

Chapter ILHR 18

ELEVATORS

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Subchapter I — Administration and Enforcement

ILHR 18.01 Purpose. Pursuant to ss. 101.12, 101.13 and 101.17, Stats., the purpose of this chapter is to protect the health, safety and welfare of the public and employes by establishing minimum standards for the design, construction, installation, operation, inspection, testing, maintenance, alteration and repair of elevators and related devices installed in all public buildings and places of employment.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.02 Scope. (1) COVERED EQUIPMENT. This chapter applies to the following equipment installed in public buildings and places of employment:

- (a) Elevators;
- (b) Power dumbwaiters;
- (c) Escalators;
- (d) Moving walks;
- (e) Stage and orchestra lifts;
- (f) Material lifts and dumbwaiters with automatic transfer devices;
- (g) Special purpose personnel elevators; and

Note: The applicable rules of Parts 1, 2 and 3 of ASME A17.1 are used to determine the safe operation of stage and orchestra lifts.

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(h) Lifts for the physically disabled.

(2) EXEMPTED EQUIPMENT. This chapter shall not apply to the following equipment:

(a) Conveyors complying with ANSI B20.1;

(b) Tiering or piling machines used to move material to and from storage, and located and operated entirely within one story;

(c) Equipment for feeding or positioning materials at machine tools, printing presses and similar types of equipment;

(d) Hoists for raising or lowering materials and which are provided with unguided hooks, slings and similar means for attachment to the materials;

(e) Skip or furnace hoists;

(f) Wharf ramps;

(g) Amusement devices, except equipment specified in sub. (1);

(h) Stage curtain hoists;

(i) Lift bridges;

(j) Railroad car lifts or dumpers;

(k) Mechanical lifts serving only the floor level on which the lift is located and used only for the transfer of material or equipment;

(l) Mechanized parking garage equipment and automotive hoists used only for maintenance or repair of motor vehicles; and

(m) Personnel hoists and belt manlifts covered by ch. ILHR 32.

Note: Conveyors, personnel hoists and manlifts located in the private sector are covered by the Occupational Health and Safety Act. In the public sector, this equipment is covered by ch. ILHR 32.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.03 Application. (1) NEW INSTALLATIONS. Unless otherwise provided in this chapter, all new installations shall conform to the requirements of this chapter.

(2) EXISTING INSTALLATIONS. All existing installations shall conform to the rules in effect on the contract date of the initial installation.

(3) ALTERATIONS, REPAIRS AND REPLACEMENTS. All alterations, repairs and replacements of parts shall comply with the applicable provisions of this chapter.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.04 Petition for variance. (1) PROCEDURE. The department shall consider and may grant a variance to a provision in this chapter upon receipt of a fee and a completed petition for variance form from the owner, provided an equivalency is established in the petition for variance which meets the intent of the provision being petitioned. The department may impose specific conditions in granting a variance to promote the protection of the health, safety and welfare of the employees or the public. Violation of the conditions under which a variance is granted shall

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constitute a violation of the rules for which a variance is received.

Note 1: Copies of the petition for variance (form SB-8) are available at no charge from the Safety and Buildings Division, P.O. Box 7969, Madison, Wisconsin 53707.

Note 2: Section 101.02 (6), Stats., and ch. ILHR 3 outline the procedure for submitting petitions to the department and the department procedures for hearing petitions.

(2) PETITION PROCESSING TIME. Except for priority petitions, the department shall review and make a determination on a petition for variance within 30 business days of receipt of all calculations, documents and fees required to complete the review. The department shall process priority petitions within 10 business days of receipt of the required items.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.05 Penalties. Penalties for violations of this chapter shall be assessed in accordance with s. 101.02, Stats.

Note 1: Section 101.02 (13) (a), Stats., indicates penalties will be assessed against any employer, employe, owner or other person who fails or refuses to perform any duty lawfully enjoined, within the time prescribed by the department, for which no penalty has been specifically provided, or who fails, neglects or refuses to comply with any lawful order made by the department, or any judgment or decree made by any court in connection with ss. 101.01 to 101.25, Stats. For each such violation, failure or refusal, such employe, owner or other person must forfeit and pay into the state treasury a sum not less than \$10 nor more than \$100 for each violation.

Note 2: Section 101.02 (12), Stats., indicates that every day during which any person, persons, corporation or any officer, agent or employe thereof, fails to observe and comply with an order of the department will constitute a separate and distinct violation of such order.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.06 Appeals. (1) APPEAL OF LOCAL ORDER. Any person affected by a local order which may be in conflict with a provision of this chapter may petition the department for a hearing on the grounds that the local order is unreasonable and in conflict with the rule of the department.

Note: Section 101.01 (1) (f), Stats., defines "local order" as any ordinance, order, rule or determination of any common council, board of aldermen, board of trustees or the village board, of any village or city, or the board of health of any municipality, or an order or direction of any official of such municipality, upon any matter over which the department has jurisdiction.

(2) PETITION OF ADMINISTRATIVE RULE. Pursuant to s. 227.12, Stats., any municipality, corporation or any 5 or more persons having an interest in an administrative rule may petition the department requesting the adoption, amendment or repeal of the rule.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.07 Fees. Fees for plan examination, installation application, inspection, certificate for operation and other services performed by the department pertaining to elevators and related equipment shall be submitted as specified in ch. ILHR 2.

Note: See Appendix A for a reprint of abbreviated fee schedule.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.08 Enforcement. This chapter shall be enforced by department, municipality and insurance inspectors certified by the department. The department shall have

the responsibility for interpreting the rules in this chapter, including those in the incorporated ASME A17.1 standard, and for the approval of equipment and material. Requests for interpretations shall be in writing to the department.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Subchapter II — General Requirements

ILHR 18.09 Plan examination and approval. (1) PLAN SUBMITTAL. Plans and specifications for all new installations covered by this chapter and the following alterations shall be submitted to the department or municipality for examination and approval:

- (a) Increase in rated load or speed;
- (b) Increase in dead weight of car by 10% or more;
- (c) Increase or decrease in travel;
- (d) Change in classification from freight to passenger service or from passenger to freight service;
- (e) Addition of hoistway doors or gates;
- (f) Relocation of machine room or machinery space;
- (g) Replacement of an existing driving machine by a new driving machine; and
- (h) Replacement of an existing controller by a new controller.

(2) INFORMATION REQUIRED ON PLANS. The manufacturer's representative or the distributor who furnishes the mechanical equipment shall submit to the department at least 4 sets of plans, including specifications, and a letter from the registered architect or engineer or the person responsible for the design of the building verifying that the selected mechanical equipment conforms to the approved building plans, or the registered architect or engineer shall stamp the mechanical equipment plans as conforming to the approved building plans. The plans shall include the following:

- (a) A plan of car, hoistway and machine room showing all clearances, including all inside car dimensions specified in s. ILHR 18.83 (9);
- (b) A section through hoistway, machine room, pit and car showing all applicable dimensions. All landings shall be clearly shown, indicating types of hoistway doors or gates used;
- (c) A complete layout of the machine room including working clearances around machine, controller and disconnecting means showing dimensions to adjacent or opposite walls and equipment, or both; and
- (d) The size and weight per foot of guiderails and details of their support, including reinforcement where required.

(3) APPLICATION FOR INSTALLATION OR ALTERATION. Prior to commencing work, at least 2 completed copies of the department application form shall be submitted to the department for all new installations, alterations listed in sub. (1) (a) to (h) and the following alterations:

- (a) Change in type of operation or control;

- (b) Addition of phase I emergency recall and phase II emergency in-car operation specified in ASME A17.1 Rule 211.3;

- (c) Change in size or type of suspension ropes;

- (d) Replacement, change in type, or addition of a car or counterweight safety or governor;

- (e) Replacement of hoistway doors;

- (f) Addition of hoistway-door locking devices or car door or gate electric contacts;

- (g) Addition of top-of-car operating devices;

- (h) Addition of hoistway-door, car-door or gate operating devices;

- (i) Addition of car-leveling or truck-zoning devices;

- (j) Change in size or type of guiderails; and

- (k) Replacement of valves.

Note: See Appendix A for an example of the application to erect or remodel form (SB-22).

(4) APPROVAL OF PLANS AND APPLICATION. All approvals of plans and applications for installation or alteration shall be performed by certified department or municipal elevator inspectors.

(a) *Conditional approval.* If, upon examination, the department or municipality determines that the plans and application for installation or alteration substantially conform to the provisions of this chapter, a conditional approval, in writing, shall be granted. All noncode-complying conditions stated in the conditional approval shall be corrected before or during construction. A conditional approval issued by the department or municipality shall not be construed as an assumption of any responsibility for the design or construction of the equipment.

(b) *Denial of approval.* If the department or municipality determines that the plans or the application do not substantially conform to the provisions of this chapter, the application for conditional approval shall be denied, in writing.

(c) *Revocation of approval.* The department or municipality may revoke any approval, issued under the provisions of this chapter, for any false statements or misrepresentation of facts on which the approval was based.

(d) *Commencing work.* On-site fabrication or installation shall not commence before the plans and application are approved and an elevator permit issued.

(5) OWNER'S RESPONSIBILITY. The submission of plans, specifications and application form shall be the responsibility of the building owner when the manufacturer, manufacturer's representative or distributor does not submit that information.

(6) PROCESSING TIME. The department shall review and make a determination on an application for approval of an installation or an alteration within 15 business days of receiving the required information.

(7) MANUFACTURER'S RESPONSIBILITY. A manufacturer of any elevator or lift installed in a public building or place

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of employment shall provide the owner with a copy of the approved plans for the installed units in the building.

(8) INSTALLER'S RESPONSIBILITY. The installer shall certify to the owner that the mechanical equipment installed is in compliance with all applicable codes and shall explain the maintenance requirements necessary for the safe operation of the mechanical equipment installed.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.10 Tests and inspections. (1) NEW INSTALLATIONS. (a) *General requirements.* New installations shall be tested and inspected by an authorized representative of the department or municipality to determine whether or not the installations conform to the conditionally approved plans and the provisions of this chapter. The installations shall not be placed in service until authorized by the department or municipality.

Note: Tests and inspections are specified in ASME A17.1 Part 10, subject to the changes, additions and omissions specified in subch. III.

(b) *Notification for inspection.* The department shall be notified at least 10 days prior to the time the new installation is complete and ready for inspection.

(c) *Company representation.* A representative of the company installing the equipment shall be present during the tests and inspections specified in par. (a).

(d) *Registration numbers.* All new equipment, as specified in s. ILHR 18.02 (1), shall be assigned a registration number by the department or municipality. The registration number shall be located as follows:

1. Elevators: on the car crosshead or at locations readily visible;
2. Dumbwaiters: in or on the car structure;
3. Escalators, moving walks: in the machine room at locations visible from the access opening; and
4. Other equipment: at locations readily visible.

(2) EXISTING INSTALLATIONS. (a) *Inspection.* An installation of equipment specified in s. ILHR 18.02 (1) shall be inspected at least once every calendar year, except an inclined wheelchair lift and a stairway chairlift shall be inspected at least once every 3 years. All inspections required by this chapter shall be performed by certified inspectors.

(b) *Maintenance.* Elevators, dumbwaiters, escalators and moving walk or moving ramp equipment shall be kept in safe operating condition, properly lubricated and clean, including pits, machine rooms and machinery spaces.

(3) REINSPECTION. Equipment found to be in noncompliance will be reinspected as determined by the department or municipality to obtain compliance with the provisions of this chapter.

(4) ALTERATIONS. Every alteration specified in ASME A17.1 Part 12 and s. ILHR 18.63, shall be inspected as determined by the department or municipality.

(5) INSPECTION REPORT. All certified inspectors shall file an inspection report with the department, on a form approved by the department, within 14 days after the inspection.

The report shall identify items of noncompliance.

Note: See Appendix A for examples of the elevator inspection form (SB-2D) and the test report form (SB-2E).

(6) COMPLIANCE DATE. Every item which is listed on the inspection report as being out of compliance with this chapter shall be corrected on or before the compliance date stated on the report.

(7) COMPLIANCE WITH ORDERS. If a certified inspector is unable to obtain compliance with this chapter, the inspector shall notify the department. If it becomes necessary for the department to conduct inspections, a fee in accordance with s. ILHR 2.15 will be charged for each inspection.

Note: See Appendix A for a reprint of abbreviated fee schedule.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.11 Prohibited installations. (1) NEW AND EXISTING INSTALLATIONS. The following requirements shall apply to both new and existing installations:

(a) *Belt or chain driven machines.* A belt or chain driven machine shall not be used for a passenger elevator installation, except for an oil hydraulic elevator.

(b) *Friction gearing or clutch mechanism.* A friction gearing or a clutch mechanism shall not be used to connect a driving-machine drum or sheave to the main driving gear of any elevator.

(c) *Drum type installations.* A drum type freight elevator installation equipped with a mechanical brake shall not have a hoistway limit switch, car door or gate electric contact, hoistway landing door or gate electric contact or any combination thereof.

(d) *Power attachments on hand-powered elevators.* Power attachments, such as worm reduction units, rope clutch or rope grip devices, belts to improvised rope wheels, or any similar device, shall not be installed on any hand-powered elevator unless all requirements for power elevators are complied with.

(2) NEW INSTALLATIONS. The following requirements shall apply to new installations:

(a) *Counterbalance elevators.* Elevator cars shall not counterbalance each other.

(b) *Hand cable controls.* Hand cable control power operated elevators and dumbwaiters are prohibited.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.12 Certificate for operation. (1) ISSUANCE. If the department, after inspection, determines that the installation conforms with the provisions of this chapter, a certificate for operation shall be issued by the department. The department shall issue a certificate for operation within 15 business days of the determination that the installation meets the applicable requirements of this chapter. The certificate for operation shall be posted in the equipment room.

(2) EXPIRATION. Certificates for operation shall be effective from the date of issuance until the next scheduled periodic inspection.

(3) REVOCATION. The department may revoke the certificate for operation if the equipment is found to be in non-compliance with the applicable safety standard. Upon revocation of the certificate for operation, the department shall notify the owner, in writing, of the noncomplying items and afford the owner the opportunity for a hearing within 30 days from the date of revocation.

Note: See Appendix A for an example of the certificate for operation form.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.13 Certification of inspectors. (1) INITIAL CERTIFICATION. A person employed by the department, a municipality or an insurance company, may be certified by the department as an inspector, under the scope of this chapter, upon submittal of job qualifications on completed form SB-88, payment of the required fees and successful passage of a written examination which is equivalent to the ASME Qualified Elevator Inspector Examination and given by the department. The inspector certification shall be issued within 15 business days of passage of the written examination.

Note: Copies of form SB-88 are available at no charge from the Safety and Buildings Division, P.O. Box 7969, Madison, Wisconsin 53707.

(2) RENEWAL OF CERTIFICATION. To qualify for renewal of certification, applicants shall submit no less than 10 complete valid inspection reports each 12 months.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.14 Adoption of standards by reference. (1) CONSENT TO INCORPORATE. (a) Pursuant to s. 227.21, Stats., the attorney general and the revisor of statutes have consented to the incorporation by reference of the American National Standard Safety Code for Elevators and Escalators, ASME A17.1-1990, subject to those changes, additions and omissions specified in subch. III.

(b) The American National Standard Safety Code for Elevators and Escalators, ASME A17.1-1990, subject to the changes, additions and omissions specified in subch. III is hereby incorporated by reference into this chapter.

(2) INTERIM SUPPLEMENTS. Interim supplements to the ASME A17.1-1990 standard shall have no effect in the state until such time as this chapter is correspondingly revised to reflect those changes.

(3) AVAILABILITY OF STANDARDS. Copies of the ASME A17.1-1990 standard can be obtained from the ASME Order Department, 22 Law Drive, Box 2300, Fairfield, N.J. 07007-2300.

(4) FILING OF COPIES. Copies of the standard in reference are on file in the offices of the department, the secretary of state, and the revisor of statutes.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.15 Construction and operation. All installations of equipment under the scope of this chapter shall conform to the American National Standard Safety Code for Elevators and Escalators, ASME A17.1-1990, subject to those changes, additions and omissions specified in subch. III.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Subchapter III — Changes, Additions or Omissions to Adopted Standards

ILHR 18.16 Changes, additions or omissions to ASME A17.1. Changes, additions or omissions to the ASME A17.1 standard are specified in this subchapter and are rules of the department and are not requirements of the ASME A17.1 standard.

Note: The referenced A17.1 section or rule number, located in brackets, follows the ILHR designation and precedes the text of the rule. Example: ILHR 18.23 [A17.1 Section 3].

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

INTRODUCTION

ILHR 18.17 Scope and purpose. [A17.1 Section 1 and Section 2] (1) A17.1 Section 1 - Scope and Section 2 - Purpose and Exceptions do not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.18 Definitions. [A17.1 Section 3] (1) ADDITIONS. The following are department definitions in addition to the definitions in A17.1 Section 3:

(a) "Department" means the department of industry, labor and human relations.

(b) "Clear floor space" means the minimum unobstructed floor or ground space required to accommodate a single, stationary wheelchair and occupant.

(c) "Fire-resistive rating" means a rating as defined in s. ILHR 51.01 (50).

(d) "Municipality" means a city employing elevator inspectors certified by the department and exercising legal jurisdiction over elevator installations covered by this chapter.

(e) "Place of employment" means a place, whether indoors or out or underground and premises appurtenant thereto where either temporarily or permanently any industry, trade or business is carried on, or where any process or operation, directly or indirectly related to any industry, trade or business, is carried on, and where any person is, directly or indirectly, employed by another for the direct or indirect gain or profit, but does not include any place where persons are employed [in] a private domestic service which does not involve the use of mechanical power or in farming.

(f) "Public building" means any structure, including exterior parts of such building, such as a porch, exterior platform or steps providing means of ingress or egress, used in whole or in part as a place of resort, assemblage, lodging, trade, traffic, occupancy, or use by the public or by 3 or more tenants. When used in relation to building codes, "public building" does not include a previously constructed building used as a community-based residential facility as defined in s. 50.01 (1g), Stats., which serves 20 or fewer unrelated residents or an adult family home certified under s. 50.032 (1) (b), Stats.

(2) SUBSTITUTIONS. The following department definitions are substitutions for the respective definitions in A17.1 Section 3:

(a) "Approved" means acceptable to the department.

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(b) "Building code" means chs. ILHR 50 to 64 Wis. Adm Code.

(c) "Capacity" or "rated load" means the approved safe live load specified on the application and plans submitted for approval.

(d) "Installations, existing" means equipment that has been completed or for which the contract was let before the effective date of any applicable rule change.

(e) "Installations, new" means equipment for which the contract has been let on or after the effective date of any applicable rule change.

(3) DELETIONS. The definition of "installation placed out of service" in A17.1 Section 3 does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 1 — Hoistways, Hoistway Enclosures and Related Construction for Electric Elevators

ILHR 18.19 Construction of hoistways and hoistway enclosures. [A17.1 100] (1) OBSERVATION ELEVATORS. [A17.1 100.1c] This is a department rule in addition to the requirements of A17.1 100.1c (2): This protection shall be not less than 7 feet in height.

(2) DIFFERENCE IN FLOOR LEVELS. [A17.1 100.3f] This is a department rule in addition to the requirements of A17.1 100.3f: A toe board not less than 4 inches high shall be provided at the edge of the higher level.

(3) CONTROL OF SMOKE AND HOT GASES. [A17.1 100.4] This is a department rule in addition to the requirements of A17.1 100.4: A ventilation opening in a hoistway wall, where provided, shall have guards securely anchored to the supporting structure inside the hoistway, consisting of a wire-mesh screen of at least 0.0915-inch diameter steel wire with openings which will reject a ball one inch in diameter, or expanded metal screen of equivalent strength and open area.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.20 Machine rooms and machinery spaces. [A17.1 101] (1) ENCLOSURES REQUIRED FOR ELEVATORS HAVING FIRE-RESISTIVE HOISTWAY ENCLOSURES. [A17.1 101.1a] This is a department rule in addition to the requirements of A17.1 101.1a:

(a) Except as specified in par. (b), where phase II emergency in-car operation covered by A17.1 211.3c is provided, the elevator machinery room shall be enclosed by construction having at least a 2-hour fire-resistive rating. No other equipment shall be housed in this enclosure.

(b) Where the elevator machine room is the only room located above the roofline of a building, the hourly rating as specified in chs. ILHR 50 to 64 is not required.

(2) GUARDING OF FLOOR OPENINGS. [A17.1 101] This is a department rule in addition to the requirements of A17.1 101: The openings in machinery room floors, through which cables pass, shall be fitted with suitable guards at least 2 inches high to prevent any loose material from com-

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ing in contact with the cables, and to prevent any loose parts from dropping through the openings.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.21 Installation of pipes or ducts conveying gases, vapors or liquids in hoistways, machine rooms or machinery spaces. [A17.1 102.2] (1) ADDITIONAL REQUIREMENTS. These are department rules in addition to the requirements of A17.1 102.2:

(a) *Fire fighters' service.* Where sprinklers are installed in connection with an elevator, machine room or hoistway the elevator shall comply with Rules 211.3, 211.4 and 211.5 regardless of the vertical travel distance.

(b) *Sprinkler heads.* Sprinkler heads located in the machine room or at the top of the shaft shall be of a type which complies with the upper range of the intermediate temperature classification of sprinkler heads as specified in Table 2-2.3.1 of NFPA 13, as adopted by reference in chs. ILHR 50 to 64.

Note: See Appendix A for a reprint of NFPA 13, Table 2-2.3.1.

(c) *Sump pumps.* Sump pumps located in elevator machine rooms shall serve only the elevator pit or elevator machine room or both. Piping installed for pumps shall comply with Article 110-16 (a) of the National Electrical Code, adopted by reference in ch. ILHR 16. At least 7 feet overhead clearance shall be maintained in the machine room.

(d) *Pit drain.* If sprinklers are located in an elevator shaft, a drain shall be located in the pit area of the shaft and shall comply with A17.1 106.1b (3).

(e) *Disconnecting means.* 1. A shunt trip circuit breaker or other disconnecting means to automatically disconnect the main line power supply shall be provided and shall comply with A17.1 102.2 (c) (4) and the following:

2. Heat detection shall be provided in the machine room and at the top of the hoistway to activate the disconnecting means, prior to the activation of the sprinkler heads.

(2) ACTIVATION OF SPRINKLER HEADS. Substitute the following wording for the last sentence in A17.1 102.2 (c) (4): The activation of sprinklers outside of the hoistway, hoistway pit or the machine room shall not disconnect the main line power supply.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.22 Guarding. [A17.1 104.1] This is a department rule in addition to the requirements of A17.1 104.1: Guarding beyond 7'-0" high is not required.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.23 Design and construction of pits. [A17.1 106.1b] Substitute the following wording for A17.1 106.1b (3):

(1) DRY PITS. Where water cannot be kept out of a pit with ordinary construction, drains or sumps with metal covers shall be provided. Where a pump is needed to remove water, the pump shall be located outside the elevator hoistway.

(2) **SPRINKLERS IN SHAFT.** Where sprinklers are provided in an elevator shaft, a drain shall be installed in the pit.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.24 Bottom and top clearances and runbys for elevator cars and counterweights. [A17.1 107] (1) **BOTTOM CAR CLEARANCES.** [A17.1 107.1a] This is a department rule in addition to A17.1 107.1a: There shall be a minimum of 3 inches of clearance from the lowest projection on the car to the highest projection in the pit.

(2) **TOP CAR CLEARANCES FOR COUNTERWEIGHTED ELEVATORS.** [A17.1 107.1e] Substitute the following wording for A17.1 107.1e (3): Two feet or the distance which any sheave or any other equipment mounted in or on the car crosshead projects above the top of the car crosshead, whichever is greater, but in no case shall there be less than 6 inches clearance above the equipment inclusive of guide shoe assemblies or gate posts for vertical sliding gates, mounted on the car top or in or on the car crosshead when the car has reached its maximum upward movement.

(3) **REFUGE SPACE ON TOP OF CAR ENCLOSURE.** [A17.1 107.1k] This is a department rule in addition to the requirements of A17.1 107.1K: Refuge space of 650 square inches shall be outlined by contrasting color and identified "Refuge Space" by 2-inch high letters on the top of all car enclosures.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.25 Horizontal car and counterweight clearances. [A17.1 108] Replace 108.1a with the following: The running clearance between the car and hoistway enclosure and any projection within the hoistway enclosure shall not be less than $\frac{3}{4}$ inch except on the sides used for loading and unloading.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.26 Hoistway-door locking devices, car door or gate electric contacts, hoistway access switches, and elevator parking devices. [A17.1 111] (1) **LOCATION AND DESIGN OF HOISTWAY DOOR UNLOCKING DEVICES.** [A17.1 111.9e] Substitute the following wording for A17.1 111.9e (2): The device shall be installed at all landings.

(2) **ACCESS TO HOISTWAYS FOR EMERGENCY PURPOSES.** [A17.1 111.10] Substitute the following wording for A17.1 111.10:

(a) The unlocking device operating key shall be located adjacent to the elevator disconnecting means located in the machine room. The key shall be identified and the following instructions shall be posted: "Place the disconnecting means in the off position and lock it, prior to using the hoistway door unlocking key."

(b) The machine room door key shall be kept in the building and shall be made available to emergency response personnel such as the fire department, police department, or other similar departments.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 2 — Machinery and Equipment for Electric Elevators

ILHR 18.27 Car enclosures, car doors and gates, and car illumination. [A17.1 204] (1) **TOP EMERGENCY EXITS.** [A17.1

204.1e (1) (c)] This is a department rule in addition to the requirements of A17.1 204.1e (1) (c): The top exit cover shall be hinged to open outward. The exit cover shall be openable only from the top of the car, where it shall be openable without the use of special tools. The exit cover of the lower compartment of a multi-deck elevator shall be openable from both compartments.

(2) **SIDE EMERGENCY EXITS.** [A17.1 204.2d] Substitute the following wording for A17.1 204.2d: Side emergency exits are not permitted in Wisconsin.

(3) **PASSENGER CAR DOORS AND GATES.** [A17.1 204.5] (a) *Type required.* [A17.1 204.5b] Substitute the following wording for A17.1 204.5b: In new buildings, horizontally sliding doors or gates subject to the restrictions of Rule 204.5c, shall be provided at each car entrance.

(b) *Vertical sliding doors or gates.* [A17.1 204.5 (c)] Substitute the following wording for A17.1 204.5 (c): Vertical sliding doors and gates on passenger elevators are not permitted for use in Wisconsin.

(4) **ILLUMINATION AND OUTLETS REQUIRED.** [A17.1 204.7a] Substitute the following wording for A17.1 204.7a (4): Each elevator shall be provided with an electric light fixture and at least one 120 volt, single phase, 15- or 20-ampere receptacle on the car top and on the underside of the car platform.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.28 Car and counterweight safeties. [A17.1 205] (1) **REQUIRED DROP TEST.** [A17.1 205] These are department rules in addition to the requirements of A17.1 205:

(a) *Drop test.* Every car safety device not previously approved by the department, shall be subjected to a drop test as outlined in this paragraph. The test shall be made at the risk and expense of the elevator manufacturer and witnessed by the department.

1. The test shall be made with the total load on the car safety device. The total load shall include the weight of the car structure, the safety device, the live load, and all appurtenances and devices attached to the car.

2. The free fall shall be such that the safety under test shall have attained the maximum governor tripping speed before the safety actuating device starts to function, except that where approval is desired for speeds greater than 280 feet per minute the governor tripping speed need not exceed 280 feet per minute.

3. The total drop from the starting point to rest for type B safeties shall not exceed 15 feet.

4. The application of the car safety device shall not cause the car platform to become out of level in excess of $\frac{1}{2}$ inch per foot in any direction.

5. A drop test made on a car safety device that is designed and constructed to trip by inertia, when set within the drop test requirements, shall be considered as satisfactory. The governor in connection with the above car safety device shall be tested separately to determine the tripping speed as required in A17.1 Table 205.3.

(b) *Plans and specifications.* Complete plans and specifications for every car safety device and speed governor to be tested shall be submitted to the department.

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(2) **GOVERNOR-ACTUATED SAFETIES AND CAR-SAFETY-MECHANISM SWITCHES REQUIRED.** [A17.1 205.7] Substitute the following wording for the first paragraph of Section A17.1 205.7 (a): Counterweight safeties, where provided, and car safeties shall be actuated by a separate speed governor.

(3) **MARKING PLATES FOR SAFETIES.** [A17.1 205.14] This is a department rule in addition to the requirements of A17.1 205.14: The manufacturer's identification, as designated on the approved plans required by s. ILHR 18.09, shall also be marked on the metal plate.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.29 Speed governors. [A17.1 206] (1) **SPEED GOVERNORS REQUIRED AND LOCATION.** [A17.1 206.1] Substitute the following wording for A17.1 206.1 (a): Counterweight safeties and car safeties shall be actuated by separate speed governors.

(2) **SPEED-GOVERNOR MARKING PLATE.** [A17.1 206.9] This is a department rule in addition to the requirements of A17.1 206.9: The manufacturer's identification, as designated on the approved plans required by s. ILHR 18.09, shall also be marked on the metal plate.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.30 Operating devices and control equipment. [A17.1 210] (1) **TOP-OF-CAR OPERATING DEVICE.** [A17.1 210.1d (4)] This is a department rule in addition to the requirements of A17.1 210.1d: Portable types shall be provided with hardware to securely mount it when not in use.

(2) **EMERGENCY STOP SWITCH.** [A17.1 210.2 (e)] (a) Substitute the following wording for the first paragraph of A17.1 210.2 (e): On all freight elevators, an emergency stop switch may be provided in the car, and located in or adjacent to each car operating panel. When opened, this switch shall cause the electric power to be removed from the elevator driving-machine motor and brake.

(3) **CAR SIDE-EMERGENCY-EXIT DOOR CONTACT SWITCHES.** [A17.1 210.2 (s)] Section A17.1 210.2 (s) does not apply in Wisconsin.

(4) **IN-CAR STOP SWITCH.** [A17.1 210.2 (v)] Substitute the following wording for A17.1 210.2 (v):

(a) On a passenger elevator, a switch which will stop a car at any speed shall not be located within the car.

(b) A door hold-open keyed or toggle switch shall be permitted provided it is rendered inoperative when the elevator is under the emergency control required by A17.1 211.3.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.31 Emergency operation and signaling devices. [A17.1 211] (1) **STANDBY EMERGENCY POWER.** [A17.1 211.2] This is a department note in addition to the requirements of A17.1 211.2:

Note: See s. ILHR 52.01 and the National Electrical Code, Article 517 as adopted under ch. ILHR 16 for special emergency standby power requirements for elevators in highrise buildings.

(2) **FIREFIGHTERS SERVICE-AUTOMATIC ELEVATORS.** [A17.1 211.3] This is a department rule in addition to the Register, March, 1994, No. 459

requirements of A17.1 211.3b: The lobby smoke detectors shall be visible and located within 15 feet from all elevator hoistway doors.

(3) **SWITCH KEYS.** [A17.1 211.8] This is a department rule in addition to the requirements of A17.1 211.8: An additional set of keys intended for use by the fire department, police department or emergency squad shall be kept in a metal box mounted in a conspicuous location at the designated floor or other approved level. The box shall have a lock-type cover which can be opened only by the fire department, police department or emergency squads.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 3 — Hydraulic Elevators

ILHR 18.32 Hoistways, hoistway enclosures, and related construction. [A17.1 300] (1) **MACHINE ROOMS AND MACHINERY SPACES.** [A17.1 300.2] Substitute the following wording for A17.1 300.2: Machine rooms and machinery spaces shall comply with the requirements of Rules 101.1 to 101.5 and 101.7.

(2) **MINIMUM BOTTOM AND TOP CAR RUNBY.** [A17.1 300.3b] This is a department rule in addition to A17.1 300.3b: Where existing pits are used, the bottom car clearance shall be maintained at a minimum of 24 inches; however, the minimum runby may be reduced as determined by the department.

(3) **EQUIPMENT PROJECTING ABOVE THE CAR TOP.** [A17.1 300.3e] Substitute the following wording for A17.1 300.3e: When a car reaches its maximum upward movement, all equipment, including guide shoe assemblies or gate posts for vertically sliding gates, attached to and projecting above the car top, shall be at least 6 inches from striking any parts of the overhead structure or any equipment located in the hoistway.

(4) **REFUGE SPACE ON TOP OF CAR ENCLOSURE.** [A17.1 300.3g] This is a department rule in addition to A17.1 300.3g: Refuge space of 650 square inches shall be outlined in contrasting colors and be identified "Refuge Space" by 2-inch high letters on top of all car enclosures.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.33 Driving machines. [A17.1 302] (1) **COLLECTION OF OIL LEAKAGE.** [A17.1 302.3g] Substitute the following wording for A17.1 302.3g: A drip ring or reservoir shall be provided at the packing gland of the cylinder to collect the oil leakage. Collected oil shall be automatically returned by a separate pumping unit to a reservoir located outside of the hoistway.

(2) **INSTALLATION BELOW GROUND.** [A17.1 302.3h] Substitute the following wording for A17.1 302.3h: A cylinder installed below ground shall be provided with a protective casing immune to galvanic or electrolytic action, salt water, and other known underground conditions, which completely surrounds the exterior surface of a cylinder.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.34 Anti-creep leveling devices. [A17.1 306.3 (a)] Substitute the following wording for A17.1 306.3 (a): It

shall maintain the car within 1/2 inch of the landing irrespective of the position of the hoistway door.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 4 — Power Sidewalk Elevators

ILHR 18.35 Scope. [A17.1 Part IV] This is a department rule in addition to A17.1 Part 4: A power sidewalk elevator shall not pierce a sidewalk, or be located within a building, and shall not be located in an area used by people or vehicles as a place of travel.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 5 — Private Residence Elevators

ILHR 18.36 Scope. [A17.1 Part V] Substitute the following wording for the A17.1 Part 5 Scope: Part 5 residential elevators complying with this part and as modified in ss. ILHR 18.361 to 18.40 may only be installed in places of worship built prior to the effective date of this section.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.361 Hoistways, hoistway enclosures and related construction. [A17.1 500] (1) HOISTWAY ENCLOSURE CONSTRUCTION. [A17.1 500.1] (a) Substitute the following wording for A17.1 500.1, first paragraph, last sentence: The fire-resistive rating shall be in accordance with the requirements of Rule 100.1.

(b) [A17.1 500.1] Section A17.1 500.1 (a) to (d) does not apply in Wisconsin.

(2) **PITS. [A17.1 500.2]** This is a department rule in addition to the requirements of A17.1 500.2: A level pit shall be provided to accommodate all elevator equipment, but the minimum pit depth shall not be less than 12 inches.

(3) **TOP CAR CLEARANCE. [A17.1 500.3]** Substitute the following wording for A17.1 500.3: The top car clearance shall be not less than 24 inches when the elevator reaches its maximum mechanical upward limit of travel.

(4) **PROTECTION OF HOISTWAY OPENINGS. [A17.1 500.4]** (a) *Hoistway gates. [A17.1 500.4]* This is a department rule in addition to the requirements of A17.1 500.4: As used in this part hoistway gates are prohibited.

(b) *Opening of hoistway doors or gates. [A17.1 500.4e]* Substitute the following wording for A17.1 500.4e: Hoistway doors shall comply with s. ILHR 18.362 (3).

(5) **PIPES IN HOISTWAYS. [A17.1 500.5]** Substitute the following wording for A17.1 500.5: An installation of a pipe or duct conveying gases, vapors or liquids in a hoistway, machine room or machinery space shall comply with Rule 101.2.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.362 Cars. [A17.1 501] (1) CAR FRAMES AND PLATFORMS. [A17.1 501.1] This rule is a department rule in addition to the requirements of A17.1 501.1: A car platform shall be protected against fire as specified in Rule 203.8.

(2) **CAR ENCLOSURE. [A17.1 501.2]** This rule is a department rule in addition to the requirements of A17.1 501.2: A car enclosure shall comply with Rules 204.1f and 204.2.

(3) **CAR DOORS AND GATES. [A17.1 501.4]** (a) *Construction. [A17.1 501.4 intro]* Substitute the following wording for A17.1 501.4 intro paragraphs: A car door or gate which, when closed, shall guard the full entrance opening and shall be provided at each entrance to the car. Car doors and collapsible car gates shall be of a solid design.

(b) *Power operation of car doors and gates. [A17.1 501.4a]* Substitute the following wording for A17.1 501.4a:

1. 'Car hoistway doors'. a. Except as specified in subd. b., hoistway doors shall be power-opening and self-closing and shall comply with Rule 112.2a (1).

b. Hoistway doors may be manual-opening and self-closing, if a minimum clear maneuverability space of 5 feet by 5 feet with a minimum of 18 inches of clear space at the latch side of the door is provided at each landing hoistway door. The maximum force for pushing or pulling open an interior hinged door shall not exceed 5 pounds of force. If the hoistway door is rated, the maximum force for pushing or pulling open the door shall not exceed the minimum force necessary to keep the door in the latched position.

2. 'Car gates.' Car gates shall be power-closing and power-opening and shall comply with the requirements of Rules 112.3, 112.5 and 112.6.

Note: See Appendix B for an example of the maneuverability space required at a hoistway opening with a swing door.

(c) *Car door or gate locking devices. [A17.1 501.4b]* Rule 501.4b is deleted and does not apply in Wisconsin.

(4) **LIGHT IN CAR. [A17.1 501.5]** Substitute the following wording for A17.1 501.5: Lights on cars shall comply with Rule 204.7.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.363 Location and guarding of counterweights. [A17.1 502.2] Substitute the following wording for A17.1 502.2: Counterweights shall be located in the hoistway of the elevator which they serve. Where the space below the hoistway is not permanently secured against access, counterweights shall comply with Section 109.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.364 Buffers and buffer supports. [A17.1 505.1] Rule 505.1 (c) is deleted and does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.365 Driving machines, sheaves and their supports. [A17.1 506] (1) HYDRAULIC DRIVING MACHINE. [A17.1 506.4] Substitute the following wording for the first paragraph of A17.1 506.4: Direct-plunger hydraulic driving machines shall conform to the requirements of Sections 302 and 303.

(2) **SCREW MACHINES. [A17.1 506.5]** Substitute the following wording for A17.1 506.5: Screw machines, where used, shall conform to the requirements of Section 1804, except that the rated speed shall not exceed 30 feet per minute.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.366 Stopping devices required. [A17.1 507.1] Substitute the following wording for A17.1 507.1 (c), the

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first paragraph: If the driving machine is of the sprocket and chain suspension type.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.367 Operating devices and control equipment. [A17.1 508] (1) KEY-OPERATED SWITCHES. [A17.1 508.3] Substitute the following wording for A17.1 508.3: Key-operation is prohibited, except a key switch may be used for any car which is exterior to a church built prior to the effective date of this section.

(2) EMERGENCY STOP SWITCH. [A17.1 508.7] Substitute the following wording for A17.1 508.7:

(a) An emergency stop switch, if provided, shall comply with the requirements of Rule 210.2 (e).

(b) A stop switch shall be provided on top of the car and shall comply with Rule 210.2 (h).

(3) *Slack-chain devices for roller-chain type driving machines.* [A17.1 508.8] Eliminate the entire first paragraph of Rule A17.1 508.8.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.368 Emergency signal. [A17.1 509.1] Substitute the following wording for A17.1 509.1: Emergency signal devices shall comply with Rule 211.1.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.369 Limitation of load, speed and rise. [A17.1 510] (1) CAPACITY. [A17.1 510.1] Substitute the following wording for A17.1 510.1: The rated load shall be at least 650 pounds or 40 pounds per square foot with a maximum load of 750 pounds. The net platform area shall not exceed 18 square feet and shall have a minimum clear width of 32 inches and a minimum clear length of 54 inches.

(2) SPEED. [A17.1 510.2] Substitute the following wording for A17.1 510.2: The rated speed shall not exceed 30 feet per minute.

(3) RISE. [A17.1 510.3] Substitute the following wording for A17.1 510.3: The rise shall be less than 25 feet.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.40 Suspension means. [A17.1 512] (1) SUSPENSION ROPES. [A17.1 512.2] Substitute the following wording for A17.1 512.2: Suspension ropes shall be not less than $\frac{3}{8}$ inches in diameter.

(2) FASTENING OF WIRE ROPE SUSPENSION MEANS TO CAR OR TO THE COUNTERWEIGHT. [A17.1 512.8] Substitute the following wording for A17.1 512.8: The fastening of a wire rope suspension means to a car or to a counterweight shall conform to the requirements of Rule 212.9.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.41 Private residence inclined elevators. [A17.1 513] Section 513 is deleted and does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 6 — Hand Elevators

Note: There are no changes, additions or omissions to A17.1 Part 6 Register, March, 1994, No. 459

Part 7 — Power Dumbwaiters

ILHR 18.42 Scope. [A17.1 Part 7] Substitute the following wording for A17.1 Part 7 Scope: This part applies to power dumbwaiters.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.43 Hoistways, hoistway enclosures and related construction. [A17.1 700] (1) CONSTRUCTION OF HOISTWAYS AND HOISTWAY ENCLOSURES. [A17.1 700.1 (d)] Substitute the following wording for A17.1 700.1 (d): Rule 100.3b and 100.6 do not apply in Wisconsin.

(2) LOCATION AND GUARDING OF COUNTERWEIGHTS. [A17.1 700.4] Substitute the following wording for A17.1 700.4: The requirements for the location and guarding of counterweights do not apply in Wisconsin.

(3) TYPES OF ENTRANCES. [A17.1 700.11b] Section A17.1 700.11b (2) does not apply in Wisconsin.

(4) CLOSING HOISTWAY DOORS OF HAND DUMBWAITERS. [A17.1 700.11c] Section A17.1 700.11c does not apply in Wisconsin.

(5) SIZE AND LOCATION OF HOISTWAY-DOOR OPENINGS. [A17.1 700.11d] Section A17.1 700.11d does not apply in Wisconsin.

(6) HOISTWAY-ACCESS DOORS. [A17.1 700.11e] This is a department rule in addition to A17.1 700.11e: Hoistway access door panels shall be provided with an electric contact to remove power to the driving means when the panel is not in the closed position.

(7) HOISTWAY-DOOR VISION PANELS. [A17.1 700.11h] Substitute the following wording for A17.1 700.11h: Vision panels not less than 4 square inches nor more than 12 square inches shall be provided in hoistway doors where position indicators are not provided. Vision panels shall be $\frac{1}{4}$ -inch clear wire glass mounted flush with the surface of the landing side of the door.

(8) HOISTWAY-DOOR LOCKING DEVICES. [A17.1 700.12b] Section A17.1 700.12b does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.44 Car doors and gates. [A17.1 701.5b] Section A17.1 701.5b (12) does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.45 Rated load and platform area. [A17.1 701.8a] Substitute the following wording for A17.1 701.8a: The maximum rated load shall not exceed 500 lbs. The inside net platform area shall not be more than 9 square feet.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 8 — Escalators

ILHR 18.46 General. [A17.1 805.1] These are department rules in addition to A17.1 805.1:

(1) HANDRAIL ENTRY DEVICE. A handrail entry device shall be provided at each newel. It shall operate in the handrail entry direction only, shall be of the manual reset type, and shall cause the escalator to stop by removing power from the driving machine motor and brake. It shall operate in either of 2 ways:

(a) If an object becomes caught between the handrail and the handrail guard; or

(b) If an object approaches the area between the handrail and handrail guard.

(2) COMB-STEP IMPACT DEVICES. Manual reset type devices shall be provided which cause the opening of the power circuit to the escalator driving machine motor and brake if either:

(a) A horizontal force in the direction of travel is applied exceeding 112 pounds of force at either side, or exceeding 225 pounds of force at the center of the front edge of the combplate; or

(b) A resultant vertical force in an upward direction is applied exceeding 150 pounds of force at the center of the front of the combplate.

(3) STEP LATERAL DISPLACEMENT DEVICE. In the event that a step is excessively displaced horizontally due to a failure in the lateral support system, a device shall be provided, on curved escalators, to cause the opening of the power circuit to the escalator driving machine motor and brake. The device shall be of the manually reset type.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 9 — Moving Walks

ILHR 18.47 General. [A17.1 905.1] This is a department rule in addition to A17.1 905.1:

(1) HANDRAIL ENTRY DEVICE. A handrail entry device shall be provided at each newel. It shall operate in the handrail entry direction only, shall be of the manual reset type, and shall cause the moving walk to stop by removing power from the driving machine motor and brake. It shall operate in either of 2 ways:

(a) If an object becomes caught between the handrail and the handrail guard; or

(b) If an object approaches the area between the handrail and the handrail guard.

(2) COMB-PALLET IMPACT DEVICES. Manual reset type devices shall be provided which will cause the opening of the power circuit to the moving walk driving machine motor and brake if either:

(a) A horizontal force in the direction of travel is applied exceeding 112 pounds of force at either side, or exceeding 225 pounds of force at the center of the front of the combplate; or

(b) A resultant vertical force in an upward direction is applied exceeding 150 pounds of force at the center of the front of the combplate.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 10 — Routine, Periodic and Acceptance Inspections and Tests

ILHR 18.48 Persons authorized to make inspections and tests. [A17.1 1000.1] **(1) GENERAL.** [A17.1 1000.1] Section A17.1 1000.1 does not apply in Wisconsin.

(2) PERIODIC INSPECTION AND TESTS. [A17.1 1000.1b] Substitute the following wording for A17.1

1000.1b: Periodic inspections and tests shall be performed by persons possessing a minimum of 2 years of elevator construction, elevator service or elevator inspection experience. Proof of experience qualifications shall be submitted to the department upon request. The department may require witnessing of inspections and tests or retests.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.49 Installation placed out of service. [A17.1 1000.3] Substitute the following wording for A17.1 1000.3:

(1) REMOVED FROM USE. Elevators reported as not being used shall not be subjected to the annual inspection provided the installation conforms with the following requirements:

(a) All hoistway landing doors or gates shall be securely sealed to prevent opening from the landings.

(b) The conductors shall be disconnected from the load side terminals of the machine room circuit-breaker or disconnect switch.

(c) The fuses shall be removed from the disconnect switchbox and it shall be sealed by the department.

(d) For hand elevators, in addition to sealing the hoistway doors or gates, the car platform shall be substantially blocked and the hoisting cables removed from the car crosshead.

(2) PUT BACK IN USE. Before the installation is put back in service, it shall be subject to the required annual inspection by [the] department.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.50 Inspection and test periods. [A17.1 1001.1] Substitute the following wording for A17.1 1001.1: The routine inspection and tests of passenger and freight electric elevators shall be made at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.51 Inspection and test periods. [A17.1 1002.1] Substitute the following wording for A17.1 1002.1: In addition to the routine inspections and tests specified under Rule 1001.2, the inspections and tests specified in Rule 1002.3 shall be made at intervals not longer than 5 years.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.52 One-year inspection and test requirements. [A17.1 1002.2] The following rules of A17.1 1002.2 do not apply in Wisconsin: 1002.2a Oil Buffers, 1002.2b Safeties, and 1002.2g Standby (Emergency) Power Operation.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.53 Five-year inspection and test requirements. [A17.1 1002.3] **(1) SAFETY AND GOVERNOR SYSTEMS.** [A17.1 1002.3a] (a) Substitute the following wording for the first sentence of A17.1 1002.3a: Types A, B and C car safeties and their governors shall be tested with rated load in the car.

(b) Substitute the following wording for the last paragraph of A17.1 1002.3a: A tag shall be fastened to the governor-releasing carrier upon completion of a satisfactory test of the car safety device and speed governor. Re-

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ports of tests as specified in A17.1 1002.3a shall be submitted to the department with complete information on form SB-2E. Tags shall be furnished by the department.

Note: See Appendix A for an example of the test report form SB-2E. Tags are available from the Safety and Buildings Division, P.O. Box 7969, Madison, Wisconsin 53707.

(2) EXEMPTIONS. The following rules of A17.1 1002.3 do not apply in Wisconsin: 1002.3c Oil Buffers, 1002.3d Brakes, and 1002.3e Standby (Emergency) Power Operation.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.54 Inspection and test periods. [A17.1 1004.1] Substitute the following wording for A17.1 1004.1: The routine inspection and tests of passenger and freight hydraulic elevators shall be made at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.545 Inspection and test requirements. [A17.1 1005.1] Substitute the following wording for A17.1 1005.1: Testing of the relief valve setting is not required unless the relief valve setting is altered or if the seal is broken. If the relief valve setting is altered or if the seal is broken, Rule 303.2a, Item 210.1b shall apply.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.55 Three-year inspection and test requirements. [A17.1 1005.3] Section A17.1 1005.3 does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.56 Inspection and test periods. [A17.1 1007.1] Substitute the following wording for A17.1 1007.1: The routine inspection and tests of escalators and moving walks shall be made at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.57 Sidewalk elevator. [A17.1 1010.1] Substitute the following wording for A17.1 1010.1 second sentence: Routine inspections shall be performed at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.58 Private residence elevators and lifts. [A17.1 1010.2] Section A17.1 1010.2 does not apply in Wisconsin.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.59 Hand elevators. [A17.1 1010.3] Substitute the following wording for A17.1 1010.3 second sentence: Routine inspections shall be performed at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.60 Special purpose personnel elevators. [A17.1 1010.6] Substitute the following wording for A17.1 1010.6 second sentence: Routine inspections shall be performed at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.61 Inclined elevators. [A17.1 1010.7] Substitute the following wording for A17.1 1010.7 second sentence: Routine inspections shall be performed at intervals not longer than one year.

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tence: Routine inspections shall be performed at intervals not longer than one year.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 11 — Engineering and Type Tests

Note: There are no changes, additions or omissions to A17.1 Part 11.

Part 12 — Alterations, Repairs, Replacements and Maintenance

ILHR 18.62 General requirements. [A17.1 1200] (1) CONFORMANCE WITH SAFETY CODE FOR EXISTING INSTALLATIONS. [A17.1 1200.1] Rule A17.1 1200.1 does not apply in Wisconsin.

(2) SUSPENSION ROPES. [A17.1 1200.4d] These are department rules in addition to the requirements of A17.1 1200.4d:

(a) When ropes are replaced, the replacement ropes shall be the same as those specified by the original elevator manufacturer or shall be of an equivalent strength, weight and design.

(b) The ropes of a given set shall be from the same manufacturer and of the same material, grade, construction and diameter.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.63 Requirements for alterations. [A17.1 1202 and 1203] (1) INCREASE OR DECREASE IN TRAVEL. [A17.1 1202.10a and 1203.4a] This is a department rule in addition to the requirements of A17.1 1202.10a and A17.1 1203.4a: Where the alteration involves an increase or decrease in travel and the final travel exceeds the heights specified in A17.1 211.3, the applicable requirements of A17.1 211.3 shall be complied with.

(2) ADDITION OF EMERGENCY RECALL AND EMERGENCY IN-CAR OPERATION. [A17.1 1202.13 and 1203.8h] These are department rules in addition to the requirements of A17.1 1202.13 and 1203.8h: Where phase I and II operation is installed, the installation shall conform to the following requirements:

(a) The phase I and II operation shall conform to the requirements of A17.1 211.3.

(b) Emergency stop switches on passenger elevators, if provided in the car, shall be removed.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.64 Making safety devices inoperative. [A17.1 1206.4] This is a department rule in addition to the requirements of A17.1 1206.4: Nonrequired safety-related devices installed on elevators or related equipment shall comply with the applicable provisions of this chapter.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.65 Maintenance of hydraulic elevators and dumbwaiters. [A17.1 1206.5b] Substitute the following wording for A17.1 1206.5b (5): A drip ring or reservoir shall be provided at the packing gland of the cylinder to collect the oil leakage. Collected oil shall be automatically

returned by a separate pumping unit to a reservoir located outside of the hoistway.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 13 — Design Data and Formulas

Note: There are no changes, additions or omissions to A17.1 Part 13.

Part 14 — Material Lifts and Dumbwaiters With Automatic Transfer Devices

Note: There are no changes, additions or omissions to A17.1 Part 14.

Part 15 — Special Purpose Personnel Elevators

Note: There are no changes, additions or omissions to A17.1 Part 15.

Part 16 — Reference Codes, Standards and Specifications

Note: There are no changes, additions or omissions to A17.1 Part 16.

Part 17 — Inclined Elevators

Note: There are no changes, additions or omissions to A17.1 Part 17.

Part 18 — Screw Column Elevators

Note: There are no changes, additions or omissions to A17.1 Part 18.

Part 19 — Elevators Used for Construction

Note: There are no changes, additions or omissions to A17.1 Part 19.

ILHR 18.67 Operation and operating devices. [A17.1 1901.2] This is a department rule in addition to the requirements of A17.1 1901.2: All elevators shall have an assigned operator while in use.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 20 — Inclined Stairway Chairlifts, and Inclined and Vertical Wheelchair Lifts

ILHR 18.68 Scope. [A17.1 Part 20 Scope] Substitute the following wording for A17.1 Part 20 Scope:

(1) **SCOPE.** This part applies to vertical wheelchair lifts and inclined wheelchair lifts installed in or at public buildings or places of employment and to stairway chairlifts installed in or at existing places of worship.

(2) **WHERE PERMITTED.** (a) *Vertical wheelchair lifts.* A vertical wheelchair lift complying with this chapter and s. ILHR 52.04 may be used to provide circulation between floor levels. Vertical wheelchair lifts shall be on an accessible route and the accessible route may not pass through an occupied room.

1. 'New construction.' A vertical wheelchair lift may be used in lieu of an elevator only under the following conditions:

a. To provide an accessible route to a performing area in an assembly occupancy.

b. To comply with the wheelchair viewing position line-of-sight and dispersion requirements.

c. To provide access to incidental occupiable spaces and rooms which are not open to the general public and which

house no more than five persons, including but not limited to equipment control rooms and projection booths.

d. To provide access where existing site constraints or other constraints make use of ramp or an elevator infeasible.

2. 'Existing construction.' A vertical wheelchair lift may be used as part of an accessible route in an existing building.

(b) *Inclined wheelchair lift.* 1. An inclined wheelchair lift may be used as a method of interior circulation between floor levels in an existing building.

2. The inclined wheelchair lift shall be on an accessible route and the accessible route shall not pass through a room.

3. The inclined wheelchair lift in its operational position shall not infringe into the required exit width for the stairway.

(c) *Stairway chairlift.* 1. A stairway chairlift complying with this chapter is prohibited for use [in a] public building or place of employment, except where the stairway chairlift is used in an existing place of worship to provide access between floor levels which is not required by chs. ILHR 50 to 64.

2. A stairway chairlift installed in a required exit stairway shall be installed such that the required exit width as specified in chs. ILHR 50 to 64 shall be provided in addition to the space required for the stairway chairlift in its operational position. The minimum clear width shall be measured from the side of the lift, in its operational position, to the nearest edge of the opposite handrail or stringer.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.69 Runway enclosure provided. [A17.1 2000.1a] (1) **VERTICAL SHAFT.** [A17.1 2000.1a] This rule is in addition to the requirements of A17.1 2000.1a: A vertical shaft shall be designed and constructed in accordance with chs. ILHR 50 to 64.

(2) **DOORS.** [A17.1 2000.1a (2)] These rules are in addition to the requirements of A17.1 2000.1a (2):

(a) *Door operation.* 1. Except as specified in subd. 2., hoistway doors shall be power-opening and self-closing and shall comply with Rule 112.2a (1).

2. Hoistway doors may be manual-opening and self-closing, if a minimum clear maneuverability space of 5 feet by 5 feet with a minimum of 18 inches of clear space at the latch side of the door is provided at each landing hoistway door. The maximum force for pushing or pulling open an interior hinged door shall not exceed 5 pounds of force. If the hoistway door is rated, the maximum force for pushing or pulling open the door shall not exceed the minimum force necessary to keep the door in the latched position.

Note: See Appendix B for an example of the maneuverability space required at a hoistway opening with a swing door.

(b) *Side entrances.* A side entrance to a lift is prohibited.

(c) *Lift operating keys and door unlocking device.* A set of lift operating keys and a door unlocking device which is intended for use by the fire department, police department

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or other authorized personnel in an emergency situation shall be located in a container marked "Emergency Lift Entry" and the container shall be adjacent to the lift on the main entrance level.

(d) *Vision panel.* A vision panel shall be provided in the hoistway door and shall be designed in accordance with Rules 110.7a and 110.7b.

(3) **RUNWAY ENTRANCE LOCKING DEVICE.** [A17.1 2000.1a (2)] Substitute the following wording for A17.1 2000.1a (2), 5th sentence: The locking device may permit the door to be opened only if the platform is within 1/2 inch of that landing.

(4) **OVERHEAD CLEARANCE.** [A17.1 2000.1a (3)] (a) This is a department rule in addition to the requirements of A17.1 2000.1a (3): A minimum overhead clearance of 6 feet 8 inches shall be provided between any point on the platform and the lowest overhead obstruction during the entire distance of travel.

(b) Substitute the following wording for the last sentence in A17.1 2000.1a (3): The locking device may permit the door to be opened only if the platform is within 1/2 inch of the landing.

(5) **RUNNING CLEARANCE.** [A17.1 2000.1a (6)] Substitute the following wording for A17.1 2000.1a (6): The running clearance between the platform and entrance and exit sides shall be not less than 3/8 inch nor more than 3/4 inch.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.70 Runway enclosure not provided. [A17.1 2000.1b] (1) **SIDE ENTRANCE.** [A17.1 2000.1b] This is a department rule in addition to the requirements of A17.1 2000.1b: A side entrance to a lift is prohibited.

(2) **RUNWAY ENTRANCE.** [A17.1 2000.1b (2)] Substitute the following wording for A17.1 2000.1b (2) the 5th sentence: The door may be opened only if the platform is within 1/2 inch of the upper landing.

(3) **ACCESS TO LOWER LANDING.** [A17.1 2000.1b (3)] Substitute the following wording for A17.1 2000.1b (3) the 4th sentence: The door may be opened only if the platform is within 1/2 inch of the lower landing.

(4) **HANDRAIL.** [A17.1 2000.1b (7)] Substitute the following wording for A17.1 2000.1b (7) the 3rd sentence:

(a) *Number and location.* At least one handrail shall be provided extending the full length of either side guard.

(b) *Height, size and spacing.* The top of the handrail shall be mounted between 34 inches and 38 inches above the floor. The diameter or width of the gripping surface of the handrail shall be 1-1/4 inches to 1-1/2 inches or the shape shall provide an equivalent gripping surface. The space between the wall and the handrail shall be 1-1/2 inches.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.71 Lower level access ramps and pits. [A17.1 2000.1e] Substitute the following wording for A17.1 2000.1e: A pit is not required. If a pit is not provided, a ramp shall be provided in accordance with the requirements for ramps in s. ILHR 52.04.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.
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ILHR 18.72 Cars and platforms. [A17.1 2000.6] Substitute the following wording for A17.1 2000.6c: The net platform area shall not exceed 18 square feet with a minimum clear width of 32 inches and a minimum clear length of 54 inches.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.73 Limitation of load, speed and travel. [A17.1 2000.7a] Substitute the following wording for A17.1 2000.7a: A vertical wheelchair lift shall comply with the following:

(1) **RATED LOAD.** The rated load shall be 750 pounds.

(2) **SUSTAINING AND LOWERING A LOAD.** The lift shall be capable of sustaining and lowering a load as specified in Rule 207.1.

(3) **RATED SPEED.** The rated speed shall not exceed 30 feet per minute.

(4) **TRAVEL DISTANCE.** The travel shall not exceed 12 feet.

(5) **NUMBER OF STOPS.** The lift shall have not more than 3 stops.

Note: See Appendix B for examples of vertical wheelchair lifts with a 3-stop design or a 2-stop design.

(6) **FLOOR PENETRATION.** The lift may penetrate one floor providing the following conditions are met:

(a) *Vertical shaft.* 1. A vertical shaft shall be designed and constructed in accordance with chs. ILHR 50 to 64.

2. To eliminate shear and pinch points, the lift shall be enclosed in a shaft which is continuous from the lowest landing to a minimum height of 42 inches above the upper landing. The requirements specified in Rule 2000.1a shall apply.

(b) *Doors to hoistways.* The doors to the hoistway [shall] comply with s. ILHR 18.69 (2).

(c) *Accessibility features.* The lift shall comply with s. ILHR 18.83 (5), (10), (11), (14), (15) and the following:

1. 'Hall call buttons.' Call buttons in lobbies and halls shall be centered at 42 inches above the floor. Call buttons shall be a minimum of 3/4 inch in the smallest dimension. Buttons shall be raised or flush. Objects beneath hall call buttons shall not project into the lift lobby more than 4 inches.

2. 'Car controls.' Lift control panels shall have the following features:

a. All control buttons or paddles shall be at least 3/4 inch in their smallest dimension. They shall be raised or flush.

b. All control buttons or paddles shall be designated by Braille and by raised standard alphabet characters for letters, Arabic characters for numerals, or standard symbols and as required by ASME A17.1-1990. Raised and Braille characters and symbols shall comply with s. ILHR 18.83 (5) (b) 2. The call button or paddle for the main entry floor shall be designated by a raised star at the left of the floor designation. All raised designations for control buttons shall be placed immediately to the left of the button to which they apply. Applied plates permanently attached

are an acceptable means to provide raised control designations.

c. All buttons or paddles shall be no higher than 48 inches above the finish floor. Emergency controls, including the emergency alarm and emergency stop shall be grouped at the bottom of the panel and shall have their centerlines no less than 35 inches above the finish floor.

d. Controls shall be located on a side wall of the lift.

Note: See Appendix B for examples of accessible car controls.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.74 Operating devices and control equipment. [A17.1 2000.10] (1) KEY OPERATION. [A17.1 2000.10a] Substitute the following wording for A17.1 2000.10a:

(a) Key operation of a lift is prohibited. If an entrance to a lift is to the exterior of a building, the owner may lock the lift entrance when the building is not occupied by the public or employes, providing written approval is given by the department.

(b) Operation of the lift shall be by continuous-pressure.

(2) ATTENDANT OPERATION. [A17.1 2000.10b] A17.1 2000.10b does not apply in Wisconsin.

(3) EMERGENCY SIGNALS. [A17.1 2000.11] This is a department rule in addition to the requirements of A17.1 2000.11: If the lift is installed in an area not visible to personnel at all times, emergency signaling devices shall be provided in accordance with the requirements of Rules 211.1 (a) and 211.1 (b).

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.75 Means of egress. [A17.1 2001.1a] Substitute the following wording for A17.1 2001.1a:

(1) LOCATIONS. An inclined wheelchair lift may be installed in a public building or place of employment only as permitted by the applicable provisions of s. ILHR 52.04.

(2) INCLINED WHEELCHAIR LIFT INSTALLED IN A REQUIRED EXIT STAIRWAY. An inclined wheelchair lift installed in a required exit stairway shall be installed such that the required exit width as specified in chs. ILHR 50 to 64 shall be provided in addition to the space required for the lift in its operational position. The clear width of a stairway shall be measured from the side of the inclined wheelchair lift guard, in its operational position, to the nearest edge of the opposite handrail or stringer.

(3) INCLINED WHEELCHAIR LIFT INSTALLED IN A NONREQUIRED STAIRWAY. An inclined wheelchair lift installed in a nonrequired stairway shall comply with the following:

(a) Where less than 24 inches of clear stairway area, measured from the side of the inclined wheelchair lift or guard adjacent to the lift to the nearest edge of the opposite handrail or stringer, is provided in addition to the inclined wheelchair lift in its operational position, the entire stairway shall not be used by pedestrians. Gates, guardrails, barriers and similar devices shall be used to prevent the use of the stairway by pedestrians.

(b) Where a minimum of 24 inches of clear stairway area, measured from the side of the inclined wheelchair lift guard, in its operational position, to the nearest edge of

the opposite handrail or stringer, is provided and the stairway area is guarded in accordance with s. ILHR 18.76 (2), the stairway may be used by pedestrians.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.76 Clearances. [A17.1 2001.1b] These are department rules in addition to the requirements of A17.1 2001.1b:

(1) LIFTS INSTALLED ON STAIRWAYS. An inclined wheelchair lift shall be installed on a stairway.

(2) GUARDING. Guarding shall be provided to comply with the following:

(a) Solid guarding shall be provided between the lift runway and the stairway usable by pedestrians.

(b) The guarding shall have no openings and shall be of sufficient height to prevent any pinching or shearing points.

(c) On a stairway having less than 24 inches of clear space for pedestrians, the guarding shall be continuous so that the stairway cannot be used by pedestrians.

(3) OVERHEAD CLEARANCE. A minimum overhead clearance of 6 feet 8 inches shall be provided between any point on the platform and the lowest overhead obstruction during the entire distance of travel.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.77 Cars and platforms. [A17.1 2001.6] (1) CONSTRUCTION. [A17.1 2001.6a] Substitute the following wording for A17.1 2001.6a (2): The platform area of a lift shall have a minimum clear width of 32 inches and a minimum clear length of 54 inches. The net inside platform area shall not exceed 18 square feet.

(2) PLATFORM GUARDING. [A17.1 2001.6c] (a) *General.* [A17.1 2001.6c intro paragraph] Substitute the following wording for A17.1 2001.6c intro paragraph: Platform guarding shall be in accordance with Rule 2001.6c (1).

(b) *Roll off protection.* [A17.1 2001.6c (2)] 1. A17.1 2001.6c (2) the first sentence does not apply in Wisconsin.

2. Substitute the following wording for A17.1 2001.6c (2), second paragraph: A retractable metal guard at least 6 inches high shall be provided on the upper access end for units complying with A17.1 2001.6c (1) and (2). When in use, the incline of the ramp shall not be greater than:

a. 1 in 6 for heights up to 2 1/2 inches.

b. 1 in 8 for heights greater than 2 1/2 inches and less than 3 inches.

c. 1 in 12 for heights 3 inches or greater.

(3) HAND GRIP. Substitute the following wording for A17.1 2001.6c (2), third paragraph: A hand grip shall be provided at a height of not less than 36 inches from the platform on the sides not used for access or exit.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.79 Capacity, load, speed and angle of inclination. [A17.1 2001.7] These are department rules in addition to the requirements of A17.1 2001.7:

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(1) **LIMITATION ON TRAVEL.** An inclined wheelchair lift shall be limited to serve 3 stops and 2 consecutive stories.

(2) **VISIBILITY.** The lift shall be visible from all landing control stations during its entire length of travel.

(3) **RATED LOAD.** The rated load shall be 750 pounds.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.80 Stairway chairlift runways. [A17.1 2002.1] (1) STAIRWAY CHAIRLIFT INSTALLED IN A REQUIRED EXIT STAIRWAY. A stairway chairlift installed in a required exit stairway shall be installed such that the required exit width as specified in chs. ILHR 50 to 64 shall be provided in addition to the space required for the stairway chairlift in its operational position. The clear width of the stairway shall be measured from the side of the lift in its operational position to the nearest edge of the opposite handrail or stringer.

(2) **STAIRWAY CHAIRLIFT INSTALLED IN A NONREQUIRED EXIT STAIRWAY.** A stairway chairlift installed in a nonrequired exit stairway shall have not less than 24 inches of clear stairway area provided in addition to the lift in its operational position. The clear width of the stairway shall be measured from the side of the lift in its operational position to the nearest edge of the handrail or stringer.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

ILHR 18.81 Capacity, speed and angle of inclination. [A17.1 2002.7] These are department rules in addition to the requirements of A17.1 2002.7:

(1) **LIMITATION ON TRAVEL.** An inclined stairway chairlift shall be limited to serve 3 stops and 2 consecutive stories.

(2) **OVERHEAD CLEARANCE.** A minimum overhead clearance of 6 feet 8 inches shall be provided between any point on the footrest and the lowest overhead obstruction during the entire distance of travel.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Part 21 — Private Residence Inclined Stairway Chairlifts, and Inclined and Vertical Wheelchair Lifts

ILHR 18.82 Private residence lifts. [A17.1 Part 21] The entire A17.1 Part 21 does not apply in Wisconsin, since a private residence lift is not permitted to be installed in a public building or place of employment.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Subchapter IV — Accessibility Requirements for Elevators

ILHR 18.83 Accessibility requirements for elevators. (1) GENERAL. An accessible elevator shall be on an accessible route and shall comply with this subchapter and with subchapter III. A freight elevator shall not be considered as meeting the requirements of this section. All accessibility modifications to an existing elevator installation shall comply with the applicable requirements of this section.

(2) **AUTOMATIC OPERATION.** Elevator operation shall be automatic. Each car shall be equipped with a self-leveling feature that will automatically bring the car to floor landings within a tolerance of $\frac{1}{2}$ inch with rated loading to zero

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loading conditions. This self-leveling feature shall be automatic and independent of the operating device and shall correct the overtravel or undertravel.

(3) **HALL CALL BUTTONS.** Call buttons in elevator lobbies and halls shall be centered at 42 inches above the floor. Such call buttons shall have visual signals to indicate when each call is registered and when each call is answered. Call buttons shall be a minimum of $\frac{3}{4}$ inch in the smallest dimension. The button designating the up direction shall be on top. Buttons shall be raised or flush. Objects beneath hall call buttons shall not project into the elevator lobby more than 4 inches.

Note: See Appendix B for an illustration of a hoistway and elevator entrance.

(4) **HALL LANTERNS.** A visible and audible signal shall be provided at each hoistway entrance to indicate which car is answering a call. Audible signals shall sound once for the up direction and twice for the down direction or shall have verbal annunciators that say "up" or "down." Visible signals shall have the following features:

(a) Hall lantern fixtures shall be mounted so that their centerline is at least 72 inches above the lobby floor.

(b) Visual elements shall be at least $2\frac{1}{2}$ inches in the smallest dimension.

(c) Signals shall be visible from the vicinity of the hall call button. In-car lanterns, visible from the vicinity of hall call buttons, and conforming to pars. (a) and (b), shall be acceptable in lieu of pars. (a) and (b).

Note: See Appendix B for an illustration of a hoistway and elevator entrance.

(5) **RAISED AND BRAILLE CHARACTERS ON HOISTWAY ENTRANCES.** All elevator hoistway entrances shall have raised and Braille floor designations provided on both jambs.

(a) The centerline of the characters shall be 60 inches above finish floor.

(b) The characters shall be 2 inches high and shall comply with the following:

1. Letters and numerals shall be raised $\frac{1}{32}$ inch, upper case, sans serif or simple serif type and shall be accompanied with Grade 2 Braille.

2. Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram. The border dimension of the pictogram shall be 6 inches minimum in height.

(c) Permanently applied plates are acceptable if they are permanently fixed to the jambs.

Note: See Appendix B for an illustration of a hoistway and elevator entrance.

(6) **DOOR PROTECTIVE AND REOPENING DEVICE.** Elevator doors shall open and close automatically. The doors shall be provided with a reopening device that will stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or a person. The device shall be capable of completing these operations without requiring contact for an obstruction passing through the opening at heights of 5 inches and 29 inches, plus or minus

one inch, above finish floor. Door reopening devices shall remain effective for at least 20 seconds. After such interval, doors may close in accordance with the requirements of A17.1 Rule 112.3.

Note: See Appendix B for an illustration of a hoistway and elevator entrance.

(7) DOOR AND SIGNAL TIMING FOR HALL CALLS. The minimum acceptable time from notification that a car is answering a call until the doors of that car start to close shall be calculated from the following equation:

$$T = D/(1.5 \text{ ft/s}) \text{ or } T = D/(445 \text{ mm/s})$$

where T total time in seconds and D distance, in feet or millimeters, from a point in the lobby or corridor 60 inches directly in front of the farthest call button controlling that car to the centerline of its hoistway door. For cars with in-car lanterns, T begins when the lantern is visible from the vicinity of the hall call buttons and an audible signal is sounded. The minimum acceptable notification time shall be 5 seconds.

Note: See Appendix B for graph of timing equation.

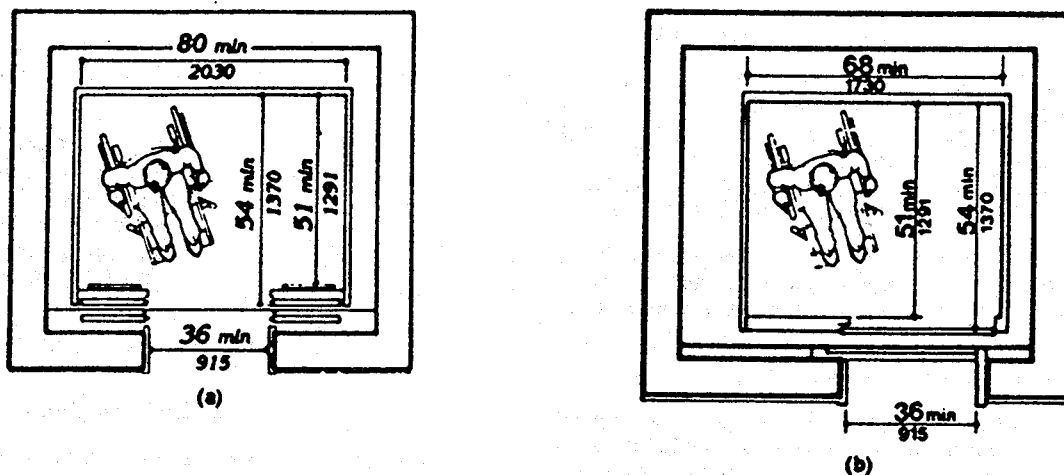
(8) DOOR DELAY FOR CAR CALLS. The minimum time for elevator doors to remain fully open in response to a car call shall be 3 seconds.

(9) FLOOR PLAN OF ELEVATOR CARS. (a) *New construction.* 1. Except as provided in subd. 2., the floor area of elevator cars installed in new construction shall provide space for wheelchair users to enter the car, maneuver within reach of controls, and exit from the car. Acceptable door opening and inside dimensions shall be as shown in Figure 18.83-A. The clearance between the car platform sill and the edge of any hoistway landing shall be no greater than 1-1/4 inch.

2. When elevators are provided in health care facilities, including medical clinics, and in all buildings over 3 stories in height, at least one elevator shall have the combination of car size and door opening which accommodates a 76 inch by 24 inch ambulance type stretcher in the horizontal position with no tilting at any time.

(b) *Existing construction.* If an elevator is installed in an existing building and the car size specified in par. (a) cannot be provided, the minimum clear platform size shall be not less than 36 inches wide by 54 inches in length, with a minimum area of 13.5 square feet. Information shall be submitted with the elevator plans justifying why the larger size elevator cannot be installed.

FIGURE 18.83-A



Minimum Dimensions of Elevator Cars

(10) FLOOR SURFACES. Floor surfaces shall comply with the following:

(a) A change in level up to 1/4 inch may be vertical and without edge treatment. A change in level between 1/4 inch and 1/2 inch shall be beveled with a slope no greater than 1:2. A change in level greater than 1/2 inch shall be accomplished by means of a ramp with a slope of not less than 1:12.

(b) If carpet or carpet tile is used on a ground or floor surface, then it shall be securely attached; have a firm cushion, pad, or backing, or no cushion or pad; and have a level loop, textured loop, level cut pile, or level cut/uncut

pile texture. The maximum pile thickness shall be 1/2 inch. Exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire length of the exposed edge. Carpet edge trim shall comply with par. (c).

(c) A change in level up to 1/4 inch may be vertical and without edge treatment. A change in level between 1/4 inch and 1/2 inch shall be beveled with a slope no greater than 1:2. A change in level greater than 1/2 inch shall be accomplished by means of a ramp that complies with par. (a).

(d) If gratings are located in walking surfaces, then the gratings shall have spaces no greater than 1/2 inch wide in one direction. If gratings have elongated openings, then

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the gratings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

Note: See Appendix B for examples of changes in levels and examples of carpet pile thickness, gratings and grating orientation.

(11) **ILLUMINATION LEVELS.** The level of illumination at the car controls, platform and car threshold and landing sill shall be at least 5 foot-candles.

(12) **CAR CONTROLS.** Elevator control panels shall have the following features:

(a) *Buttons.* All control buttons shall be at least $\frac{3}{4}$ inch in their smallest dimension. The buttons shall be raised or flush.

(b) *Tactile, braille, and visual control indicators.* All control buttons shall be designated by Braille and by raised standard alphabet characters for letters, Arabic characters for numerals, or standard symbols and as required in ASME A17.1-1990. Raised and Braille characters and symbols shall be at least $\frac{5}{8}$ inch high. The call button for the main entry floor shall be designated by a raised star at the left of the floor designation. All raised designations for control buttons shall be placed immediately to the left of the button to which they apply. Applied plates permanently attached are an acceptable means to provide raised control designations. Floor buttons shall be provided with visual indicators to show when each call is registered. The visual indicators shall be extinguished when each call is answered.

Note: See Appendix B for examples of accessible car controls.

(c) *Height.* All floor buttons shall be no higher than 54 inches above the finish floor for side approach and 48 inches for front approach. Emergency controls, including the emergency alarm and emergency stop, shall be grouped at the bottom of the panel and shall have their centerlines no less than 35 inches above the finish floor.

(d) *Location.* Controls shall be located on a front wall if cars have center opening doors, and at the side wall or at the front wall next to the door if cars have side opening doors.

Note: See Appendix B for examples of car controls.

(13) **CAR POSITION INDICATORS.** In elevator cars, a visual car position indicator shall be provided above the car control panel or over the door to show the position of the elevator in the hoistway. As the car passes or stops at a floor served by the elevators, the corresponding numerals shall illuminate and an audible signal shall sound. Numerals shall be a minimum of $\frac{1}{2}$ inch high. The audible signal shall be no less than 20 decibels with a frequency no higher than 1500 Hz. An automatic verbal announcement of the floor number at which a car stops or which a car passes may be substituted for the audible signal.

(14) **EMERGENCY COMMUNICATIONS.** If provided, emergency two-way communication systems between the elevator and a point outside the hoistway shall comply with ASME A17.1, Rule 211.1. The highest operable part of a two-way communication system shall be a maximum of 48 inches from the floor of the car. It shall be identified by a raised symbol and lettering complying with sub. (5) (b) 2. and located adjacent to the device. If the system uses a

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handset, then the length of the cord from the panel to the handset shall be at least 29 inches. If the system is located in a closed compartment, the compartment door hardware shall comply with sub. (15). The emergency intercommunication system shall not require voice communication.

(15) **CONTROLS AND OPERATING MECHANISMS.** Controls and operating mechanisms shall comply with the following:

(a) *Clear floor space.* Clear floor space which allows for a forward or parallel approach by a person using a wheelchair shall be provided in accordance with the following:

1. 'Forward reach.' If the clear floor space only allows a forward approach to the controls, the maximum high forward reach allowed shall be 48 inches. If the high forward reach is over an obstruction, the reach range shall be 44 inches maximum.

2. 'Side reach.' If the clear floor space allows a parallel approach by a person in a wheelchair, the maximum high side reach allowed shall be 54 inches and the low side reach shall be no less than 9 inches above the floor. If the side reach is over an obstruction, the reach and clearances shall be a maximum of 46 inches.

(b) *Operation.* Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist. The force required to activate controls shall be no greater than 5 pounds per foot.

(16) **HANDRAILS.** (a) *Number and location.* A handrail shall be provided on one wall of the car, preferably the rear.

(b) *Height, size and spacing.* The top of the handrail shall be mounted between 34 inches and 38 inches above the car floor. The diameter or width of the gripping surface of the handrail shall be $1\frac{1}{4}$ inches to $1\frac{1}{2}$ inches or the shape shall provide an equivalent gripping surface. The space between the wall and the handrail shall be $1\frac{1}{2}$ inches.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.

Subchapter V — Limited-use Elevators

ILHR 18.85 Limited-use elevators. (1) **SCOPE.** This subchapter applies to limited-use elevators installed in or at existing public buildings or places of employment to provide circulation between floor levels.

(2) **WHERE PERMITTED.** A limited-use elevator may be installed in an existing public building or place of employment to provide vertical circulation between floor levels.

(3) **HOISTWAY ENCLOSURE.** Hoistway enclosure construction shall be in accordance with the requirements of A17.1, Section 100 and the applicable sections of chs. ILHR 50 to 64 which reference vertical shaft construction.

(4) **MACHINE ROOMS.** A separate machine room shall be provided and shall comply with A17.1, Section 101.

(5) **ELECTRICAL.** All electrical equipment and wiring shall comply with A17.1, Section 102.

(6) **LOCATION AND GUARDING OF COUNTERWEIGHTS.** The location and guarding of counterweights shall conform to the requirements of A17.1, Section 103.

(7) **GUARDING OF EXPOSED AUXILIARY EQUIPMENT.** The guarding of exposed auxiliary equipment shall conform to the requirements of A17.1, Section 104.

(8) **MACHINERY AND SHEAVE BEAMS, SUPPORTS AND FOUNDATIONS.** Machinery and sheave beams, supports and foundations shall conform to the requirements of A17.1, Section 105.

(9) **PITS.** (a) *General.* A pit shall be installed in accordance with A17.1, Section 106 and s. ILHR 18.23.

(b) *Floor level.* If a pit is created over an existing floor and the floor of the limited-use elevator is not at the same level as the floor level, then a level platform complying with s. ILHR 52.04 (9) shall be provided at the entrance to the unit. The ramp to the level platform area shall comply with the applicable provisions of s. ILHR 52.04.

(10) **BOTTOM CAR CLEARANCES.** (a) Except as specified in pars. (b) and (c), the bottom car clearances shall comply with A17.1, Section 107.

(b) When the car rests on its compressed buffer, no part of the car or equipment attached thereto shall strike the pit or any part of the equipment located therein.

(c) The bottom runby of uncounterweighted elevators shall be not less than 3 inches.

(11) **TOP CAR CLEARANCE.** The top car clearance shall be not less than 24 inches when the car has reached its maximum limit of upward travel including a minimum of 3 inches to a maximum of 6 inches of runby.

(12) **HORIZONTAL CAR CLEARANCES.** Horizontal car clearances shall comply with A17.1, Section 108 and s. ILHR 18.25.

(13) **PROTECTION OF SPACES BELOW HOISTWAYS.** The protection of spaces below hoistways shall conform to the requirements of A17.1, Section 109.

(14) **PROTECTION OF HOISTWAY OPENINGS.** (a) *General.* Except as specified in par. (d), the protection of hoistway openings shall comply with A17.1, Section 110.

(b) *Hoistway door.* A hoistway door shall comply with s. ILHR 18.26.

(c) *Swing door.* Where a limited-use elevator is used which has a swing type door, the door shall not swing into or obstruct the required exit passageway.

(d) *Exceptions.* 1. The entrances specified under A17.1 Rule 110.2 shall be of the horizontal slide or single section swing type.

2. A17.1 Rules 110.10c, 110.10d, 110.12, 110.13e and 110.15c do not apply.

(15) **HOISTWAY DOOR LOCKING DEVICES AND ELECTRICAL CONTACTS.** (a) Except as specified in par. (b), hoistway door locking devices, hoistway door and car door electric contacts and hoistway access switches shall conform to the requirements of A17.1, Section 111 and s. ILHR 18.26.

(b) Hoistway-unit system combination mechanical locks and electric contacts specified under A17.1 Rule 111.1b are not permitted.

(c) Truck zoning devices as specified in A17.1 Rules 111.3a (1) and 111.5a (1) are not permitted.

(d) A17.1 Rule 111.4 does not apply.

(e) A17.1 Rule 111.9c (2) does not apply, since the car cannot be operated at a speed greater than 30 feet per minute.

(f) The 18 inch dimension as specified in A17.1 Rule 111.12 for the unlocking zone shall be reduced in accordance with sub. (24).

(16) **POWER OPERATION OF HOISTWAY DOORS AND CAR DOORS.** (a) Except as specified in par. (b), car doors shall be power-opening and power-closing and hoistway doors shall be power-opening and may be self-closing. The car doors and hoistway doors shall also comply with the requirements of A17.1, Section 112.

(b) A17.1 Rules 112.2b (3), 112.3b and 112.3d do not apply.

(17) **CLEARANCE BETWEEN HOISTWAY DOORS AND LANDING SILLS AND CAR DOORS.** The clearance between the hoistway doors and the hoistway edge of the landing sill shall not exceed 1/4-inch. The distance between the hoistway face of the landing door and the car door or gate shall not exceed 2-1/4 inches.

(18) **SAFETY FACTOR.** All component parts of a limited-use elevator shall have a safety factor of at least 5 when the unit is in its normal use configuration.

(19) **CAR AND COUNTERWEIGHT GUIDE RAILS.** (a) Except as specified in par. (b), car and counterweight guide rails, guide rail supports and fastenings shall conform to the requirements of A17.1, Section 200.

(b) 1. The same set of guide rails may be used for both car and counterweight.

2. A17.1 Rules 200.3 (a) and 200.3 (b) (1) do not apply. Guide rails, supports, joints, fishplates and fastenings which are not covered by Section 200 may be used, provided that the strengths, stresses and deflections are consistent with the requirements of A17.1, Section 200 for the loads imposed.

3. Where guide rail sections other than those specified in A17.1 Rule 200.3 (a) are used:

a. Rules 200.7b and 200.10b do not apply.

b. The rail joints shall be designed in accordance with Rule 200.5a and shall adequately maintain the accuracy of the rail alignment.

c. The allowable deflection of the guide rail shall be limited to prevent the safety device from disengaging the rail during application of the load.

(20) **CAR AND COUNTERWEIGHT BUFFERS.** Car and counterweight buffers shall comply with A17.1, Section 201.

(21) **COUNTERWEIGHTS.** Counterweights where used shall comply with A17.1, Sections 103 and 202.

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(22) INDEPENDENT CAR COUNTERWEIGHTS. A17.1 Rule 202.1d applies, except that the counterweight may utilize the same guide rails as the car.

(23) CAR FRAMES AND PLATFORMS. Car frames and platforms shall comply with A17.1, Section 203.

(24) PLATFORM GUARDS. Platform guards shall be provided and shall be equal to the leveling zone plus 3 inches.

(25) CAR ENCLOSURE. Car enclosures shall comply with A17.1, Section 204 and s. ILHR 18.27.

(26) CAR SAFETIES. (a) Except as provided in par. (c), car and counterweight safeties shall comply with A17.1, Section 205 and s. ILHR 18.28.

(b) The force providing the stopping action shall conform to the requirements of Rule 205.9d or the following: Where guide rail sections other than those specified in Rule 200.3a are used, the application of safety stopping forces shall not cause deformation of the guide rail section [upon] whose dimensional stability the stopping capability is dependent.

(c) Car and counterweight safety devices shall be actuated by over speed governors complying with A17.1, Section 206.

(27) DRIVING MACHINE SHEAVES. Driving machines, sheaves and their supports shall comply with A17.1, Section 208.

(28) CAPACITY. (a) *Capacity or rated load.* The capacity or rated load shall be at least 750 pounds with a minimum of 80 pounds per square foot, but in no case shall the capacity or rated load exceed 1500 pounds.

(b) *Capacity plate.* The capacity plate and data plate shall comply with A17.1 Rule 207.3.

(c) *Exceptions.* A17.1 Rules 207.1a and 207.1b do not apply.

(29) MAXIMUM PLATFORM AREA. The maximum platform area shall not exceed 18.9 square feet and shall have a

minimum clear dimension of 36 inches in width and 54 inches in length.

(30) RATED SPEED. The rated speed of these units shall not exceed 30 feet per minute.

(31) TRAVEL DISTANCE. The total travel distance shall be less than 25 feet.

(32) TYPES OF DRIVING MACHINES. The following driving machines are acceptable for installation:

(a) Traction complying with A17.1 Rule 208;

(b) Direct plunger hydraulic and roped hydraulic complying with the applicable sections of A17.1 Rule 300;

(c) Rack and pinion complying with A17.1 Rule 1600.

(33) TERMINAL STOPPING DEVICE. Terminal stopping devices shall comply with A17.1, Section 209.

(34) OPERATING DEVICES. Operating devices and control equipment shall be automatic and comply with A17.1, Section 210 and s. ILHR 18.30.

(35) EMERGENCY SIGNAL DEVICES. Emergency signaling devices shall comply with A17.1 Rule 211.1.

(36) SUSPENSION MEANS. (a) Except as specified in par. (b), the suspension means shall comply with A17.1, Section 212.

(b) 1. The minimum factor of safety as specified in Rule 213.3 shall not be less than 7.0.

2. Approved wire rope may be used.

(37) HYDRAULIC LIMITED-USE ELEVATORS. Hydraulic type limited-use elevators shall comply with A17.1, Part III and ss. ILHR 18.32 to 18.34.

(38) ACCESSIBILITY REQUIREMENTS. Limited-use elevators shall comply with the accessibility requirements specified in s. ILHR 18.83.

History: Cr. Register, March, 1994, No. 459, eff. 4-1-94.