Directional signs to the means of egress should be provided where necessary.

STAIRWAYS OR STEPS

§ 50-204.9 Stair width of treads and height of risers.

There shall be no variation in the width of treads and height of risers in any flight. Where variation in heights of risers in different flights is necessary on account of varying story heights, such variations shall not exceed 3/16 inch. All treads shall be at least 10 inches wide.

§ 50-204.10 Stairway maintenance.

Every stairway or step shall be maintained in good repair, free from protruding bolts, screws, nails, dirt, or slippery conditions, and no storage shall be permitted on stairways.

§ 50-204.11 Treads.

Treads shall be renewed when the surface, including the nosing, shows wear to the extent of 1/4 inch or more. All metal treads shall have a surface which will reasonably prevent slipping.

§ 50-204.12 Stairway railings and handrails.

Every flight of stairs having four or more risers shall be equipped with a stair railing or handrails constructed to conform to the requirements of sections 50-204.28 and 50-204.29 under the following conditions:

(a) On stairways of width less than 44 inches and having both sides enclosed—at least one handrail on the right side descending.

(b) On stairways of width less than 44 inches and having one side open—at least one stair railing that shall be on the open side.

(c) On stairways of width less than 44 inches and having both sides open—one stair railing on each side.

(d) On stairways of width 44 inches or more but less than 88 inches—one handrail on each enclosed side and one stair railing on each open side.

(e) On stairways 88 inches or more in width—one handrail on each enclosed side, one stair railing on each open side and one intermediate stair railing located approximately midway of the width.

(f) Winding stairs shall be equipped with a handrail so offset as to prevent walking on any portions of the treads having width less than 6 inches.

GUARDING OF FLOOR OPENINGS AND FLOOR HOLES

§ 50-204.17 Stairway floor openings.

A railing constructed to conform to the requirements of sections 50-204.28 and 50-204.29 shall be provided on all exposed sides of stairway floor openings (except at entrance to stairway). Standard toe boards shall be provided also, except in stair towers.

§ 50-204.18 Ladderway floor openings.

Every ladderway floor opening shall be guarded by a standard railing with standard toe board on all exposed sides, except at entrance to opening.

§ 50-204.19 Hatchway and chute floor.

Every hatchway and chute floor opening shall be guarded either by:

(a) Hinged floor-opening cover of standard strength and construction equipped with railing constructed in accordance with sections 50-204.27 and 50-204.29 so as to leave no exposed side. When the opening is not in use the cover shall be closed.

(b) A removable railing with toe boards on not more than two sides of the opening and permanent railings with toe boards on all other exposed sides both constructed in accordance with sections 50-204.27 and 50-204.29. The removable railings shall be kept in place when the opening is not in use.

(c) Where operating conditions necessitate the feeding of material into any hatchway or chute opening from all sides, the guarding requirements will be satisfied if bars, chains, or other adequate protection is provided to prevent a person from falling through the opening.

§ 50-204.20 Floor hole.

Every floor hole except those described in sections 50-204.17, 50-204.18, 50-204.19 shall be guarded either by:

(a) A railing constructed in conformance with the requirement in sections 50-204.27 and 50-204.29 with standard toe board on all exposed sides; or

(b) A floor opening cover, hinged in place. While the cover is open, floor holes shall be constantly attended by someone or shall be protected by a portable enclosing railing.

GUARDING OF OPEN-SIDED FLOORS, PLATFORMS AND RUNWAYS

§ 50-204.25 Open-sided floor and platform.

(a) Every open-sided floor shall be guarded by a railing constructed in accordance with sections 50-204.27 and 50-204.29 on all open sides 5 feet or more above the adjacent floor or ground level, except where there is entrance to a ramp, stairway or fixed ladder. The railing shall be provided with a toe board wherever, beneath the open sides,

(1) Persons can pass,

(2) There is moving machinery, or

(3) There is equipment with which falling materials could create a hazard.

(b) The intermediate railing and toe board required by sections 50-204.27 and 50-204.29 may be omitted where materials have to be regularly passed over the edge of the floor (as in lumber storage), or where the railing is set back 12 inches or more from the edge.

(c) The entire railing may be temporarily removed from particular sections of open-sided floors where regular operating conditions make a permanent railing wholly impracticable.

§ 50-204.26 Runway guarding.

Every runway shall be guarded by a railing constructed in accordance with sections 50-204.27 and 50-204.29 on all open sides 5 feet or more above floor or ground level. Wherever tools, machine parts or materials are likely to be used on the runway, a toe board shall also be provided on each exposed side.

(a) Runways, used exclusively for special purposes (such as oiling, shafting or filling tank cars), may have the railing on one side omitted where operating conditions necessitate such omission, providing there is no falling hazard.

RAILINGS AND GUARDS

§ 50-204.27 Standard railing.

A standard railing shall consist of top rail, intermediate rail and posts, having a vertical height of 42 inches from upper surface of top rail to floor, platform, runway or ramp level. The top rail shall be smooth surfaced throughout the length of the railing. The intermediate rail shall be approximately halfway between the top rail and floor, platform, runway or ramp. The ends of the rails shall not overhang the terminal posts except where such overhang does not constitute a projection hazard.

§ 50-204.28 Stair railing.

A stair railing shall be of construction similar to a standard railing but the vertical height shall be not more than 34 inches nor less than 30 inches from upper surface of top rail to surface of tread in line with face of riser at forward edge of tread.

(a) Intermediate rails shall not be required where stairways are 22 inches or less in width.

§ 50-204.29 Strength of standard railing and stair railing.

The strength of standard railings and stair railings under different types of construction is specified as follows:

(a) Wood railing: For wood railings, the posts shall be of at least 2 inch by 4 inch stock spaced not to exceed 8 feet; the top rails shall be of at least 2 inch by 4 inch stock or of two right angle pieces of at least 1 inch by 4 inch stock and the intermediate rails shall be of at least 2 inch by 2 inch stock or of at least 1 inch by 4 inch stock.

(b) Pipe railing: For pipe railings, the posts and top rails shall be metal pipe of at least 1 1/4 inches inside diameter and the intermediate rails shall be metal pipe of at least 1 inch inside diameter. The spacing of posts shall not exceed 8 feet.

(c) Structural metal railings: For structural metal railings, the posts and top rails shall be angle iron of at least 1 1/2 inches by 1 1/2 inches by 3/16 inch or other structural shapes of equivalent bending strength; and the intermediate rails shall be angle iron of at least 1 1/4 inches by 1 1/4 inches by 1/8 inch or other structural shapes of equivalent bending strength. The spacing of posts shall not exceed 8 feet.

(d) *Anchor posts:* The anchoring of posts and framing of members for railings of all types shall be of such construction that the completed structure shall be capable of withstanding a load of at least 200 pounds applied in any direction at any point of the top rail.

(e) *Toe board:* A toe board shall be 4 inches in vertical height from top edge to the level of the floor, platform, runway, or ramp. It shall be securely fastened in place and with not more than 1/4 inch clearance above floor level. It may be made of any substantial material