NOTICE OF ADOPTION OF RULE

NOTICE IS HEREBY GIVEN, pursuant to the authority vested in the Commissioner of Buildings by Section 643 of the New York City Charter and in accordance with Section 1043 of the Charter, that the Department of Buildings hereby adopts the addition of Section 103-08 to Subchapter C of Chapter 100 and Section 3610-02 to Subchapter K of Chapter 3600 of Title 1 of the Official Compilation of the Rules of the City of New York, regarding the safety code for machine-room-less elevators.

This rule was first published on December 9, 2011, and a public hearing thereon was held on January 11, 2012.

Dated: 1/18/12
New York, New York

Robert D. LiMandri
Commissioner

Statement of Basis and Purpose of Rule

These rules are promulgated pursuant to the authority of the Commissioner of Buildings under Sections 643 and 1043 of the New York City Charter and Section 28-103.19 of the New York City Administrative Code.

Since 2001, the Department has had in place a pilot program for new technology under which machine-room-less ("MRL") device(s) (elevators without machine rooms) could be installed as long as all other relevant Building Code requirements and American Society of Mechanical Engineers (ASME) national reference standards in effect at the time of installation were met. This pilot was necessary as such MRL devices were not covered under the Building Code and ASME standards in effect at the time.

Elevators without machine rooms are those where the elevator machinery is located in the elevator shaft, instead of a separate room, to save space, enhance safety and improve service and energy efficiency. To encourage the utilization of MRL elevators, the Department has determined that the pilot program should be codified into a rule. To achieve this, the Department is adopting ASME A17.1S-2005 and modifying those standards to apply specifically to elevators without machine rooms in New York City. Modifications are needed to take into account the city's unique density, population and heavy elevator usage. Some examples include:

- Requiring access doors for governor reset switches and for inspection and maintenance use. The ASME standard does not require access.
- Expanding the requirement of an emergency stop switch to passenger elevators.
- Replacing the national fire service requirements with the elevator fire service requirements used by the New York City Fire Department.
- Adding a requirement of a New York City identification number for tracking, inspection, maintenance and violation purposes.

Note that elevators installed after the effective date of this rule must comply with the requirements of ASME 17.1S-2005 as modified by this rule. Elevators installed under the pilot program must be brought into compliance with the requirements of ASME 17.1S-2005 as modified by this rule only when the elevators are altered or modified.

* * *

"Must" and "shall" denote mandatory requirements and may be used interchangeably in the rules of this department.

Matter underlined is new.

Section 1. Subchapter C of Chapter 100 of Title 1 of the Rules of the City of New York is amended by adding a new Section 103-08, to read as follows:

§103-08 Machine-room-less elevators. The provisions of American Society of Mechanical Engineers ("ASME") A17.1S-2005 apply to machine-room-less elevators, except as modified in accordance with Section 3610-02 of this Title.

§2. Subchapter K of Chapter 3600 of Title 1 of the Rules of the City of New York is amended by adding a new Section 3610-02, to read as follows:

3610-02 Safety code for machine-room-less elevators. Pursuant to Section 28-103.19 of the New York City Administrative Code and Section 103-08 of this Title, American Society of Mechanical Engineers ("ASME") A17.1S-2005 is hereby amended by adding a new Chapter K4, to read as follows:

CHAPTER K4
MODIFICATIONS TO ASME A17.1S-2005
SAFETY CODE FOR MACHINE-ROOM-LESS ("MRL") ELEVATORS

K401.1 General. The provisions of American Society of Mechanical Engineers ("ASME") A17.1S-2005 must be modified in accordance with this chapter. The section numbers correlate to those in the referenced ASME standard.

PART 1
GENERAL

SECTION 1.1
SCOPE

1.1 Delete and revise Section 1.1 to read as follows:

See ASME A17.1-2000 including A17.1a-2002 and A17.1b-2003 as amended by Chapter K1 of Appendix K of the New York City Building Code for additional, relevant requirements.

SECTION 1.3
DEFINITIONS

1.3 Delete and revise the definition "Control space, elevator, dumbwaiter, material lift" to read as follows:

CONTROL SPACE, ELEVATOR, DUMBWAITER, MATERIAL LIFT: a space outside the hoistway, intended for full bodily entry, which contains the motor controller. The space 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. (See Appendix Q).

Add the following sentence to the end of the definition "Machinery space, elevator, dumbwaiter, material lift":

Machinery space in hoistways may not contain a motion controller, a motor controller or an operation controller.

PART 2
ELECTRIC ELEVATORS

SECTION 2.1
CONSTRUCTION OF HOISTWAYS AND HOISTWAY ENCLOSURES

2.1.4 Control of smoke and hot gases.

Delete and revise Section 2.1.4 to read as follows:

2.1.4 Control of smoke and hot gases. Hoistways must be provided with means to prevent the accumulation of smoke and hot gases when required by the New York City Building Code.

2.1.6 Projections, recesses and setbacks in hoistway enclosures.

Delete and revise Section 2.1.6.2 to read as follows:

2.1.6.2 On sides not used for loading and unloading:

(a) Recesses, except those necessary for installation of elevator equipment, must not be permitted;

(b) Beams, floor slabs, or other building construction making an angle less than 75 degrees with the horizontal must not project more than 50 mm (2 in) inside the hoistway enclosure unless the top surface of the projection is beveled at an angle not less than 75 degrees with the horizontal;

(c) Separator beams between adjacent elevators are not required to have bevels;

(d) Where setbacks exceeding 50 mm (2 in) occur in the enclosure wall, the top of the setback must be beveled at an angle of not less than 85 degrees with the horizontal;

(e) Bevels are not required if the projections and setbacks are covered with material conforming to the following:

(1) It must be equal to or stronger than 1.110 mm (0.0437 in) wire;

(2) It must have openings not exceeding 25 mm (1 in);

(3) It must be supported and braced such that it will not deflect more than 25 mm (1 in) when subjected to a force of 4.79 kPa (100 lbs per sq ft) applied horizontally at any point.

SECTION 2.2
PITS

2.2.2 Design and construction of pits.

Delete and revise Section 2.2.2.5 to read as follows:

2.2.2.5 Elevators with sprinklers in the shaftway must be provided with a drain or sump pump.

2.2.4 Access to pits.

Delete and revise Section 2.2.4.1 to read as follows:

2.2.4.1 Access must be by means of the lowest hoistway door or by means of a separate pit access door, located at the level of the pit floor.

Add new Subsection (f) to Section 2.2.4.4 to read as follows:

(f) Pit doors must be labeled "DANGER: ELEVATOR PIT" with letters not less than 51 mm (2 in) high.

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

2.7.3 Access to machinery spaces, machine rooms, control spaces, and control rooms.

Add new Subsection (d) to Section 2.7.3.1.1 to read as follows:

(d) A control space and machinery space for elevators must only be located where working clearances required for the control space will not impede upon the path of travel in unrestricted areas. Where the elevator control space is located in a path of travel in an unrestricted area, a clear path of travel parallel to the control space must not be less than the required working clearance plus 1219 mm (48 in) perpendicular to the control space. A permanent barricade needed to establish the working clearances for the control space must be accessible to elevator personnel from the control space. The barricade must be deployed whenever the doors to the control space are in the open position. See figure Q-2.

Add new Subsection (d) to Section 2.7.3.4.1 to read as follows:

(d) Labeled "ELEVATOR EQUIPMENT" with letters not less than 51 mm (2 in) high.

Delete and revise the first sentence of Section 2.7.3.4.2 to read as follows:

Access doors to machine rooms, control rooms and control spaces must be provided.

Add new Subsection (d) to Section 2.7.3.4.6 to read as follows:

(d) Labeled "DANGER: ELEVATOR HOISTWAY" with letters not less than 51 mm (2 in) high and have an electrical safety switch that will remove power from the hoist machine and brake if the door is opened.

2.7.6 Location of machinery spaces, machine rooms, control spaces, control rooms, and equipment.

Delete and revise Section 2.7.6.2 to read as follows:

2.7.6.2 Location of machinery spaces and control spaces. Machinery spaces may be located inside or outside the hoistway. Control spaces are not permitted inside the hoistway. Control spaces are only permitted inside the building.

Delete and revise Section 2.7.6.3.4 to read as follows:

2.7.6.3.4 Where a governor is located inside the hoistway, means of access conforming to the requirements of 2.7.3.3 and 2.7.3.4 for inspection and servicing the governor must be provided from outside the hoistway.

Add new sentence to the end of Section 2.7.6.4 to read as follows:

These means must be permanently installed.

Delete and revise Subsection (d) of Section 2.7.6.4.3 to read as follows:

(d) If the car is moved manually, the effort required to move the car in the direction of load imbalance must not exceed 400 N (90 lbf). If the means used is removable, it must be stored outside the hoistway and access to the means must be with a key that is Group 1 Security. It must be suitably marked to indicate the machine for which it is intended. It must also contain instructions on its use and be labeled "Machine Brake Release".

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

2.8.3 Pipes, ducts, tanks, and sprinklers.

Delete and revise Section 2.8.3.3 to read as follows:

2.8.3.3 Sprinkler systems conforming to NFPA 13 or the NBCC, whichever is applicable (see Part 9), must be permitted to be installed in the hoistway or machinery space, subject to 2.8.3.3.1 through 2.8.3.3.4.

SECTION 2.11
PROTECTION OF HOISTWAY OPENINGS

2.11.1 Entrances and emergency doors required.

Delete and revise the last sentence of Section 2.11.1.1 to read as follows:

Entrances must be at least 2030 mm (80 in) in height and 915 mm (36 in) in width.

Delete and revise Subsection (a) of Section 2.11.1.2 to read as follows:

(a) The clear opening must be at least 915 mm (36 in) wide and 2030 mm (80 in) high.

2.11.2 Types of entrances.

Delete Subsection (c) of Section 2.11.2.1 in its entirety.

Subsection 2.11.2.1(c) Reserved.

Delete Subsection (c) of Section 2.11.2.2 in its entirety.

Subsection 2.11.2.2(c) Reserved.

2.11.6 Openings of hoistway doors.

Delete and revise Subsection (d) of Section 2.11.6.2 to read as follows:

(d) Any landing for elevator equipped with Phase II Emergency In-Car Operation when Phase II is effective.

Add new Subsection (e) to Section 2.11.6.2 to read as follows:

(e) Consecutive vacant floors.

Add new Subsection (f) to Section 2.11.6.2 to read as follows:

(f) Main lobby street floor.

Add new Section 2.11.6.5 to read as follows:

2.11.6.5 Vestibule.

2.11.6.5.1 Elevator landings provided with a zero clearance vestibule (not to exceed 150 mm (6 in) from the elevator hoistway door) are permissible only when locking devices accessible from the car are installed exclusively on the door that separates the zero clearance vestibule from the occupied floor space.

2.11.6.5.2 Where the vestibule is not a zero clearance vestibule as defined in 2.11.6.5.1, locking devices at the vestibule will be permitted under any one of the following conditions:

(a) A red telephone is installed in the vestibule near the elevator doors to communicate with lobby fire command station or building manager's office or to central service station when the building is not attended. A sign must be posted near the telephone. The sign must read "In Case of Fire or Other Emergency Use This Phone to Contact Lobby or Building Manager or Central Service Station";

(b) The locking devices on the vestibule door leading to an exit are released upon activation of any detection or signaling devices, or power failure;

(c) At least one exit stair is located within the vestibule.

2.11.7 Glass in hoistway doors.

Delete and revise Section 2.11.7.1 to read as follows:

2.11.7.1 Vision panels. For elevators with automatic or continuous-pressure operation, manually operated or self-closing hoistway doors of the vertically or horizontally sliding type must be provided with a vision panel. In multi-section doors, the vision panel is required in one section only, but is permitted to be placed in all sections. All horizontally swinging elevator doors must be provided with vision panels. Vision panels are permitted for any type of hoistway door. Vision panels are not required at the landing of automatic operation elevators equipped with horizontally sliding car and hoistway doors.

Where required or used, vision panels must conform to 2.11.7.1.1 through 2.11.7.1.7.

Delete and revise Section 2.11.7.1.1 to read as follows:

2.11.7.1.1 The area of any single vision panel must not be less than 0.008 m^2 (12 in^2), and the total area of one or more panels in any hoistway door must not be more than 0.026 m^2 (40 in^2).

2.11.11 Entrances, horizontal slide type.

Delete and revise Subsection (a) of Section 2.11.11.6 to read as follows:

(a) The bottom of each panel must be guided by two or more members.

2.11.15 Marking.

Delete and revise Section 2.11.15.1 to read as follows:

2.11.15.1 Labeling of tested assembly. In jurisdictions not enforcing the NBCC, 2.11.15.1.1 and 2.11.15.1.2 apply. Where required by this code, the entire entrance assembly must be of an approved type.

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

2.12.3 Hoistway door combination mechanical locks and electrical contacts.

Delete Section 2.12.3 in its entirety:

Section 2.12.3 Reserved.

2.12.4 Listing/certification door locking devices and door or gate electrical contacts.

Delete and replace Section 2.12.4.1 to read as follows:

2.12.4.1 Type tests. Each type and make of hoistway-door interlock, electric contact, and door or gate electric contact must be of an approved type. Hoistway-door combination mechanical locks and electrical contacts are not permitted.

Delete and revise Subsection (b) of Section 2.12.4.3 to read as follows:

(b) Identification marking. The approved agency's name, date of approval and identifying number or symbol.

2.12.7 Hoistway access switches.

Delete and revise Section 2.12.7.3.2 to read as follows:

2.12.7.3.2 The car cannot be operated at a speed greater than 0.35 m/s (75 ft/min).

SECTION 2.13
POWER OPERATION OF HOISTWAY DOORS AND CAR DOORS

2.13.2 Power opening.

Delete and revise Section 2.13.2.1.2 to read as follows:

2.13.2.1.2 Collapsible car gates must not be power opened.

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

2.14.2 Passenger car enclosures.

Delete and revise Section 2.14.2.1.1 to read as follows:

2.14.2.1 Materials in their end use configuration, other than those covered by 2.14.2.1.2 through 2.14.2.1.6, must conform to the following requirements, based on the tests conducted in accordance with the requirements of ASTM E 84, UL 723, or NFPA 255:

(a) Flame spread rating of 0 to 50.

(b) Smoke development of 0 to 100.

2.14.7 Illumination of cars and lighting fixtures.

Delete and revise Section 2.14.7.1.4 to read as follows:

2.14.7.1.4 Each elevator must be provided with a guarded electric light and convenience outlet fixture on the car top and under the car platform.

SECTION 2.18
SPEED GOVERNORS

2.18.4 Speed-governor overspeed switch.

Add a new paragraph at the end of the main paragraph of Section 2.18.4.4 to read as follows:

An access door is required when the governor is installed at the top of the hoistway for access to reset switches by elevator personnel. The access door must comply with Section 2.7.3.4.6.

Delete and revise the Note to Section 2.18.4.4 to read as follows:

NOTE: Manual reset is defined here as personal intervention by elevator personnel at the governor.

2.18.5 Governor ropes.

Delete and revise Section 2.18.5.1 to read as follows:

2.18.5.1 Material and factor of safety. Governor ropes must be a minimum of 6 mm (.25 in) and must comply with ASME A17.6-2010, Part 1 and ASME A17.1-2010 as referred to in A17.6-2010.

SECTION 2.20
SUSPENSION ROPES AND THEIR CONNECTIONS

2.20.3 Factor of safety.

Delete and revise Section 2.20.3 to read as follows:

2.20.3 Factor of safety. Suspension ropes must be stranded carbon steel wire ropes (minimum 8 mm (.3 in)) or noncircular elastomeric coated steel suspension members. They must comply with ASME A17.6-2010, Part 1 and Part 3 and ASME A17.1-2010 as referred to in A17.6-2010. Aramid fiber ropes are not permitted.

2.20.4 Minimum number and diameter of suspension ropes.

Delete and revise Section 2.20.4 to read as follows:

2.20.4 Minimum number and diameter of suspension ropes. Suspension ropes must be stranded carbon steel wire ropes (minimum 8 mm (.3 in)) or noncircular elastomeric coated steel suspension members. They must comply with ASME A17.6-2010, Part 1 and Part 3 and ASME A17.1-2010 as referred to in A17.6-2010. Aramid fiber ropes are not permitted.

SECTION 2.24
DRIVING MACHINES AND SHEAVES

2.24.10 Means for inspection of gears.

Delete and revise Section 2.24.10 to read as follows:

2.24.10 Means for inspection of gears. Each gear case of geared machines must have access to permit inspection of the contact surfaces of the gears.

SECTION 2.25
TERMINAL STOPPING DEVICES

2.25.3 Final terminal stopping devices.

Add a new Subsection (d) to Section 2.25.3.1 to read as follows:

(d) Final limit switches and bracket must be permanently secured and pinned.

SECTION 2.26
OPERATING DEVICES AND CONTROL EQUIPMENT

2.26.1 Operation and operating devices.

Delete and revise Subsection (e) of Section 2.26.1.4.2 as follows:

(e) The inspection operating devices (see 2.26.1.4.1(c)) must be portable, with a cord length of the distance from the connection point to the farthest corner of the top of car, provided that

(1) The "ENABLE" device (see 2.26.1.4.2(c)), and a stop switch, in addition to the stop switch required in 2.26.1.4.2(a) are included in the portable unit; and

(2) The flexible cord is permanently attached so that the portable unit cannot be detached from the car top.

2.26.2 Electrical protective devices.

Delete and revise Section 2.26.2.5 to read as follows:

2.26.2.5 Emergency stop switch. On all elevators, an emergency stop switch must be provided in the car, and located in or adjacent to each car operating panel. When open ("STOP" position), this switch must cause the electric power to be removed from the elevator driving-machine motor and brake. Emergency stop switches must:

(a) Be of the manually opened and closed type;

(b) Have red operating handles or buttons;

(c) Be conspicuously and permanently marked "STOP" and must indicate the "STOP" and "RUN" positions; and

(d) While opened, cause the audible device to sound (see 2.27.1.2).

Delete Section 2.26.2.21 in its entirety:

Section 2.26.2.21 Reserved.

Delete Section 2.26.2.33 in its entirety:

Section 2.26.2.33 Reserved.

SECTION 2.27
EMERGENCY OPERATION AND SIGNALING DEVICES

2.27.1 Car emergency signaling devices.

Delete and revise Section 2.27.1.1.1 to read as follows:

2.27.1.1.1 A two-way communications means between the car and a location in the building that is readily accessible to authorized and emergency personnel must be provided. Means must be provided to enable two-way voice communication between the machine, the control room, the control space and the interior of the car.

2.27.2 Emergency or standby power system.

Delete and revise Section 2.27.2.4.3 to read as follows:

2.27.2.4.3 Means must be provided adjacent to the selector switch(es) to indicate that the elevator is at the designated level with the doors in the normally open position.

2.27.3 Firefighters' emergency operation: automatic elevators.

Delete and revise Section 2.27.3 to read as follows:

2.27.3 Fire-fighters' emergency operation: automatic elevators. See Chapter K1 of Appendix K of the New York City Building Code, and replace the words "machine room" with "control room and control space".

2.27.4 Firefighters' emergency operation: nonautomatic elevators.

Delete and revise Section 2.27.4 to read as follows:

2.27.4 Fire-fighter's emergency operation: nonautomatic elevators. See Chapter K1 of Appendix K of the New York City Building Code.

2.27.5 Firefighters' emergency operation: automatic elevators with designated-attendant operation.

Delete and revise Section 2.27.5 to read as follows:

2.27.5 Fire-fighter's emergency operation: automatic elevators with designated attendant operation. See Chapter K1 of Appendix K of the New York City Building Code.

2.27.8 Switch keys.

Delete and revise Section 2.27.8 to read as follows:

2.27.8 Switch keys. See Chapter K1 of Appendix K of the New York City Building Code.

2.27.9 Elevator corridor call station pictograph.

Delete Section 2.27.9 in its entirety:

Section 2.27.9 Reserved.

SECTION 2.29
IDENTIFICATION

2.29.1 Identification of equipment.

Delete and revise Section 2.29.1 to read as follows:

2.29.1 Identification of equipment. In buildings with more than one elevator, each elevator must be assigned a unique alphabetical or numerical identification, a minimum of 50 mm (2 in) in height. The identification number must be applied to the following locations:

(a) Driving machine;

(b) MG and / or transformers;

(c) Controller;

(d) Selector;

(e) Governor;

(f) Main line disconnect switch;

(g) The crosshead or, where there is no crosshead, the car frame, such that it is visible from the top of the car;

(h) The car operating panel, minimum of 13 mm (0.5 in) in height;

(i) Adjacent to or on every elevator entrance at the designated level, minimum of 75 mm (3 in) height; and

(j) Each bank of elevators must be identified by a letter.

Add new Section 2.29.1.1 to read as follows:

2.29.1.1 New York City identification number. Each elevator must be assigned a unique numerical identification a minimum of 6 mm (.25 in) in height. The city identification number must be applied to the following locations:

(a) The driving machine;

(b) MG and / or transformers;

(c) Controller;

(d) Main line disconnect switch;

(e) The crosshead or, where there is no crosshead, the car frame, such that it is visible from the top of the car;

(f) The car operating panel (main panel only).

Add new Section 2.29.3 to read as follows:

2.29.3 Main line location signage. A permanent sign must be located on or adjacent to the Phase I key switch. The sign must indicate the location of the mainline disconnect switches for that bank of elevators. Lettering must be a minimum of 6 mm (0.25 in) high in red or a color contrasting with a red background.

PART 3
HYDRAULIC ELEVATORS

SECTION 3.6
PROTECTION OF SPACES BELOW HOISTWAY

3.6.2 Counterweight safety actuation.

Delete and revise Section 3.6.2 to read as follows:

3.6.2 Car and counterweight safety actuation. Where the space referred to in 3.6 falls underneath the car or counterweight and/or its guides, the car and counterweight must be provided with a safety device.

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

Delete and revise the opening paragraph of Section 3.7.1 to read as follows:

3.7.1 Machinery spaces, machine rooms, control spaces, and control rooms must conform to the requirements of 2.7.1 through 2.7.7 and 2.7.9. Hydraulic machines and controllers are not permitted in the hoistway or pit.

PART 8
GENERAL REQUIREMENTS

SECTION 8.1
SECURITY

8.1.2 Group 1: Restricted.

Add new Subsection (w) to Section 8.1.2 to read as follows:

(w) The requirements of 2.14.1.10 (side emergency exit doors) apply.

NONMANDATORY APPENDIX Q
EXPLANATORY FIGURES FOR THE DEFINITIONS OF ELEVATOR MACHINERY SPACE, MACHINE ROOM, CONTROL SPACE, CONTROL ROOM, REMOTE MACHINE ROOM, OR REMOTE CONTROL ROOM

Delete and replace Figure Q-2 with the following new Figure Q-2:

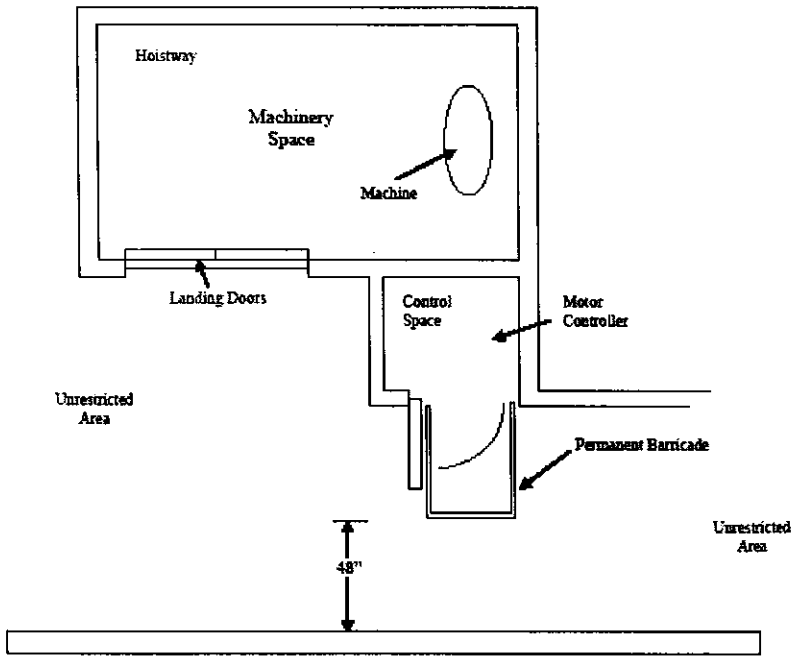

Figure Q-2