with a new frame designed for the new location of the door within the frame. The new location may require removal of any door knob or pull on the inside face of the door, as it may protrude too far into the hoistway. Without a means for passengers to pull the hoistway door closed, from within the car, the door closer must assure the door will close fully to assure the elevator will operate properly.

Option 2: Yet another method to consider would be to install door "Space Guards" as referenced in the American Society of Mechanical Engineers (ASME) A17.3-2005, Section 3.4.3(c), which are and have been used to reduce existing clearances to those required in R408.7031 for "Passenger Elevators" and "Barrier Free Lifting Devices". At

times this has caused the Barrier Free Access requirements for clearances through the door to be reduced to less than those required, when the door is in the open position.

Option 3: Another option for Barrier Free Lifting Devices only, would be to install a reduced height "Space Guard". We believe that a space guard with a minimum 8.5 in. of face, and attached to the door in a manner which reduces the clearances to within those required by R408.7031, would provide an acceptable level of safety for existing Barrier Free Lifting Devices. The reduced height "Space Guard shall extend up from the bottom of the door not less than 8.5 in. and cover the full width of the door. The Guard shall be mounted to the door by tamper proof means. The clearance measurements shall be taken along the bottom edge of the space guard. The bottom of the guard shall be not more than 0.75 in. from the hoistway edge of the sill and shall be not more than 0.5 in. above the sill or floor. The face of the guard may run vertically or inclined. The top of a vertical guard or the face of an inclined guard must be inclined upward toward the face of the door at an angle of not less than 60 deg from the horizontal. The guard shall be sufficiently rigid or reinforced to prevent collapsing or denting. When mounted the guard shall have proper clearances at the bottom and sides to permit easy closing of the door and shall not interfere with the door self closing. Exposed sharp edges shall be eliminated by beveling or by being rolled. With prior approval, we will allow materials other than metal to be used for this reduced height space guard. As with other space guards, this option by itself, may or may not comply with barrier free access requirements, as access clearances through the door may be reduced to less than those required when the door is in the open position.

Option 4: The following may need to be used with either "Space Guard" option. Research has revealed the availability of a replacement hinge for the swing type elevator hoistway door. The hinge is called a "Swing Free" hinge. The hinge is offset in such a manner that when the door is opened, the inside face of the door clears the opening. This provides more clearance for access through the opening, and may be a way to provide enough clearance to comply with the barrier free access requirements.

Conclusion

Therefore, the Elevator Safety Division will accept alteration permits from Elevator Contractors for the modification (moving) or installation of new hoistway doors, "Space Guards" /or reduced height "Space Guards", to bring clearances within the requirements of R408.7031 for existing elevators and barrier free lifting devices. These modifications or installations must be done by licensed elevator journeypersons.

Questions regarding this technical bulletin may be directed to the Michigan Department of Energy, Labor & Economic Growth, Bureau of Construction Codes, Elevator Division, P.O. Box 30254, Lansing MI 48909 or by calling (517) 241-9337.