Filed July 24, 1970
11:00 am

Ind 4

STATE OF WISCONSIN)
) SS.
DEPARTMENT OF INDUSTRY,)
LABOR AND HUMAN RELATIONS)

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Stephen J. Reilly, Executive Secretary of the Department of Industry, Labor and Human Relations, and custodian of the official records of said Department, do hereby certify that the attached rules to Wisconsin Administrative Code Chapter 4, Elevator were adopted by the Department of Industry, Labor and Human Relations on July 21, 1970.

I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof and of the whole of such original.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed the official seal of the Department at the Capitol, in the City of Madison, this 22 day of July, A. D., 1970.

Executive Secretary

ORDER OF THE

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

Pursuant to authority vested in the Department of Industry, Labor and Human Relations by section 101.01 to 101.29 Wis. Stats., the Department of Industry, Labor and Human Relations hereby repeals, recreates and adopts Chapter 4, Elevator, Wisconsin Administrative Code.

The rules attached hereto shall become effective on the first day of the month following publication in the Wisconsin Administrative Code as provided in Section 227.

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

Stephen J. Reilly, Executive Secretary

DEPARTMENT OF INDUSTRY, LABOR AND HUMAN RELATIONS

TO: Revisor of Statutes
Secretary of State

FROM: Stephen J. Reilly, Executive Secretary
Dept. of Industry, Labor & Human Relations

This is to notify you that the Department of Industry, Labor and Human Relations is authorizing you to make a correction change on your certified copy of Revisions to Wis. Adm. Code, Chapter 4, Elevator, adopted by the Department on 22nd of July, A.D., 1970. The correction to be made is as follows:

Subsection Ind 4.001 (25) is amended to read:

should read:

Subsection Ind 4.001 (25) (intro-par) is amended to read:

Stephen J. Reilly, Executive Secretary

August 4, 1970

Final
7/7/70

Revisions
to
Wisconsin Administrative Code
Chapter 4, Elevator

Subsection Ind 4.001 (14) is repealed and recreated to read:

(14) Clearance, Top Car. Top clearance of the elevator car is the shortest vertical distance between the lowest part of the overhead structure or any other overhead obstruction, directly above the car and the uppermost point of the elevator car and its appurtenances except, guide shoes, leveling devices, car gate posts and car door or gate opening and closing linkage.

NOTE: The intent is to restrict any further exceptions other than noted above. For overhead height see Section Ind 4.001 (59).

(a) Clearance, Top Counterweight. The top counterweight clearance of every powered elevator is the vertical distance from the top uppermost part of the counterweight structure, except guide shoes, to the lowest point of the overhead structure or any other overhead obstruction, directly above the counterweight in the elevator's related hoistway when the car is resting on its buffers at their extreme mechanical down limit of travel.

7/28/70 Dahl. intro. par.

Subsection Ind 4.001 (25) is amended to read:

(25) Elevator. "A hoisting and lowering mechanism equipped with a car or platform which moves in guides in a substantially vertical direction and which serves two or more landings of a building or structure."

Subsection Ind 4.001 (25)(d) is repealed and recreated to read:

(d) Gravity Elevator. An elevator utilizing gravity to move the car.

Subsection Ind 4.001 (29)(a) is repealed and recreated to read:

(a) Landing. See Section Ind 4.001 (58).

Subsection Ind 4.001 (58) is amended to read:

(58) Landing. That portion of a floor, balcony, or platform used to receive and discharge passengers or freight.

(a) Terminal. The highest and lowest landing served by the elevator.

Subsection Ind 4.001 (59) is created to read:

(59) Overhead Height. The overhead height of an elevator is the vertical distance from the top terminal landing level to the lowest point of the overhead structure or any other overhead obstruction directly above the car in the elevator's related hoistway.

Section Ind 4.04 is repealed and created to read:

Ind 4.04 Approval of plans. (1) Every manufacturer, manufacturer's representative or distributor who furnishes elevator, power dumbwaiter, material handling elevator, moving walk, moving ramp or escalator equipment, shall submit three complete plans (See Subsection Ind 4.04 (3)) with two completed copies of Form SB-22 "Application for Erection or Remodeling" to the Department of Industry, Labor and Human Relations for any new installation or major alteration to existing equipment installations.

NOTE: Application Form SB-22 may be obtained from the Department of Industry, Labor and Human Relations, Division of Industrial Safety and Buildings, Post Office Box 2209, Madison, Wisconsin, 53701.

(a) The submission of plans for installation of equipment described in Subsection Ind 4.04 (1) shall be the responsibility of the building owner when the manufacturer, manufacturer's representative or distributor do not satisfy requirements of Subsection Ind 4.04 (1).

(b) Minor alteration or remodeling of existing equipment installations requiring no plan submission, will require two completed copies of Form SB-22 to be submitted to the Department of Industry, Labor and Human Relations before commencing work.

(2) Plans for any new equipment installation or major alteration to existing equipment installations shall be approved before commencing work on installation of equipment.

(3) Complete plans shall include:

(a) Sectional plan of car and hoistway, showing all running clearances.

(b) Section through hoistway, machine room, pit and car showing all necessary applicable dimensions required by Section Ind 4.18. All landings shall be clearly shown, indicating types of hoistway doors or gates used.

(c) Plan of machine and machine supports showing reaction loads, material and sizes of beams.

(e) The size and weight per foot of guide rails and details of their support, also their reinforcement where required.

(4) A plan examination fee in the amount established by Wisconsin Administrative Code Section Ind 69.20 shall be paid for each installation requiring approval.

(5) Subsection (1) shall not apply in cities where permits are issued by the city in the manner approved by the Department of Industry, Labor and Human Relations.

Section Ind 4.08 is renumbered to be Ind 4.05.

Section Ind 4.07 is renumbered to be Ind 4.06.

Section Ind 4.06 is renumbered to be Ind 4.08.

Section Ind 4.05 is renumbered to be Ind 4.09.

Section Ind 4.07 is created to read:

Ind 4.07 Registration Numbers. (1) All new elevators, dumbwaiters, escalators, moving walks and ramps shall be assigned a unit number.

(2) The registration number shall be located as follows:

(a) For elevators--on the car crosshead.

(b) For dumbwaiters--in or on dumbwaiter car structure.

(c) For escalators, moving walks or ramps--in the machine room at a location easily recognized from access opening.

(3) The registration number shall be on a metal plate, which shall include State of Wisconsin identification.

(4) All existing elevators, dumbwaiters, escalators, moving walks or ramps shall retain unit number previously assigned and in existing locations.

Subsection Ind 4.17 (3) is repealed and recreated to read:

(3) In existing buildings where existing foundation footings are encountered and it is impractical to disturb the footings, the maximum permissible encroachment shall be not more than 15 percent of the cubic content of the pit.

Subsection Ind 4.17 (7) (Intro-par.) is amended to read:

(7) The pit of every power elevator hereafter installed shall be provided with an enclosed emergency stop switch, series connected to the elevator control safety circuit, of the type to satisfy Ind 4.70 (7)(a), (b), (c) and (d).

Subsection Ind 4.17 (7)(a) 3. is amended to read:

3. Shall be within 2 inches of a line parallel with the sill of the lowest hoistway entrance.

Subsection Ind 4.17 (7)(b) 1. is amended to read:

1. Provide one switch in the position stated in Section Ind 4.17 (7)(a).

Section Ind 4.18 is repealed and recreated to read:

Ind 4.18 Minimum Pit Depth and Overhead Height. (1) The minimum pit depth for every power elevator shall be not less than is required for the installation of buffers, compensating sheaves if any, and all other elevator equipment located therein, and to provide the minimum bottom clearance and runby as required by Ind 4.19 (c) and Ind 4.18 (1)(d).

NOTE: For existing buildings see Subsection Ind 4.17 (3).

(a) Where vertical opening biparting freight elevator doors are installed there shall be a minimum of four (4) inches clearance between the pit floor and bottom of the door when fully open.

(b) When the car rests on its buffers, compressed to their extreme mechanical limit, there shall be a vertical clearance of not less than 24 inches between the pit floor and the lowest structural or mechanical part, equipment or device installed beneath the car platform except guide shoes or rollers, safety jaw assemblies, platform aprons, and elevator hydraulic oil lines.

(c) For cable and hydraulic elevators, the bottom runby for the car and counterweight shall be not less than shown in Table 1.

TABLE 1

BOTTOM RUNBY FOR CAR AND COUNTERWEIGHTS

Cable Elevators				Hydraulic Elevators		
Speed F.P.M.	Control	Buffers	Runby	Speed F.P.M.	Buffers	Runby
25 to 50	Rheostatic	Spring	6 Inch	100 or Less	Spring	3 Inches
Between 51 and 100	Rheostatic	Spring	9 Inch	100 to 300	Spring	6 Inches
Over 100	Rheostatic	Spring	12 Inch			
Up to 200	Generator Field Control	Spring	6 Inch			
Over 200	Generator Field Control	Oil	6 Inch			
Drum Type Cable Elevators						
0 to 25	Rheostatic	Spring	3 Inch			
25 to 50	Rheostatic	Spring	6 Inch			

1. Maximum bottom runby for car shall not exceed 24 inches.

2. The maximum bottom runby for counterweight shall not exceed 36 inches.

(d) The minimum pit depth shall be the sum of the following:

NOTE: See Figures 1, 2, and 3 for reference.

1. C_b dim.--24 inches minimum (See Ind 4.18 (1)(b)).

2. U dim.--Car platform thickness including any structural or mechanical part, equipment or device, such as bolster beam, safety plank, isolation, sheaves, cables, guards, electrical junction boxes, buffer striker plates or any other equipment except platform aprons, guide shoes and/or safety jaws.

3. R_c dim.--Bottom car runby from Table 1. (Distance car runs by lowest terminal landing before contacting buffers.)

4. S_c dim.--Extreme mechanical limit of car buffer stroke. (See Ind 4.19)

5. Exception. When excessively long oil buffers are provided and where practical a pocket not over 30 inches deep may be provided below the normal pit floor to accommodate the lower portion of the oil buffer, provided the pocket is waterproofed and has a substantial solid removable cover to permit the buffer to be removed. Such pocket shall not be included in the pit depth.

(2) The top car clearance of every powered elevator shall be not less than 24 inches plus one-half (1/2) the gravity stopping distance taken at 115 percent of rated speed when the car is at its extreme uppermost mechanical limit of travel.

(a) The top clearance of guide shoes, leveling devices, car gate posts and car door or gate opening and closing linkage shall be not less than four (4) inches measured vertically to the lowest part of the overhead structure or any other overhead obstruction directly above these appurtenances.

(b) The minimum overhead height for all types of cable driven counterweighted elevators shall be the sum of the following:

NOTE: See Figure 1 for reference. For counterweighted hydraulic see Subsection Ind 4.18 (2)(d).

1. C_t dim.--24 inches minimum top car clearance.

2. O dim.--Overall car height from top of platform to car uppermost structure or appurtenances except guide shoes, leveling devices, car gate posts and car door or gate opening and closing linkage.

3. R_w dim.--Bottom counterweight runby. (See Table 1)

4. S_w dim.--Counterweight extreme mechanical limit of buffer stroke. (See Ind 4.19 for minimum buffer stroke requirements.)

5. One-half of the gravity stopping distance taken at 115 percent of rated speed where oil buffers are used. (See Table 7)

(c) The minimum overhead height for winding drum elevators, both overhead and basement type shall be the sum of the following.

NOTE: See Figure 2 for reference.

1. C_t dim.--24 inches minimum top car clearance. (See Ind 4.18 (2)(d))

2. O dim.--Overall car height from top of platform to uppermost structure or appurtenances except guide shoes, leveling devices, car gate posts and car door or gate opening and closing linkage.

3. R_m dim.--Overall distance that car goes above top terminal landing before machine automatic cuts off power.

(d) The minimum overhead height for direct acting plunger hydraulic elevators, with or without counterweights, shall be the sum of the following:

NOTE: See Figure 3 for reference.

1. C_t dim.--24 inches minimum top car clearance. (See Ind 4.18 (2)(d))

2. O dim.--Overall car height from top of platform to car uppermost structure or appurtenance except guide shoes, leveling devices, car gate posts and car door or gate opening and closing linkage.

3. R_p dim.--Overtravel distance that car goes above top terminal landing before plunger reaches its uppermost mechanical limit within its cylinder.

(3) The top counterweight clearance of every power elevator shall be not less than 6 inches plus one-half (1/2) the gravity stopping distance taken at 115 percent of rated speed, where oil buffers are used measured vertically from the uppermost point of the counterweight and its appurtenances, except guide shoes and rollers, and the underside of the overhead structure, or any other overhead obstruction, directly above the counterweight when the car is resting on its buffers at their extreme mechanical down limit of travel.

(a) The top counterweight clearance shall be the sum of the following:

NOTE: See Figure 1 for reference.

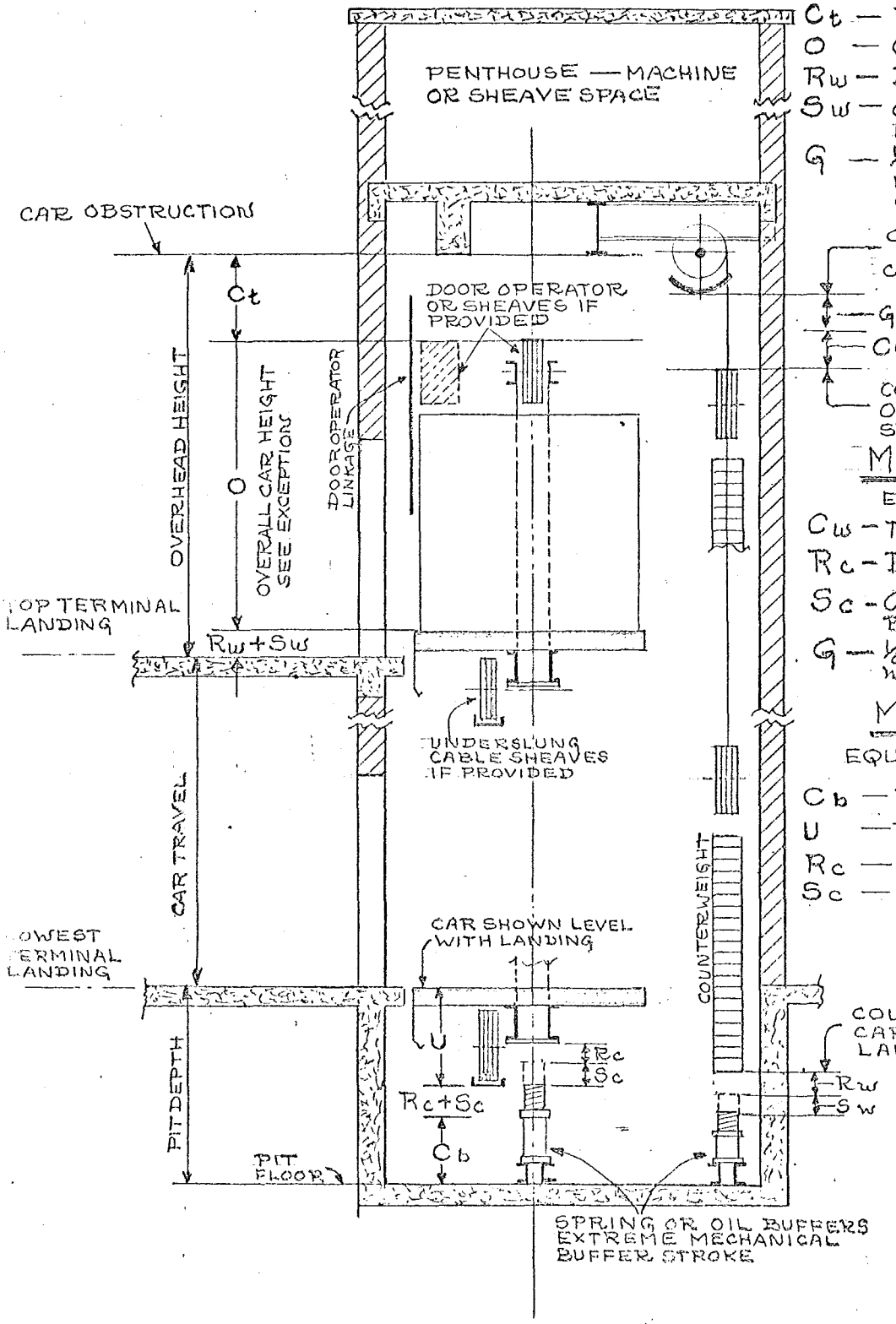
1. C_w dim.--6 inch minimum top counterweight clearance.

2. R_c dim.--Bottom car runby--see Table 1.

3. S_c dim.--Car extreme mechanical buffer stroke.

4. G dim.--1/2 the gravity stopping distance taken at 115 percent of rated speed. (See Table 7.)

(b) In existing buildings where footings and sewer lines prevent sufficient pit depth to satisfy minimum top counterweight clearance, and the elevator is of generator field control type, the bottom car runby may be reduced where spring return oil type buffers are used. The car buffer may be compressed up to 25 percent of its stroke when the car is level with the lowest terminal landing.



MINIMUM OVERHEAD HEIGHT

EQUALS SUM OF THE FOLLOWING

- C_t — TOP CLEARANCE (24" MINIMUM)
- O — OVERALL CAR HEIGHT
- R_w — BOTTOM COUNTERWEIGHT RUNBY
- S_w — COUNTERWEIGHT EXTREME MECHANICAL BUFFER STROKE
- G — ½ THE GRAVITY STOPPING DISTANCE WHERE OIL BUFFERS ARE USED (SEE TABLE B)

MINIMUM TOP C'TWT. CL.

EQUALS THE SUM OF THE FOLLOWING

- C_w — TOP C'TWT CLEARANCE (6" MINIMUM)
- R_c — BOTTOM CAR RUNBY
- S_c — CAR EXTREME MECHANICAL BUFFER STROKE
- G — ½ THE GRAVITY STOPPING DISTANCE WHERE OIL BUFFERS ARE USED (SEE TABLE

MINIMUM PIT DEPTH

EQUALS SUM OF THE FOLLOWING

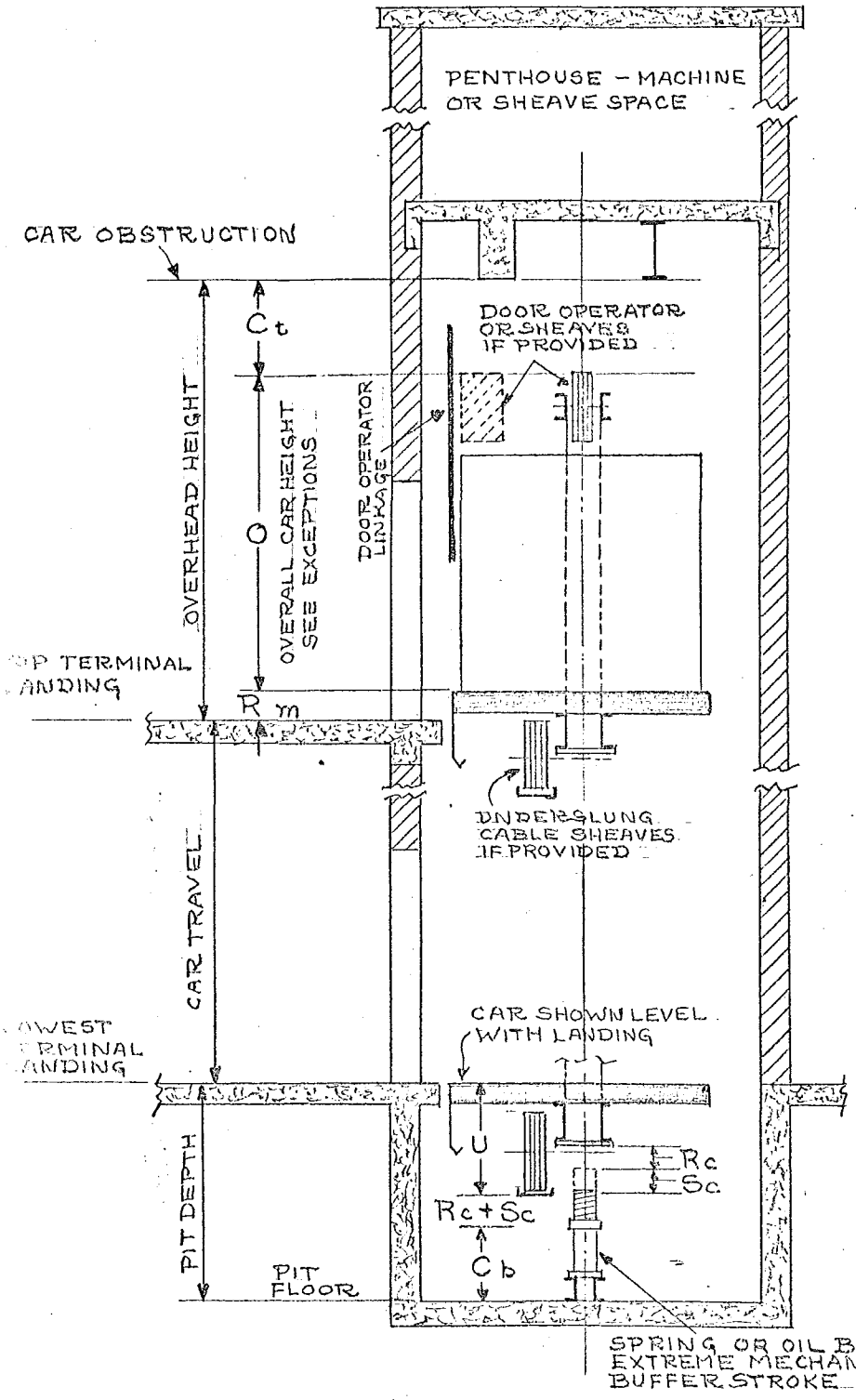
- C_b — BOTTOM CLEARANCE (24" MINIMUM)
- U — TOTAL CAR PLATFORM THICKNES
- R_c — BOTTOM CAR RUNBY
- S_c — CAR EXTREME MECHANICAL BUFFER STROKE

IND. 4.18

PIT DEPTH, OVERHEAD HEIGHT AND COUNTERWEIGHT CLEARANCE FOR ALL TYPES OF CABLE DRIVEN, COUNTERWEIGHTED ELEVATORS

FIGURE 1

3-20-70



MINIMUM OVERHEAD HEIGHT

EQUALS SUM OF THE FOLLOWING

- C_t — TOP CLEARANCE (24" MINIMUM)
- O — OVERALL CAR HEIGHT
- R_m — OVERTRAVEL ABOVE LANDING TO MACHINE AUTOMATIC CUT OFF

MINIMUM PIT DEPTH

EQUALS SUM OF THE FOLLOWING

- C_b — BOTTOM CLEARANCE (24" MINIMUM
- U — TOTAL CAR PLATFORM THICKNESS
- R_c — BOTTOM CAR RUNBY
- S_c — CAR EXTREME MECHANICAL BUFFER STROKE

IND. 4.18

PIT DEPTH AND OVERHEAD HEIGHT FOR CABLE DRIVEN — UNCOUNTERWEIGHTED — WINDING DRUM TYPE ELEVATORS.

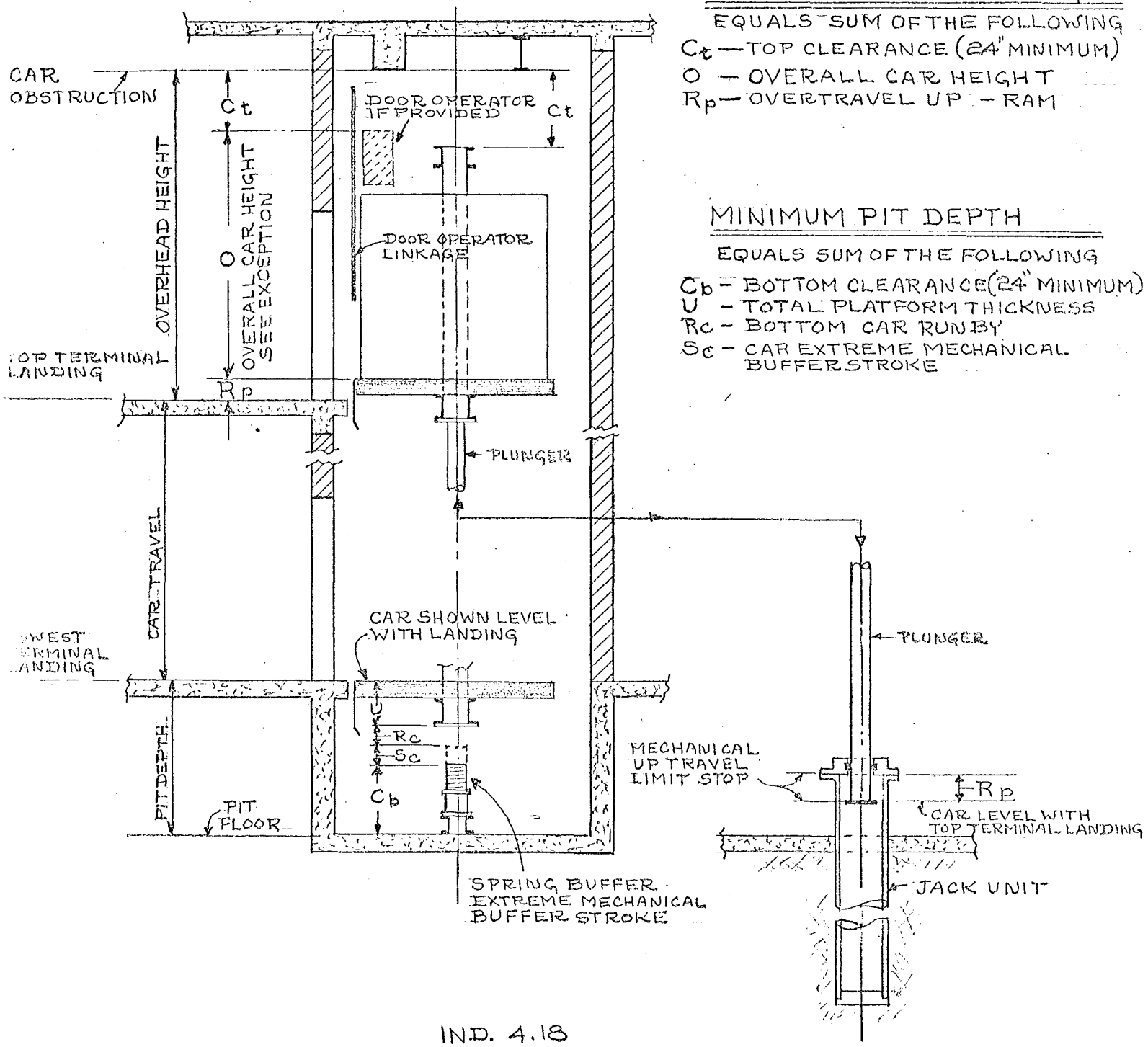
LIMITED TO

MAXIMUM CAPACITY	2500 LBS.
MAXIMUM SPEED	50 FEET PER MINUTE
MAXIMUM TRAVEL	35 FEET

REFER TO IND. 4.61 (1)

FIGURE 2

3-20-70



IND. 4.18

PIT DEPTH AND OVERHEAD HEIGHT
FOR
DIRECT ACTING PLUNGER HYDRAULIC ELEVATORS

FIGURE 3

REVISED 3-20-70

Subsection Ind 4.19 (1)(a) is amended to read:

(a) Spring buffers may be used where the contract speed does not exceed 200 ft/min with exception of hydraulic elevators. (See Table 1.)

Subsection Ind 4.21 (4)(a) is amended to read:

(a) Exception: Providing there are no other access openings from outside the hoistway, a floor or grating is not required where the governor and sheaves can be serviced while standing on top of the car or car structure, and the governor is of a type that can be released by movement of the car in the up direction.

Subsection Ind 4.22 (4) is amended to read:

(4) For every elevator hereinafter installed, access to the machine room or penthouse shall be made from outside the hoistway by means of an unobstructed stairway (with handrails), inclined not more than 60 degrees with the horizontal and the treads shall not be less than 24 inches in width. Openings through the roof to serve the machine room or penthouse shall be completely protected from the weather. This protection shall be fitted with a door not less than 6 feet in height to permit horizontal entrance. Access to the machine room or penthouse may be under the same roof. One such stairway may serve a group of machine rooms or penthouses on the same roof.

Section Ind 4.24 is repealed and recreated to read:

Ind 4.24 Guards for Counterweights. (1) Solid metal guards shall be installed in the pit on the open side or sides of all counterweights of elevators hereafter installed as follows: (See (2) for exceptions.)

(a) Guards shall extend from a point 12 inches above the pit floor to a point not less than 7 feet nor more than 8 feet above such floor.

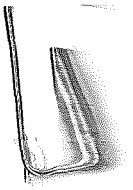
(b) Guards shall be fastened to a metal frame properly reinforced, braced and be at least equal in strength and stiffness to No. 14 U.S. gauge sheet steel.

(2) The requirements of Ind 4.24 (1) shall not apply to:

(a) Hand powered elevators.

(b) Where a chain of not less than 5/16 inch diameter wire is properly attached to the car and counterweight as a movement warning device.

(3) Where a counterweight runway is located in an elevator hoistway which is not solidly enclosed, the outside (the side away from the elevator) shall be protected the full height with a solid guard, properly reinforced, braced and be at least equal in strength and stiffness to No. 14 U.S. gauge sheet steel.



(4) On existing installations where the counterweight runway is located outside the elevator hoistway, the runway shall be solidly enclosed on all sides and a removable panel 12 inches longer than the counterweight stack shall be provided on the outside at the bottom.

Subsection Ind 4.27 (1) is repealed and recreated to read:

(1) Every elevator suspended by wire ropes shall have a car frame.

NOTE: See Ind 4.001 (11).

Subsection Ind 4.27 (9)(d) is repealed and recreated to read:

(d) Platform stringers for passenger elevators shall be of steel or other metals or of wood.

1. Where wood is used, the underside exposed wood surface shall be covered with one of the following:

a. Not less than No. 26 U. S. gauge sheet steel.

b. An approved fire-retardant paint having a flame spread rating not over (25) applied in accordance with instructions of the manufacturers. Such ratings shall be based on the test procedure specified in A.S.T.M. E84-61.

Subsection Ind 4.28 (6)(a) is repealed and recreated to read:

(a) The exit opening shall have an area of not less than 400 square inches and shall measure not less than 16 inches nor more than 25 inches on any one side.

Subsection Ind 4.28 (6)(a)2. is repealed.

Subsection Ind 4.29 (2) is repealed and recreated to read:

(2) Elevators in buildings where occupancies require handrails in corridors, shall have handrails provided in car to satisfy the following requirements.

(a) Handrails shall be provded on each side, except on the entrance side or sides.

(b) Handrails shall be located approximately 3-1/2 feet above the floor of elevator.

Subsection Ind 4.29 (6) is created to read:

(6) Apparatus or equipment, other than that used in connection with the operation of the elevator, shall not be installed on or within any elevator except for lighting, heating, ventilating or sealed air conditioning systems.

Section Ind 4.30 is repealed and recreated to read:

Ind 4.30 Passenger Elevator. Car door or gate. (1) For elevators hereafter installed car gates are prohibited where the car speed exceeds 100 feet per minute.

(a) Where car gates are permitted they shall be of the horizontal sliding type.

1. The gate when closed shall guard the full opening.

2. The gate shall be provided with a gate electric contact. (See exception under a. below.)

a. Movement of the car is permitted within the leveling zone with the car gate open.

(b) A car door of the horizontal sliding type shall be provided at each entrance to elevator car where the car speed exceeds 100 feet per minute.

1. The door when closed shall guard the full opening.

2. The door shall be provided with a door electric contact. (See exception under a. below.

a. Movement of the car is permitted within the leveling zone with the car gate open.

(2) Passenger elevators installed in a hoistway having separate landings used exclusively for passengers and other landings for freight shall not have car gates guarding openings regardless of elevator car speed. (See also, Ind 4.31.(3))

(a) Where vertical sliding or vertical biparting hoistway landing doors are permitted under subsection Ind 4.31 (3) for car entrances used exclusively for freight, either vertical or horizontal sliding solid panel car doors guarding entire opening shall be used.

(3) Electric contacts shall be provided on all elevator car doors or gates installed after August 12, 1926 where the car speed is in excess of 150 feet per minute and the state registration is over 7,000.

(4) Every existing automatic operation elevator shall be provided with a car door or gate at each entrance and equipped with a car door or gate electric contact.

(5) The distance between bars or slats on car gates shall not exceed 3 inches when the gate is fully expanded.

(a) Collapsible-type car gates hereafter installed shall have at least every fourth vertical member of the gate guided at the top and every second vertical member guided at the bottom.

(b) Collapsible-type car gates shall not be power opened to a distance exceeding one-third (1/3) of the clear gate opening, and in no case more than 10 inches.

(6) Vision panels when used in car doors shall not exceed 80 square inches in area and no single panel shall exceed 6 inches in width and shall be laminated or wire glass and the inside surface of the panel shall be substantially flush with the surface of the door.

(7) Door panels shall have a substantially flush surface without recessed or raised moldings.

(8) For automatic operation elevators the car door or gate shall be considered in the closed position when the clear open space between the edge of the door or gate and the nearest face of the closed jamb does not exceed 2 inches, or for center-parting doors or gates when the door panels or gates are within 2 inches of contact with each other.

(9) For car switch operation elevators an electric contact on the car door or gate may permit the starting of the car when the clear open space does not exceed 4 inches.

(10) Car door or gate electric contacts shall be positively opened by the movement of the door or gate and shall be maintained in the open position and shall be so located that they are not readily accessible from inside the car.

(11) For automatic operation passenger elevators having power-closed or automatically released self-closing car doors or gates and manually closed or self-closing hoistway doors, the closing of the car door or gate shall be prevented unless the hoistway door is in the closed position.

(12) For elevators hereafter installed when both the car and the hoistway doors are power operated, they shall be equipped with a reopen device which will function to stop and reopen both car and hoistway doors in the event the doors are obstructed while closing.

NOTE: It is permissible to close power operated car and hoistway doors at reduced speed and power when they have been delayed for prolonged periods through the use of the reopening device.

Subsection Ind 4.31 (3) is repealed and recreated to read:

(3) Vertical sliding or vertical biparting doors shall not be used to protect passenger landing openings.

(a) Passenger elevators used also for freight may have vertical sliding or vertical biparting doors at landing openings used exclusively for freight providing:

1. The car freight door is equipped with a zone interlock and;

2. The car and hoistway freight doors are operable from within the car only, and;

3. The controls for freight landing are key operated from the car only.

4. Only authorized personnel shall be issued keys for freight landing controls.

Subsection Ind 4.31 (5) is repealed and recreated to read:

Ind 4.31 (5)(a) Every elevator controlled from the car only, shall be provided with a service key to open the hoistway door from the landing side where the car is normally parked out of service. This key shall open this door only when the car is within 12 inches of the landing sill and shall open no other hoistway door.

1. The use of devices other than the service key to open the parking floor door or any other entrance to the elevator shaft is prohibited and means shall be provided to prevent use of other devices.

(b) For every automatic operation elevator where an emergency key opening, or any similar means has been provided for opening a hoistway landing door, the key opening or similar means shall be provided with a securely fastened cover.

1. Exception: Where keys are of special design for opening the hoistway door and their operation cannot be duplicated with common tools.

(c) The emergency operating key for unlocking hoistway doors shall be located adjacent to the lowest landing or be on the premises and made readily available by the building owner or his authorized representative.

1. The key shall be kept in a receptacle having a breakable red cover.

a. The receptacle shall be clearly marked "Fire Department and Emergency Use Only."

Subsection Ind 4.31 (6) is repealed and recreated to read:

(6) New Installations. (a) In a single hoistway, access shall be provided for emergency, inspection, maintenance or repairs at all openings.

(b) In multiple hoistways, access shall be provided for emergency, inspection, maintenance or repairs at the top terminal landing and the two lowest landings.

1. Where additional access to multiple hoistways is provided, such access shall be by a hoistway door unlocking device as specified in subsection Ind 4.31 (6)(c).

(c) The means of access shall be a hoistway door unlocking device as follows:

1. The device shall unlock and permit the opening of the hoistway door from the access landing irrespective of the position of the car.

2. The means to operate the device shall be not easily duplicated and in no case shall the design permit operation with common tools.

3. The emergency operating key for unlocking hoistway doors shall be located adjacent to the lowest landing or be on the premises and made readily available by the building owner or his authorized representative.

a. It shall be kept in a receptacle having a breakable red cover. The receptacle shall be clearly marked "Fire Department and Emergency Use Only."

Subsection Ind 4.31 (11) is created to read:

(11) Hoistway doors shall be so arranged that they can be opened manually from the hoistway side when the car is within the interlock unlocking zone.

Subsection Ind 4.35 (1)(e) is amended to read:

(e) At the secondary entrance of every power elevator having more than one entrance and having a difference in the floor landing levels in excess of 30 inches.

Subsection Ind 4.38 (1)(a) 7. is repealed and recreated to read:

7. For every freight elevator where an emergency key opening, or any similar means has been provided for opening a hoistway landing door, the key opening or similar means shall be provided with a securely fastened cover. (See a. below for exception.)

a. Where keys are of special design for opening the hoistway door and their operation cannot be duplicated with common tools.

b. The emergency operating key for unlocking hoistway doors shall be located adjacent to the lowest landing or be on the premises and made readily available by the building owner or his authorized representative. The key shall be kept in a receptacle having a breakable red cover. The receptacle shall be clearly marked "Fire Department and Emergency Use Only."

Subsection Ind 4.38 (2)(c) and (d) are created to read:

(c) Every elevator shall have an access provided to its related hoistway at the lowest landing as required in subsection Ind 4.31 (6)(c) for purposes of emergency, inspection, maintenance or repairs.

1. Where additional access to hoistway is provided, such access shall be by a hoistway unlocking device as specified in subsection Ind 4.31 (6)(c).

(d) An elevator installed in a single blind hoistway shall conform with the Wisconsin Administrative Code Section Ind 4.31 (10).

Section Ind 4.55 Table 11 is amended to read:

Table 11
T Section Rail

Nominal Weight Per Foot in Lb.	Nominal Dimension in Inches A	B	C	D	E
8	2-7/16	3-1/2	5/8	1-1/4	5/16
11	3-1/2	4-1/2	5/8	1-1/2	5/16
12	3-1/2	5	5/8	1-3/4	5/16
15	3-1/2	5	5/8	1-31/32	1/2
18-1/2	4-1/4	5-1/2	3/4	1-31/32	1/2
22-1/2	4	5-1/2	1-1/8	2	9/16
30	5	5-1/2	1-1/4	2-1/4	11/16

Section Ind 4.55 Table 12 is amended to read:

Table 12
Minimum Thickness of Fish Plates and Minimum Diameter of Fastening Bolts

Nominal Weight of Guide Rail in Pounds Per Foot	Minimum Thickness of Fish Plates in Inches	Minimum Diameter of Bolts in Inches
8	9/16	1/2
11	11/16	5/8
12	11/16	5/8
15	11/16	5/8
18-1/2	13/16	3/4
22-1/2	13/16	3/4
30	15/16	3/4

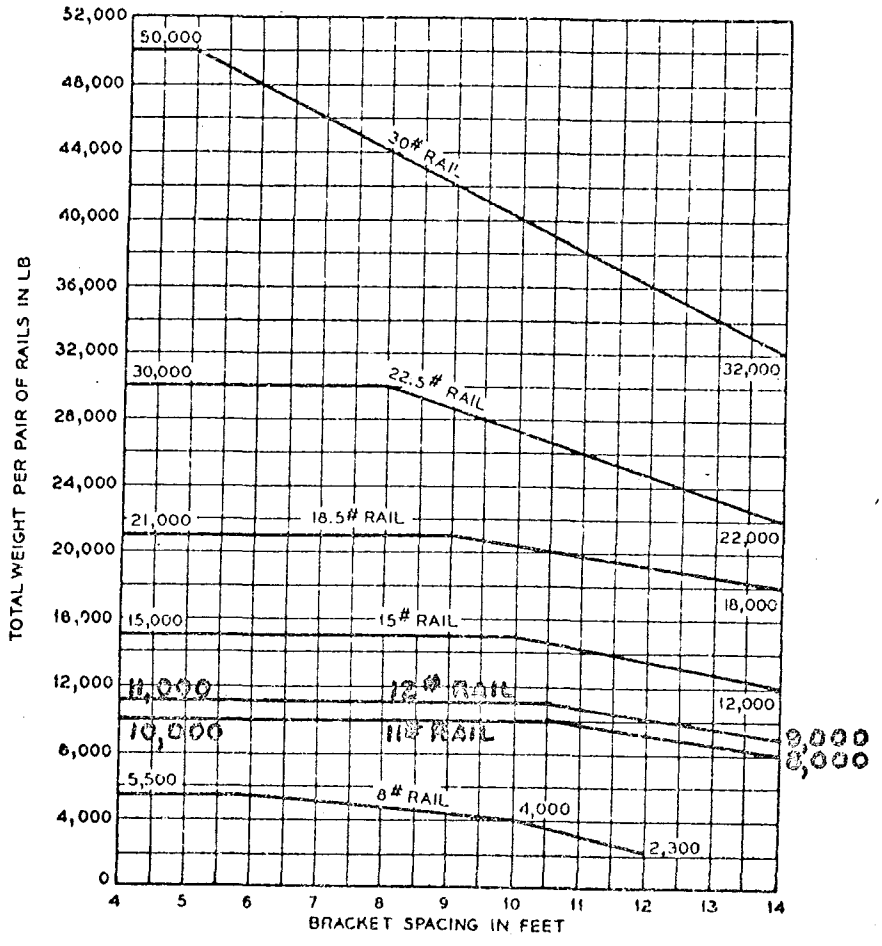
Section Ind 4.55 Table 13 is amended to read:

Table 13
Guide Rails for Counterweights Without Safeties

Weight of Counterweight in Pounds	Nominal Weight of Guide Rail in Pounds Per Foot	Maximum Bracket Spacing Without Reinforcement in Feet
15,000	8	16
27,000	11	16
29,000	12	16
40,000	15	16
56,000	18-1/2	16
80,000	22-1/2	16

Section Ind 4.56 Figure 4.56 is amended to read:

FIGURE 4.56
MAXIMUM WEIGHT OF CAR WITH RATED LOAD OR OF COUNTERWEIGHT WITH SAFETY FOR A PAIR OF GUIDE RAILS



Subsection Ind 4.57 (2) Table 15 is amended to read:

Table 15
Minimum Size of Rail-Fastening Bolts

Nominal Weight of Guide Rail in Pounds Per Foot	Minimum Diameter of Bolts in Inches
8	1/2
11	5/8
12	5/8
15	5/8
18-1/2	5/8
22-1/2	3/4
30	3/4

Subsection Ind 4.60 (2)(n) is created to read:

(n) A platform or equipment not required for the operation of the elevator shall not be located above the top of any elevator car.

Subsection Ind 4.79 (2)(k) is repealed and recreated to read:

(k) Vision panels not less than 4 square inches nor more than 12 square inches shall be provided in hoistway door where position indicators are not provided.

1. Vision panels shall be 1/4 inch clear wire glass mounted substantially flush with the surface of the landing side of the door.

Subsections Ind 4.83 (1)(a), (b), (c), (d), (e), (f) and (2) are repealed and recreated to read:

(a) No person shall ride the elevator except for inspection, maintenance or repairs.

(b) Where car speeds do not exceed 25 f.p.m. and hazardous materials are not involved.

1. Runby may be reduced to zero.

2. Solid buffers may be used.

(c) Where automatic loading and unloading is performed, rear car enclosures may be omitted.

1. Car enclosures may be less than 6 feet high.

(d) Hoistway landing gates or doors are not required on elevators where automatic material handling systems are permanently located at the hoistway entrances providing the following requirements are complied with:

1. Guards are on each side of automatic material handling system, at each landing, parallel to the system.

2. The clearance between the guards and the automatic material handling system is not greater than 6 inches.

3. Guards are not less than 7 feet in height.

4. Guards extend not less than 4 feet from the hoistway entrance.

5. Guards are made of solid or expanded metal, rejecting a ball 1-1/2 inches in diameter.

(e) Where automatic loading and unloading is performed and the elevator serves only two landings, the landing doors or gates may be of the vertically sliding full automatic type, without electric contacts and locks.

(f) Power operation of hoistway landing doors shall comply with the requirements as outlined in Section Ind 4.39 (2) except that doors are permitted to close automatically when means have been provided to prevent their closing when material is within the door area.

(2) Methods of operation shall be as follows:

(a) Shall be controlled from the landings only.

(b) Emergency stop switches shall be provided at each landing which when operated shall remove power from the elevator operating unit.

(c) Key operated lock-out of service and start switch shall be located on the master control station.

(d) Where elevator and conveyor systems are fully automatic, means shall be provided to prevent operation of the elevator until the material to be transported is safely positioned in the elevator car.