Department of Labor and Industry

Proposed Permanent Rules Adopting Changes to the International Building Code

1305.0011 ADOPTION OF INTERNATIONAL BUILDING CODE BY REFERENCE AND ADMINISTRATIVE AUTHORITY.

Subpart 1. **General.** For purposes of this chapter, "IBC" means the ~~2012~~ 2018 edition of the International Building Code as promulgated by the International Code Council, Inc. (ICC), Washington, D.C. The IBC is incorporated by reference and made part of the Minnesota State Building Code except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended in this chapter. Portions of this chapter reproduce excerpts from the ~~2012~~ 2018 IBC, International Code Council, Inc., Washington, D.C., copyright ~~2012~~ 2017, reproduced with permission, all rights reserved. The IBC is not subject to frequent change and a copy of the IBC, with amendments for use in Minnesota, is available in the office of the commissioner of labor and industry.

Subp. 1a. **Deleted appendices.** All of the IBC appendices are deleted.

Subp. 2. **Mandatory chapters.** IBC chapters 2 through ~~33 and~~ 35 must be administered by any municipality that has adopted the Minnesota State Building Code, except as qualified by the applicable provisions in Minnesota Rules, chapter 1300, and as amended by this chapter. Amendments to IBC ~~chapters~~ chapter 11 ~~and 30~~ are incorporated by reference in this chapter, but the actual amendments for ~~those chapters~~ IBC chapter 11 are located in Minnesota Rules, ~~chapters~~ chapter 1341, the Minnesota Accessibility Code~~, and 1307, the Minnesota Elevator Code, respectively~~. Referenced documents cited in IBC ~~chapters~~ chapter 11 ~~and 30~~, and Minnesota Rules, ~~chapters 1307 and~~ chapter 1341, apply, unless otherwise stated or deleted. For the complete application and mandatory requirements relating to IBC chapter 11, see Minnesota Rules, chapter 1341. ~~For the complete application and mandatory requirements relating to IBC chapter 30, see Minnesota Rules, chapter 1307.~~

Subp. 3. [See repealer.]

[For text of subparts 4 and 5, see Minnesota Rules]

1305.0021 REFERENCES TO OTHER INTERNATIONAL CODE COUNCIL CODES.

[For text of subpart 1, see Minnesota Rules]

Subp. 2. **Building code.** References to the International Building Code or IBC in this code mean the Minnesota Building Code, adopted pursuant to this chapter and Minnesota Statutes, section 326B.106, subdivision 1.

Subp. 3. **Residential code.** References to the International Residential Code or IRC in this code mean the Minnesota Residential Code, Minnesota Rules, chapter 1309, and adopted pursuant to Minnesota Statutes, section 326B.106, subdivision 1.

[For text of subparts 4 and 5, see Minnesota Rules]

Subp. 6. **Mechanical code.** References to the International Mechanical Code or IMC in this code mean the Minnesota Mechanical Code, Minnesota Rules, chapter 1346, and adopted pursuant to Minnesota Statutes, section 326B.106, subdivision 1.

[For text of subparts 7 to 10, see Minnesota Rules]

Subp. 11. **Fire code.** References to the International Fire Code or IFC in this code mean the Minnesota State Fire Code, Minnesota Rules, chapter 7511, and adopted pursuant to Minnesota Statutes, ~~chapter 299F~~ section 326B.02.

Subp. 12. **International Existing Building Code.** References to the International Existing Building Code or IEBC in this code mean Minnesota Conservation Code for Existing Buildings, Minnesota Rules, chapter 1311, and adopted pursuant to Minnesota Statutes, section 326B.106, subdivision 1.

1305.0201 SECTION 201, GENERAL.

IBC section 201.4 is amended to read as follows:

201.4 Terms not defined. Where terms are not defined through the methods authorized by this ~~chapter~~ code, the Merriam-Webster Collegiate Dictionary, available at ~~www.m-w.com~~ www.merriam-webster.com, shall be considered as providing ordinarily accepted meanings. The dictionary is incorporated by reference, is subject to frequent change, and is available through the Minitex interlibrary loan system.

1305.0202 SECTION 202, DEFINITIONS.

Subpart 1. **Amended definitions.** IBC section 202 is modified by amending the following definitions to read as follows:

AGRICULTURAL BUILDING. "Agricultural building" means a building that meets the requirements of Minnesota Statutes, section 326B.103, subdivision 3.

AISLE. "Aisle" means that portion of an exit access that connects an aisle accessway to an exit access doorway, corridor, or exit.

ALTERNATING TREAD DEVICE. "Alternating tread device" means a device standing between 50 and 70 degrees (0.87 and 1.22 rad) from horizontal, that has a series of steps usually attached to a center support in an alternating manner so that the user does not have both feet on the same level at the same time. A ships ladder in compliance with Minnesota Rules, part ~~1305.1209~~ 1346.0306, subpart 1, shall be considered equivalent to an alternating tread device.

AMBULATORY CARE FACILITY. "Ambulatory care facility" means buildings or portions of buildings used to provide medical, surgical, psychiatric, nursing, or similar care on a less than 24-hour basis to individuals who are rendered incapable of self-preservation by the services provided. For the purposes of this ~~chapter~~ code, federally certified end-stage renal disease facilities (kidney dialysis facilities) located on the level of exit discharge shall not be considered ambulatory care facilities.

APPROVED. "Approved" means approval by the building official, pursuant to the Minnesota State Building Code, by reason of: inspection, investigation, or testing; accepted principles; computer simulations; research reports; or testing performed by either a licensed engineer or by a locally or nationally recognized testing laboratory.

CORRIDOR. "Corridor" means an interior passageway having a length at least 3 times its width, having walls, partitions, or other obstructions to exit travel over 6 feet (1829 mm) in height on 2 opposing sides and having openings from rooms or similar spaces.

HISTORIC BUILDING. "Historic building" has the meaning given for "historical building" in Minnesota Rules, part 1300.0070, subpart 12a.

LIVE/WORK UNIT. The definition of "Live/Work Unit" in IBC section 202 is deleted in its entirety.

OUTPATIENT CLINIC. "Outpatient clinic" means a building or part of a building used to provide medical care on a less than 24-hour basis to persons who are not rendered incapable of self-preservation by the services provided, including federally certified endstage renal dialysis facilities (kidney dialysis facilities) not classified as an ambulatory care facility.

ROOF COVERING. "Roof covering" means the covering applied to the roof deck for weather resistance, fire classification, or appearance. Roof covering materials consist of two basic types: roofing systems and prepared materials.

STANDPIPE SYSTEM, CLASSES OF. "Classes of standpipe system" mean the following:

"Class I system" means a system providing 2-½ inch (64 mm) and 1-½ inch (38 mm) hose connections to supply water for use by fire departments and those trained in handling heavy fire streams.

"Class II system" means a system providing 1-½ inch (38 mm) hose stations to supply water for use primarily by the building occupants or by the fire department during initial response.

Subp. 2. **Added definitions.** The definition of "townhouse" in IBC section 202 is deleted in its entirety. IBC section 202 is modified by adding the following definitions:

ADULT DAY CARE CENTER OR ADULT DAY SERVICES CENTER. "Adult day care center" or "adult day services center" means a facility, licensed by the Department of Human Services under Minnesota Rules, parts 9555.9600 to 9555.9730, that provides a program of adult day care services to functionally impaired adults for periods of less than 24 hours per day in a setting other than a participant's home or the residence of the facility's operator.

CODE. ~~For purposes of this chapter,~~ "The code" or "this code" means Minnesota Rules, chapter 1305, Adoption of the International Building Code.

GENERAL EVACUATION SIGNAL. "General evacuation signal" means a fire alarm occupant notification system in accordance with section 907.5.

GUEST ROOM. "Guest room" means a room or group of rooms used or intended to be used for purposes of lodging by guests.

ROOM. "Room" means a space or area bounded by any obstruction over 6 feet (1829 mm) in height which at any time encloses more than 80 percent of the perimeter of the area. In computing the unobstructed perimeter, openings less than 3 feet (914 mm) in clear width and less than 6 feet 8 inches (2032 mm) in height shall not be considered. Aisles and corridors shall not be construed to form rooms.

SMALL HOSE CONNECTION. "Small hose connection" means a 1 1/2-inch connection supplied inside of a building for firefighting overhaul operations in sprinkler-protected structures.

1305.0302 CARE FACILITY CLASSIFICATIONS.

IBC section 302 is amended by adding Table 302.2 to read as follows:

Table 302.2 Care facilities. Occupancies for care facilities shall be classified in accordance with the following table.

TABLE 302.2

CARE FACILITIES

Type of Licensed Facility		Number or Type of ~~Residents~~ Care Recipients	IBC Occupancy Classification
Child Care (Day Care)	Family Child Care Home	10 occupants maximum with ≤ 6 below school age[1]	R-3 dwelling unit
	Group Child Care Home < 24 hours per day	11-14 occupants maximum	R-3 dwelling unit
	Child Care Center < 24 hours per day	> 5 but ≤ 100 children ~~<~~ ≤ 2.5 years of age and each room at, and with, an exit at the level of exit discharge	E
	Child Care Center < 24 hours per day	More than 5 children > 2.5 years of age	E
	Child Care Center < 24 hours per day	More than 5 children ≤ 2.5 years of age and not classified as E	I-4
Adult Day Care (Day Services)	Family Adult Day Services (located in care giver's primary residence)	≤ 8 ~~impaired adults~~ care recipients age 13 and older	R-3 dwelling unit
	Adult Day ~~Care~~ Services Center < 24 hours per day	6 or more ~~occupants~~ care recipients, age 13 and older, all may or may not be capable of self-preservation without assistance	I-4 unless meet criteria for E below
	Adult Day Services Center < 24 hours per day	6 or more care recipients, age 13 and older, all capable of self-preservation without assistance	E
	Adult Day ~~Care~~ Services Center < 24 hours per day	6 or more ~~occupants, but having~~ care recipients, age 13 and older, where at least	I-4 E if compliant with all of

		one care recipient but no more than 50 percent of the ~~occupants who are not capable of~~ care recipients require assistance for self-preservation	Section 308.5.1.2
	Day Training and Habilitation	Program participants age 13 and older	Classified by primary use/training function
Supervised Living Facilities	Class A-1	6 or fewer residents; all of whom are capable of self-preservation without assistance	R-3 dwelling unit
	Class A-2	7 to 16 residents; all of whom are capable of self-preservation without assistance	R-4 Condition 1
	Class A-2	More than 16 residents; all of whom are capable of self-preservation without assistance	I-1 Condition 1
	Class B-1	6 or fewer residents; all of whom may not be capable of self-preservation without assistance	R-3
	Class B-2	7 to 16 residents; ~~all of whom may not be capable~~ of which some may require limited assistance for self-preservation	R-4 Condition 2
	Class B-3	More than 16 residents; all of whom may not be capable of self-preservation without assistance	I-2 Condition 1
Hospice	Residential Hospice Facility	1-5 terminally ill persons	R-3
	Residential Hospice Facility	6-12 terminally ill persons	R-4 Condition 2

Adult Foster Care	Adult Foster Care Home	1-5 impaired adults	R-3 dwelling unit
Child Foster Care	Foster Care	1-6 foster children without severe disability or assisted medical technology	R-3 dwelling unit
	Foster Care	1-4 foster children with medical or special care services	R-3 dwelling unit
Housing with Services ~~Facility~~ Establishment	Housing with Services Establishment Housing with Services Establishment Providing Assisted Living Services	1-5 adult residents ≥ 80 percent 55 years of age or older unless registered under ~~MN~~ Minnesota Statutes, section 144D.025	R-3 dwelling unit
	Housing with Services Establishment Housing with Services Establishment Providing Assisted Living Services	6-16 adult residents ≥ 80 percent 55 years of age or older unless registered under ~~MN~~ Minnesota Statutes, section 144D.025	R-4 Condition 2
	Housing with Services Establishment Housing with Services Establishment Providing Assisted Living Services	≥ 16 adult residents ≥ 80 percent 55 years of age or older unless registered under ~~MN~~ Minnesota Statutes, section 144D.025	I-1 Condition 2
Boarding Care	Boarding Care Home	~~<~~ ≤ 5 residents	R-3 dwelling unit
	Boarding Care Home	6-16 residents all of whom are capable of self-preservation without assistance	R-4 Condition 1
	Boarding Care Home	> 16 residents all of whom are capable of self-preservation without assistance	I-1 Condition 1
Boarding and Lodging	Boarding and Lodging	≤ 16 residents in sleeping rooms or ≤ 2 dwelling units in one building	R-3
	Boarding and Lodging	> 16 residents in sleeping rooms or > 2 dwelling units	R-2

		in one building all of whom are capable of self-preservation without assistance	
	Boarding and Lodging < 30 days	~~Bed and Breakfast~~ Lodging facilities with 6 or more sleeping units Boarding houses with > 10 occupants	R-1
	Boarding and Lodging < 30 days	~~Bed and Breakfast~~ Lodging facilities with 5 or fewer sleeping units Boarding houses with ≤ 10 occupants	R-3 dwelling unit
Senior Housing	Senior Housing (See IBC 310)	More than 2 dwelling units in one building	R-2
	Senior Housing (See IBC 310)	2 dwelling units in one building	R-3
	Senior Housing (See IBC 310)	1 dwelling unit	R-3 dwelling unit
Congregate Residence	Congregate Residence	≤ 16 residents	R-3
	Congregate Residence	17 or more residents	R-2
~~Day Services~~	~~Day Services Facility~~	~~Adult (over 18)~~	~~I-4~~
	~~Day Services Facility~~	~~Ages 13-18~~	~~I-4~~
Chemical Dependency and Mental Health Treatment Programs	Chemical Dependency and Mental Health Treatment ~~Program~~ Programs - Outpatient (< 24 hrs.)	Not regulated	B
	Chemical Dependency and Mental Health Treatment ~~Program~~ Programs - Residential	~~<~~ ≤ 5 residents	R-3 dwelling unit
	Chemical Dependency and Mental Health Treatment	6-16 residents all of whom may not be capable of	R-4 Condition 2

	~~Program~~ Programs - Residential	self-preservation without assistance	
	Chemical Dependency and Mental Health Treatment ~~Program~~ Programs - Residential	> 16 residents all of whom may not be capable of self-preservation without assistance	I-1 Condition 2
Ambulatory Care Facility	Nursing and medical care for < 24 hours	Includes: skilled medical care, emergency care, surgery, obstetrics, or patient stabilization for psychiatric or detox	B
Nursing Home	Nursing and medical care for > 24 hours	Does not include: emergency care, surgery, obstetrics, or in-patient stabilization for psychiatric or detox	I-2 Condition 1
Hospital	Nursing and medical care for > 24 hours	Includes skilled medical care, emergency care, surgery, obstetrics, or in-patient stabilization for psychiatric or detox	I-2 Condition 2

[1] "School age" means the age of a "school-age child" as defined in Minnesota Statutes, section 245A.02, subdivision 16.

1305.0308 INSTITUTIONAL GROUP I.

Subpart 1. **IBC section ~~308.3~~ 308.2.** IBC section ~~308.3 is~~ 308.2 and its subsections are amended to read as follows:

~~308.3~~ 308.2 Institutional Group I-1. This occupancy shall include buildings, structures, or portions thereof for more than 16 persons who reside on a 24-hour basis in a supervised environment and receive custodial care services. Examples of this group include the following:

Alcohol and drug centers

Assisted living

Boarding care homes

Congregate care facilities

Convalescent facilities

Group homes

Halfway houses

Housing with services establishment

Residential board and care facilities

Social rehabilitation facilities

Supervised living facilities Class A-2

(Subsections 308.2.1, 308.2.2, and 308.2.3 remain unchanged.)

~~**308.3.1 Five or fewer persons receiving care.** A facility such as the above with five or fewer persons receiving such care shall be classified as Group R-3.~~

~~**308.3.2 Six to 16 persons receiving care.** A facility such as above, housing not fewer than six and not more than 16 persons receiving such care, shall be classified as Group R-4.~~

308.2.4 Five or fewer persons receiving custodial care. A facility with five or fewer persons receiving custodial care shall be classified as Group R-3.

Subp. 2. **IBC section ~~308.4~~ 308.3.** IBC section ~~308.4 is~~ 308.3 and subsection 308.3.2 are amended to read as follows:

~~308.4~~ 308.3 Institutional Group I-2. This occupancy shall include buildings and structures used for medical care on a 24-hour basis for more than five persons who are incapable of self-preservation. Examples of this group include the following:

Detoxification facilities

Foster care facilities

Hospitals

Nursing homes

Psychiatric hospitals

Supervised living facilities Class B-3

(Subsections 308.3.1, 308.3.1.1, and 308.3.1.2 remained unchanged.)

~~308.4.1~~ 308.3.2 Five or fewer persons receiving care. A facility ~~such as the above~~ with five or fewer persons receiving ~~such~~ care consistent with Group I-2 occupancies shall be classified as Group R-3.

Subp. 3. [Repealed, 39 SR 1605]

Subp. 4. **IBC section ~~308.6.4~~ 308.5.** IBC section ~~308.6.4 is~~ 308.5 and its subsections are amended to read as follows:

308.5 Group I-4, day care and day services facilities. This group includes buildings and structures occupied by more than five persons of any age who receive custodial care for fewer than 24 hours per day by persons other than parents or guardians, relatives by blood, marriage, or adoption, and in a place other than the home of the person receiving care. This group shall include but not be limited to the following:

Adult day services

Child day care

308.5.1 Classification as Group E. Day care and day services uses shall be classified as Group E occupancies subject to sections 308.5.1.1 through 308.5.1.3.

308.5.1.1 Adult day services centers serving only persons capable of self-preservation. Adult day services centers serving only persons who, without assistance, are capable of self-preservation under emergency conditions shall be classified as Group E.

308.5.1.2 Adult day services centers serving both persons capable and persons not capable of self-preservation. Adult day services centers shall be classified as Group E where all of the following conditions apply:

a. At least one person served but not more than 50 percent of persons served require assistance with self-preservation under emergency conditions.

b. The rooms in which the adults are cared for are located on the level of exit discharge serving such rooms, with all exits discharging directly to grade without intervening stairs. Each exit discharge shall provide an accessible route, without stairs, to the public way or safe dispersal area in accordance with the exception to Section 1028.5.

c. The day services center is protected with an automatic fire alarm system consisting of automatic smoke detection in all corridors and at the top of all stairways, and automatic detection in boiler and furnace rooms, kitchens, storage rooms, custodial closets, laundry and soiled linen rooms, and other hazardous areas.

308.5.1.3 Child day care. A child day care facility shall be classified as Group E where all of the following conditions apply:

a. The facility provides care for more than five but not more than 100 children 2-½ years or less of age.

b. The rooms in which the children are cared for are located on the level of exit discharge serving such rooms.

c. Each room providing day care has an exit door directly to the exterior.

(Subsections 308.5.2 and 308.5.3 remain unchanged.)

~~308.6.4~~ 308.5.4 Five or fewer persons receiving care in a dwelling unit. ~~A facility such as the above~~ Adult day services or child day care within a dwelling unit and having five or fewer persons receiving custodial care shall be classified as a Group R-3 occupancy. Where the adult day services or child day care is located in a one- or two-family dwelling or townhouse, the dwelling: (1) shall be constructed in accordance with either this chapter or Minnesota Rules, chapter 1309, the Minnesota Residential Code; and (2) shall be equipped with an automatic sprinkler system when required by Section 903.2.8.

1305.0310 SECTION 310, RESIDENTIAL GROUP R.

IBC section 310 and its subsections are amended to read as follows:

310.1 Residential Group R. Residential Group R includes, among others, the use of a building or structure, or a portion thereof, for sleeping purposes when not classified as an Institutional Group I. This group shall not include buildings regulated by Minnesota Rules, chapter 1309, the ~~International~~ Minnesota Residential ~~Building~~ Code ~~(IRC)~~. ~~However, the licensed uses specified in Sections 310.5 and 310.6, as amended by this part, are applicable to a building constructed in accordance with the IRC that houses a use that is required to be licensed.~~

Exception: Group R-3 and R-4 occupancies located in a one- or two-family dwelling or a townhouse and classified as a "dwelling unit" in Table 302.2: (1) shall be constructed in accordance with either this code or Minnesota Rules, chapter 1309, the Minnesota Residential Code; and (2) shall be equipped with an automatic sprinkler system when required by Section 903.2.8.

Residential occupancies shall be classified according to subsections 310.2 to 310.5.

~~**310.2 Definitions.** The following terms are defined in chapter 2:~~

~~Boarding house~~

~~Congregate living facility~~

~~Dormitory~~

~~Group home~~

~~Personal care service~~

~~Transient~~

~~**310.3**~~ **310.2 Residential Group R-1.** R-1 Residential occupancies containing sleeping units where the occupants are primarily transient in nature, including:

~~Bed and breakfast facilities with six or more guest rooms. A facility with fewer than six guest rooms shall be classified as a Group R-3 occupancy.~~

Boarding houses (transient) with more than ten occupants

Congregate living facilities (transient) with more than ten occupants

Hotels (transient)

Lodging houses with six or more guest rooms or more than ten occupants

Motels (transient)

~~**310.4**~~ **310.3 Residential Group R-2.** R-2 Residential occupancies containing sleeping units or more than two dwelling units where the occupants are primarily permanent in nature, including:

Apartment houses

~~Boarding houses (nontransient) with more than 16 occupants~~

Congregate living facilities (nontransient) with more than 16 occupants

Boarding houses

Convents

Dormitories

Fraternities and sororities

Monasteries

Hotels (nontransient)

~~Monasteries~~

Motels (nontransient)

Vacation ~~timeshare~~ time-share properties

~~310.5~~ 310.4 Residential Group R-3. R-3 Residential occupancies where the occupants are primarily permanent in nature and not classified as R-1, R-2, R-4, or I including:

Assisted living

Boarding care homes

~~Boarding houses (nontransient) with 16 or fewer occupants~~

~~Boarding houses (transient) with 10 or fewer occupants~~

Buildings that do not contain more than two dwelling units

Care facilities that provide accommodations for five or fewer persons receiving care

Congregate living facilities (nontransient) with 16 or fewer occupants

Boarding houses (nontransient)

Dormitories

Fraternities and sororities

Convents

Monasteries

Congregate living facilities (transient) with ten or fewer occupants

Boarding houses (transient)

Dwelling units (two or fewer) in mixed occupancy buildings

Family adult foster homes

Foster care

Housing with services establishment

Lodging houses (transient) with five or fewer guest rooms and ten or fewer occupants

Residential hospice with five or fewer occupants

~~In new construction, Group R-3 occupancies shall meet the requirements for building durability of chapter 1309, the International Residential Building Code, parts 1309.0402; 1309.0406, subpart 2; 1309.0702, subpart 2; 1309.0703, subpart 2a; 1309.0703, subpart 9, items A, B, and C; 1309.0903; and 2012 IRC section R703.8.1.~~

~~310.5.1~~ 310.4.1 Care facilities within a dwelling. Section ~~310.5.1~~ 310.4.1 is deleted in its entirety.

(Subsection 310.4.2 remains unchanged.)

~~310.6~~ 310.5 Residential Group R-4. This occupancy shall include buildings, structures, or portions thereof for more than five but not more than 16 persons, excluding staff, who reside on a 24-hour basis in a supervised residential environment and receive custodial care. ~~The persons receiving care are capable of self-preservation.~~ This group shall include the following:

Alcohol and drug centers

Assisted living

Boarding care homes

Congregate care facilities

Group homes

Halfway houses

Housing with services establishment (including those that provide assisted living services)

Residential board and care facilities

Residential hospice with 12 or fewer occupants

Social rehabilitation facilities

Group R-4 occupancies shall meet the requirements for construction as defined for Group R-3, except as otherwise provided for in this code.

Occupancy conditions. Buildings of Group R-4 shall be classified as either condition 1 under section 310.5.1 or condition 2 under section 310.5.2.

(Sections 310.5.1 and 310.5.2 remain unchanged.)

1305.0402 SECTION 402, COVERED MALL AND OPEN MALL BUILDINGS.

Subpart 1. [See repealer.]

Subp. 2. [Repealed, 32 SR 7]

Subp. 3. **IBC section 402.7.2.** IBC section 402.7.2 is amended to read as follows:

402.7.2 Smoke control. Where a covered mall building contains an atrium, a smoke control system shall be provided in accordance with Section 404.5.

Exception: Smoke control is not required in covered mall buildings where an atrium connects only two stories.

Covered mall buildings exceeding 50,000 square feet (4645 m^2) in floor area, excluding anchor buildings, not provided with an approved smoke control system, shall be provided with a ~~postfire~~ post-fire smoke exhaust system in accordance with Minnesota Rules, part ~~1305.0916~~ 1305.0919.

1305.0403 SECTION 403, HIGH-RISE BUILDINGS.

Subpart 1. **IBC section 403.2.1.2.** IBC section 403.2.1.2 is deleted in its entirety.

Subp. 2. [Repealed, 39 SR 1605]

Subp. 3. **IBC section ~~403.4.8.2~~ 403.4.8.3.** IBC section ~~403.4.8.2~~ 403.4.8.3 is amended to read as follows:

~~403.4.8.2~~ 403.4.8.3 Standby power loads. The following are classified as standby power loads:

1. power and lighting for the fire command center required by Section 403.4.6;

2. ventilation and automatic fire detection equipment for smokeproof enclosures; and

3. passenger elevators serving occupied floors more than 75 feet (22,860 mm) above the lowest level of fire department vehicle access.

1305.0406 SECTION 406, MOTOR VEHICLE-RELATED OCCUPANCIES.

Subpart 1. **IBC section ~~406.4.5~~ 406.2.4.** IBC section ~~406.4.5~~ 406.2.4 is amended by adding a new exception to read as follows:

~~3~~ 4. Unoccupied portions of nonpublic parking garages shall not be required to be nonabsorbent.

[For text of subpart 2, see Minnesota Rules]

1305.0407 SECTION 407, GROUP I-2.

Subpart 1. **IBC section 407.2.1.** IBC section 407.2.1 is amended to read as follows:

407.2.1 Spaces open to the corridor. Spaces constructed as required for corridors shall be permitted to be open to a corridor, only when all the following criteria are met:

1. the spaces are not occupied as care recipient sleeping rooms, treatment rooms, or incidental uses in accordance with Section 509 or hazardous uses~~.~~;

2. the open space is protected by an automatic ~~fire~~ smoke detection system installed in accordance with Section 907~~.~~;

3. the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic ~~fire~~ smoke detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick response sprinklers in accordance with Section 903.3.2~~.~~; and

4. the space is arranged so as not to obstruct access to the required exits.

Subp. 2. **IBC section 407.4.4.5.1.** IBC section 407.4.4.5.1 is amended to read as follows:

407.4.4.5.1 Area. Care suites containing sleeping rooms shall be not greater than 7,500 square feet (696 m^2) in area.

Exception: Care suites containing sleeping rooms shall be permitted to be not greater than 10,000 square feet (929 m^2) in area where both of the following criteria are met:

1. an automatic smoke detection system is provided throughout the care suite and is installed in accordance with NFPA 72; and

2. the arrangement of sleeping rooms within the care suite allows for continuous visual supervision by care providers. Glass walls and cubical curtains shall be permitted for visual supervision.

Subp. 3. **IBC section 407.4.4.5.2.** IBC section 407.4.4.5.2 is amended to read as follows:

407.4.4.5.2 Exit access. Any sleeping room, or any care suite that contains sleeping rooms, of more than 1,000 square feet (929 m^2) shall have not fewer than two exit access doors from the care suite located in accordance with Section 1007.

407.4.4.5.2.1 Two means of egress. For suites requiring two means of egress, one means of egress from the suite shall be directly into a corridor or exit.

407.4.4.5.2.2 Travel distance. Travel distance within a sleeping suite to an exit access door shall not exceed 100 feet. Travel distance within a sleeping suite to an exit shall not exceed 200 feet.

Subp. 4. **IBC section 407.4.4.6.1.** IBC section 407.4.4.6.1 is amended to read as follows:

407.4.4.6.1 Area. Care suites of rooms, other than sleeping rooms, shall have an area not greater than 10,000 square feet.

Subp. 5. **IBC section 407.4.4.6.2.** IBC section 407.4.4.6.2 is amended to read as follows:

407.4.4.6.2 Exit access. Care suites, other than sleeping rooms, with an area of more than 2,500 square feet (232 m^2) shall have not fewer than two exit access doors from the care suite located in accordance with Section 1007. At least one exit access shall be directly to a corridor or exit.

407.4.4.6.2.1 Travel distance. Travel distance within a non-sleeping suite to an exit access door shall not exceed 100 feet. Travel distance shall not exceed 200 feet from any point in a non-sleeping suite to an exit.

Subp. 6. **IBC section 407.5.1.** IBC section 407.5.1 is amended by deleting both exceptions.

1305.0408 SECTION 408, GROUP I-3.

Subpart 1. [Repealed, 39 SR 1605]

[For text of subpart 2, see Minnesota Rules]

Subp. 3. **IBC section 408.9.** IBC section ~~408~~ 408.9 is amended ~~by adding a new subsection~~ to read as follows:

408.9 Windowless buildings. For the purposes of this section, a windowless building or portion of a windowless building is one with ~~nonopenable~~ non-openable or readily breakable windows or with skylights or exterior doors provided in all resident areas of the exit access with an occupant load greater than 50. Windowless buildings shall be provided with an engineered smoke control system to provide a tenable environment for exiting from the smoke compartment in the area of fire origin in accordance with Section 909 for each windowless smoke compartment.

1305.0410 SECTION 410, STAGES, PLATFORMS AND TECHNICAL PRODUCTION AREAS.

IBC section 410.7 is amended to read as follows:

410.7 Standpipes. Standpipes are not required.

1305.0413 SECTION 413, COMBUSTIBLE STORAGE.

IBC section 413 is amended by adding a subsection to read as follows:

413.3 Fire protection of floors. In addition to the requirements of this section, the fire protection of floors in Groups I-1, R-1, R-2, ~~and~~ R-3, and R-4 occupancies shall comply with the requirements of Section ~~420.6~~ 420.12.

1305.0420 SECTION 420, ~~GROUP~~ GROUPS I-1, R-1, R-2, R-3 and R-4.

Subpart 1. **IBC section 420.1.** IBC section 420.1 is amended to read as follows:

420.1 General. Occupancies in Groups I-1, R-1, R-2, ~~and~~ R-3, and R-4 shall comply with the provisions of Sections 420.1 through ~~420.6~~ 420.12 and other applicable provisions of this code.

~~(Sections 420.2 to 420.5 remain unchanged.)~~

Subp. 1a. **IBC section 420.7.** IBC section 420.7 is amended to read as follows:

420.7 Group I-1 assisted living housing units. In Group I-1 occupancies, where a fire-resistance rated corridor is provided in areas where assisted living residents are housed, shared living spaces, group meeting spaces, and multipurpose therapeutic spaces open to the corridor shall be in accordance with all of the following criteria:

1. The walls and ceilings of the space are constructed as required for corridors.

2. The spaces are not occupied as resident sleeping rooms, treatment rooms, incidental uses in accordance with Section 509, or hazardous uses.

3. The open space is protected by an automatic smoke detection system installed in accordance with Section 907.

4. In Group I-1, Condition 1, the corridors onto which the spaces open are protected by an automatic smoke detection system installed in accordance with Section 907, or the spaces are equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.

5. In Group I-1, Condition 2, the corridors onto which the spaces open, in the same smoke compartment, are protected by an automatic smoke detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.

6. The space is arranged so as not to obstruct access to the required exits.

Subp. 1b. **IBC section 420.10.** IBC section 420.10 is amended to read as follows:

420.10 Group R-2 congregate living cooking facilities. Domestic cooking appliances for use by residents of Group R-2 congregate living facilities shall be in accordance with Sections 420.10.1 and 420.10.2.

420.10.1 Cooking appliances. Where located in Group R-2 congregate living facilities, installed domestic cooking appliances for use by residents shall be in compliance with all of the following:

1. the types of domestic cooking appliances shall be limited to ovens, cooktops, ranges, warmers, coffee makers, and microwaves;

2. domestic cooking appliances shall be limited to approved locations;

3. cooktops and ranges shall be protected in accordance with Section 904.13; and

4. cooktops and ranges shall be provided with a domestic cooking hood installed and constructed in accordance with IMC Section 505.

420.10.2 Cooking appliances in sleeping rooms. Cooktops, ranges, and ovens shall not be installed or used in sleeping rooms.

Subp. 2. **IBC section ~~420.6~~ 420.** IBC section 420 is amended by adding ~~a subsection~~ two subsections to read as follows:

420.11 Group R-3 and R-4 durability. Group R-3 and R-4 occupancies shall meet the requirements for building durability of Minnesota Rules, chapter 1309, the Minnesota Residential Code, parts 1309.0402; 1309.0406, subpart 2; 1309.0702, subpart 2; 1309.0703, subpart 2a; 1309.0703, subpart 9; and 1309.0903.

~~**420.6**~~ **420.12 Fire protection of floors.** Floor assemblies, not required elsewhere in this code to be fire-resistance rated, shall be provided with 1/2-inch (12.7 mm) gypsum wallboard membrane, 5/8-inch (16 mm) wood structural panel membrane, or equivalent on the underside of the floor framing member.

Exceptions:

1. Floor assemblies located directly over a space protected by an automatic sprinkler system in accordance with NFPA 13D, or other approved equivalent sprinkler system.

2. Floor assemblies located directly over a crawl space not intended for storage or fuel-fired appliances.

3. Portions of the floor assemblies in Group R-3 can be unprotected when complying with the following:

a. the aggregate area of the unprotected portions shall not exceed 80 square feet per story; and

b. fire blocking in accordance with Section 717.2 shall be installed along the perimeter of the unprotected portion to separate the unprotected portion from the remainder of the floor assembly.

4. Wood floor assemblies in Group R-3 occupancies using dimension lumber or structural composite lumber equal to or greater than 2-inch by 10-inch (50.8 mm by 254 mm) nominal dimension, or other approved floor assemblies demonstrating equivalent fire performance.

1305.0423 SECTION 423, STORM SHELTERS.

Subpart 1. **IBC section 423.3.** IBC section 423.3 is amended as follows:

423.3 Critical emergency operations. 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations shall comply with Sections 423.3.1 and 423.3.2 if located in any of the following counties: Anoka, Benton, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac qui Parle, LeSueur, Lincoln, Lyon, Martin, McLeod, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sherburne, Sibley, Steele, Stearns, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, or Yellow Medicine.

423.3.1. 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations shall comply with Table 1604.5 as a Risk Category IV structure.

423.3.2. 911 call stations, emergency operation centers, and fire, rescue, ambulance, and police stations shall be provided with a storm shelter constructed in accordance with ICC 500.

Subp. 2. **IBC section 423.4.** IBC section 423.4 is amended as follows:

423.4 Group E occupancies. All Group E occupancies with an occupant load of 50 or more shall have a storm shelter constructed in accordance with ICC 500 in the following counties: Anoka, Benton, Blue Earth, Brown, Carver, Chippewa, Chisago, Cottonwood, Dakota, Dodge, Faribault, Fillmore, Freeborn, Goodhue, Hennepin, Houston, Isanti, Jackson, Kandiyohi, Lac qui Parle, LeSueur, Lincoln, Lyon, Martin, McLeod, Meeker, Mower, Murray, Nicollet, Nobles, Olmsted, Pipestone, Ramsey, Redwood, Renville, Rice, Rock, Scott, Sherburne, Sibley, Steele, Stearns, Swift, Wabasha, Waseca, Washington, Watonwan, Winona, Wright, and Yellow Medicine.

Exceptions:

1. Group E day care facilities.

2. Group E occupancies accessory to places of religious worship.

3. Buildings meeting the requirements for shelter design in ICC 500.

(IBC sections 423.4.1 and 423.4.2 remain unchanged.)

~~1305.0425~~ 1305.0429 SECTION ~~425~~ 429, GROUP E OCCUPANCIES.

IBC chapter 4 is amended by adding a section and subsections to read as follows:

SECTION ~~425~~ 429

GROUP E OCCUPANCIES

~~425.1~~ 429.1 Applicability. This section applies to Group E school buildings containing uses described in this section. School buildings shall comply with this section and all other applicable provisions of this code, as provided by Minnesota Statutes, section 123B.51, subdivision 7.

~~425.2~~ 429.2 Use of school buildings by lower grades. In addition to the occupancy and construction requirements in this code, this section applies to those special uses and occupancies described in this section.

~~425.2.1~~ 429.2.1 School buildings equipped with approved automatic fire sprinkler and fire alarm systems. Rooms used by preschool, kindergarten, and first and second grade students for classrooms, latchkey, day care, early childhood family education, teen parent, or other programs conducted in the building may be located on any floor level below the fourth story if the following conditions exist:

1. the building is protected throughout with an approved automatic fire sprinkler system; and

2. the building is protected throughout with an approved automatic fire alarm system having automatic smoke detection devices installed throughout the exit system within every room or area used for purposes other than a classroom or office.

~~425.2.2~~ 429.2.2 **School buildings equipped with either an approved automatic fire sprinkler system or a fire alarm system.** Rooms shall be located on the story of exit discharge when used for the purposes of classroom, latchkey, day care, early childhood education, teen parent, or other programs conducted in the building by preschool, kindergarten, or first grade students. Rooms shall be located on the story of exit discharge or one story above when used for any purpose by second grade students.

Rooms occupied by preschool, kindergarten, first, or second grade students, when used for the programs described in this section, may be located on floor levels other than those designated above if one of the following conditions is met:

1. an approved automatic fire sprinkler system is provided throughout the building and the use of the affected room or space is limited to one grade level at a time and exiting is provided from the room or space that is independent from the exiting system used by students above second grade; or

2. an approved automatic fire alarm system is installed throughout the building consisting of automatic smoke detection installed throughout the exit system and within all rooms and areas other than classroom and office areas, and the use of the affected room or space is limited to one grade level at a time, and exiting is provided from the room or space that is independent from the exiting system used by students above second grade.

For the purposes of this ~~subpart~~ section, pupils from the second grade down are considered one grade level.

~~425.2.3~~ **429.2.3 Accessory spaces.** Accessory spaces, including spaces used for gymnasiums, cafeterias, media centers, auditoriums, libraries, and band and choir rooms, used on a temporary basis by preschool, kindergarten, first, and second grade students are permitted to be located one level above or one level below the story of exit discharge, if the building is protected throughout by an approved automatic sprinkler system or an approved corridor smoke detection system.

1305.0503 SECTION 503, GENERAL HEIGHT AND BUILDING AREA LIMITATIONS.

IBC section 503.1.4.1 is modified to read as follows:

503.1.4.1 Enclosures over occupied roof areas. Elements or structures enclosing the occupied roof areas shall not extend more than 48 inches (1220 mm) above the surface of the occupied roof.

Exceptions:

1. Penthouses constructed in accordance with Section 1510.2.

2. Towers, domes, spires, and cupolas constructed in accordance with Section 1510.5.

3. Where the occupied roof is considered a story and complies with the requirements of Sections 504 and 506.

4. Enclosing walls shall not be limited in height where the occupied roof has access to a standpipe.

1305.0504 SECTION 504, BUILDING HEIGHT AND NUMBER OF STORIES.

Subpart 1. **IBC Table 504.3.** IBC Table 504.3 is amended as follows:

Footnote "d" is deleted from the "See Footnotes" column for all "Occupancy Classification" rows. Footnote "d" is amended to read as follows:

d. Not used.

Subp. 2. **IBC Table 504.4.** IBC Table 504.4 is amended as follows:

Footnote "d" is deleted from the "See Footnotes" column for all "Occupancy Classification" rows. Footnote "d" is amended to read as follows:

d. Not used.

1305.0506 SECTION 506, BUILDING AREA.

IBC Table 506.2. IBC Table 506.2 is amended to read as follows:

Footnote "d" is deleted from the "See Footnotes" column for all "Occupancy Classification" rows. Footnote "d" is amended to read as follows:

d. Not used.

1305.0603 SECTION 603, COMBUSTIBLE MATERIALS IN TYPE I AND TYPE II CONSTRUCTION.

IBC section 603.1 is amended by adding an item to the numerical list as follows:

~~26~~ 27. When not exceeding ~~24~~ 48 inches above the roof deck, wood is permitted to be used in roof construction for equipment support, building or roof system joints, skylight or mechanical equipment, curbs, cants, blocking and backing, and for parapet or roof edge construction.

1305.0707 SECTION 707, FIRE BARRIERS.

IBC section 707.5 is amended by adding a new exception, before subsection 707.5.1, to read as follows:

3. Other fire barriers shall be permitted to terminate at a top enclosure complying with Section 713.12. Such top enclosure must be continuous either to the underside of the roof sheathing, or to an exterior wall, fire wall, or other fire barrier providing equal or greater fire protection.

1305.0709 SECTION 709, SMOKE BARRIERS.

Subpart 1. **IBC section 709.1.** IBC section 709.1 is amended to read as follows:

709.1 General. Vertical and horizontal smoke barriers shall comply with this section. Smoke barrier openings shall comply with Section 909.5.3.

Subp. 2. **IBC section 709.5.** IBC section 709.5 is amended by adding a new exception to read as follows:

3. Doors located in smoke barriers in I-3 occupancies.

1305.0714 SECTION 714, PENETRATIONS.

~~IBC section 714.4.1.2 is amended by modifying exception 7 as follows:~~

> ~~7. The ceiling membrane of 1- and 2-hour fire-resistance-rated horizontal assemblies is permitted to be interrupted with the double wood top plate of a wall assembly, provided that all penetrating items through the double top plates are protected in accordance with 714.4.1.1.1 or 714.4.1.1.2.~~

Subpart 1. **IBC section 714.5.1.** IBC section 714.5.1, exception 1, is amended to read as follows:

> 1. Penetrations by steel, ferrous or copper conduits, pipes, tubes or vents, not utilized as ducts for conveying air; or concrete or masonry items through a single fire-resistance rated floor assembly where the annular space is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste when subjected to ASTM E119 or UL 263 time-temperature fire conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated. Penetrating items with a maximum six-inch (152 mm) nominal diameter shall not be limited to the penetration of a single

fire-resistance-rated floor assembly, provided that the aggregate area of the openings through the assembly does not exceed 144 square inches (92,900 mm^2) in any 100 square feet (9.3 m^2) of floor area.

Subp. 2. **IBC section 714.5.2.** IBC section 714.5.2, exception 1, is amended to read as follows:

1. Membrane penetrations by steel, ferrous or copper conduits, pipes, tubes, or vents, not utilized as ducts for conveying air; or concrete or masonry items where the annular space is protected either in accordance with Section 714.5.1 or to prevent the free passage of flame and the products of combustion. The aggregate area of the openings through the membrane shall not exceed 100 square inches (64,500 mm^2) in any 100 square feet (9.3 m^2) of ceiling area in assemblies tested without penetrations.

Subp. 3. **IBC section 714.5.2.** IBC section 714.5.2, exception 7, is amended to read as follows:

7. The ceiling membrane of one- and two-hour fire-resistance-rated horizontal assemblies is permitted to be interrupted with the double wood top plate of a wall assembly, provided that all penetrating items through the double top plates are protected in accordance with Section 714.5.1.1 or 714.5.1.2.

1305.0717 SECTION 717, DUCTS AND AIR TRANSFER OPENINGS.

[For text of subpart 1, see Minnesota Rules]

Subp. 2. **IBC section 717.6.1.** IBC section 717.6.1 is amended to read as follows:

717.6.1 Through penetrations. In occupancies other than Groups I-2 and I-3, a duct constructed of approved materials in accordance with the International Mechanical Code that penetrates a fire-resistance-rated floor or floor/ceiling assembly that connects not more than two stories is permitted without ~~a~~ shaft enclosure protection, provided

a listed fire damper is installed at the floor line or the duct is protected in accordance with Section ~~714.4~~ 714.5. For air transfer openings, see Section ~~712.1.8~~ 712.1.9.

Exceptions:

1. A duct is permitted to penetrate three floors or less without a fire damper at each floor, provided the duct ~~meets all of the following requirements~~ complies with paragraphs a through e:

a. The duct shall comply with either item (i) or (ii):

i. the duct shall be contained and located within the cavity of a wall ~~and~~ above and below the horizontal assembly, the duct shall be constructed of steel having a minimum wall thickness of 0.0187 inches (0.4712 mm) (No. 26 gage), and the annular space around the duct shall be protected with an approved noncombustible material that resists the passage of flame and products of combustion; or

ii. the annular space around the duct shall be protected by an approved through-penetration firestop system that: (1) is installed and tested in accordance with ASTM E 814 or UL 1479~~. The approved through-penetration firestop system shall have~~; and (2) has an F rating ~~or~~ and T rating ~~of not less than~~ equivalent to the required rating of the horizontal assembly being penetrated.

b. The duct shall open into only one dwelling or sleeping unit and the duct system shall be continuous from the unit to the exterior of the building.

c. The duct shall not exceed 4-inch (102 mm) nominal diameter and the total area of such ducts shall not exceed 100 square inches (0.065 m^2) in any 100 square feet (9.3 m^2) of floor area.

d. The annular space around the duct is protected with materials that prevent the passage of flame and hot gases sufficient to ignite cotton waste where subjected to ASTM E 119 or UL 263 time temperature conditions under a minimum positive pressure differential of 0.01 inch (2.49 Pa) of water at the location of the penetration for the time period equivalent to the fire-resistance rating of the construction penetrated.

e. Grille openings located in a ceiling of a fire-resistance-rated floor/ceiling or roof/ceiling assembly shall be protected with a listed ceiling radiation damper installed in accordance with Section 717.6.2.1.

2. In Groups I-2 and I-3 occupancies, a duct constructed of approved materials in accordance with the International Mechanical Code that penetrates a fire-resistance-rated floor or floor/ceiling assembly that connects not more than two stories is permitted without a shaft enclosure protection, provided a listed smoke/fire damper is installed at the floor line.

Subp. 3. **IBC section 717.6.3.** IBC section 717.6.3 is amended to read as follows:

717.6.3 Non-fire-resistance-rated floor assemblies. Duct systems constructed of approved materials in accordance with the Minnesota Mechanical Code, Minnesota Rules, chapter 1346, that penetrate non-fire-resistance-rated floor assemblies shall be protected by any of the following methods:

1. A shaft enclosure in accordance with Section 713.

2. The duct connects not more than two stories, and the annular space around the penetrating duct is protected with an approved non-combustible material that resists the free passage of flame and the products of combustion.

3. The duct connects not more than three stories, the annular space around the penetrating duct is protected with an approved noncombustible material that resists

the free passage of flame and the products of combustion, and a fire damper is installed at each floor line.

Exception to item 3: Fire dampers are not required in ducts within individual residential dwelling units.

1305.0803 SECTION 803, WALL AND CEILING FINISHES.

IBC section 803.3 is amended to read as follows:

803.3 Heavy timber exemption. Exposed portions of building elements complying with the requirements for buildings of heavy timber construction in Section 602.4 or 2304.11 shall not be subject to interior finish requirements.

1305.0806 SECTION 806, DECORATIVE MATERIALS AND TRIM.

IBC section 806.2 is amended and a subsection is added to read as follows:

806.2 Combustible decorative materials. In Groups A, B, E, I, M, and R-1 and in dormitories in Group R-2, curtains, draperies, fabric hangings, and similar combustible decorative materials suspended from walls or ceilings shall comply with Section 806.4 and shall not exceed 20 percent of the specific wall or ceiling area to which such materials are attached.

Exceptions:

1. In auditoriums in Group A, the permissible amount of curtains, draperies, fabric hangings, and similar combustible decorative materials suspended from walls or ceilings shall not exceed 75 percent of the aggregate wall area where the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1, and where the material is installed in accordance with Section 803.15.

2. In existing Group A occupancies, the permissible amount of curtains, draperies, fabric hangings, and similar combustible decorative material suspended from walls or ceilings shall not be limited where such materials comply with Section 806.4.

3. In Group R-2 dormitories, within sleeping units and dwelling units, the permissible amount of curtains, draperies, fabric hangings, and similar decorative materials suspended from walls or ceilings shall not exceed 50 percent of the aggregate wall areas where the building is equipped throughout with an approved automatic sprinkler system installed in accordance with Section 903.3.1.

4. In Group A, E, B, and M occupancies, the amount of combustible fabric partitions suspended from the ceiling and not supported by the floor shall comply with Section 806.4 and shall not be limited.

5. The 20 percent limit shall not apply to curtains, draperies, fabric hangings, and similar combustible decorative materials used as window coverings.

806.2.1 Fixed or movable walls and partitions, paneling, wall pads, and crash pads. Fixed or movable walls and partitions, paneling, wall pads, and crash pads applied structurally or for decoration, acoustical correction, surface insulation, or other purposes covering more than ten percent of the wall or ceiling area shall be considered to be interior finish, shall comply with Section 803, and shall not be considered to be decorative materials or furnishings.

Exception: In existing buildings, fixed or movable walls and partitions, paneling, wall pads, and crash pads applied structurally or for decoration, acoustical correction, surface insulation, or other purposes shall not be considered interior finish unless covering more than 20 percent of the wall or ceiling area, provided the room or area is protected with an approved automatic fire sprinkler system installed in accordance with Section 903.3.1.

1305.0901 SECTION 901, GENERAL.

IBC section ~~901.6.2~~ 901.6.3 is amended by deleting the section in its entirety.

1305.0903 SECTION 903, AUTOMATIC SPRINKLER SYSTEMS.

Subpart 1. [Repealed, 39 SR 1605]

Subp. 1a. **IBC [F] section 903.2.3.** IBC [F] section 903.2.3 is amended to read as follows:

903.2.3 Group E. An automatic sprinkler system shall be provided for Group E occupancies as follows:

1. Throughout all Group E fire areas greater than 12,000 square feet (1115 m^2) in area.

2. Whenever the Group E fire area is located on a floor other than a level of exit discharge serving such occupancies.

Exception: In buildings where every classroom has not fewer than one exterior exit door at a level of exit discharge, an automatic sprinkler system is not required in any area below the lowest level of exit discharge serving that area.

3. Whenever the Group E fire area has an occupant load of 300 or more.

Subp. ~~1a~~ 1b. **IBC [F] section 903.2.8.** IBC [F] section 903.2.8 ~~is~~ and its subsections are amended to read as follows:

903.2.8 Group R. An automatic sprinkler system shall be installed throughout all buildings with a Group R fire area in accordance with Section 903.3 ~~shall be provided throughout all buildings with a Group R fire area. For purposes of this provision, fire walls, party walls, or attached multiple fire-resistive exterior walls shall only create separate buildings where providing separation from occupancies other than Group R~~.

Exceptions:

1. A Group R-1 ~~or~~, R-2 ~~fire area~~, or combined ~~fire areas~~ R-1 and R-2 building where less than 4,500 square feet of the building area consists of R-1 fire area, R-2 fire area, or a combination of R-1 and R-2 fire areas.

2. A Group R-3 ~~or R-4~~ dwelling unit with less than 4,500 square feet of building area, excluding garages, unless the Group R-3 dwelling unit contains a state licensed care facility that is required to be provided with an automatic sprinkler system as a condition of the license.

3. An automatic fire sprinkler system shall not be required if additions or alterations are made to existing Group R-3 or R-4 buildings or a portion thereof that do not have an automatic sprinkler system installed, unless required by a Minnesota license.

4. Group R-1 multiunit resort buildings, as defined in Minnesota Statutes, section 157.15, and licensed by the Department of Health, with less than 9,250 square feet of building area.

903.2.8.1 Group R-3 ~~or R-4 congregate residences.~~ Where required by Section 903.2.8, Group R-3 occupancies shall be provided with an automatic sprinkler system ~~installed in accordance~~ that complies with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3 ~~shall be permitted in Group R-3 or R-4 congregate residences with 16 or fewer residents~~.

903.2.8.2 Group R-4. Where required by Section 903.2.8, Group R-4 occupancies shall be provided with an automatic sprinkler system that complies with Section 903.3.1.1 or 903.3.1.2.

Exception: Group R-4, Condition 1 occupancies equipped with an automatic sprinkler system that complies with Section 903.3.1.3.

~~903.2.8.2~~ **903.2.8.3 State licensed facilities.** Group R-3 or R-4 occupancies containing facilities licensed by the state of Minnesota shall be provided with an automatic sprinkler system as required by applicable licensing provisions or this section, whichever is more restrictive.

~~903.2.8.3~~ **903.2.8.4 Residential hospice facilities.** An automatic sprinkler system installed in accordance with NFPA 13 shall be provided throughout all buildings with a Group R-3 or R-4 fire area containing a residential hospice facility.

Exception: An automatic sprinkler system installed in accordance with Section 903.3.1.2 or 903.3.1.3 ~~shall be allowed, provided that~~ is permitted if all habitable spaces and closets are ~~sprinklered~~ protected by an automatic sprinkler system.

Subp. 1c. **IBC [F] section 903.2.9.** IBC [F] section 903.2.9 is amended and a subsection added to read as follows:

903.2.9 Group S-1. An automatic sprinkler system shall be provided throughout all buildings containing a Group S-1 occupancy where one of the following conditions exists:

1. A Group S-1 fire area exceeds 12,000 square feet (1115 m^2).

2. A Group S-1 fire area is located more than three stories above grade plane.

3. The combined area of all Group S-1 fire areas on all floors, including any mezzanines, exceeds 24,000 square feet (2230 m^2).

4. A Group S-1 fire area is used for the storage of commercial motor vehicles where the fire area exceeds 5,000 square feet (464 m^2).

(Subsections 903.2.9.1 and 903.2.9.2 remain unchanged.)

903.2.9.3 Group S-1 upholstered furniture and mattresses. An automatic sprinkler system shall be provided throughout a Group S-1 fire area used for the storage of upholstered furniture or mattresses that exceeds 2,500 square feet (232 m^2).

Exception: Self-service storage facilities (mini-storage) no greater than one story above grade plane where all storage spaces can be accessed directly from the exterior.

Subp. ~~1b~~ 1d. **IBC [F] section 903.2.11.4.** IBC [F] section 903.2.11.4 is amended by deleting the section in its entirety and replacing it with the following:

903.2.11.4 Fire protection for exhaust systems. Where required by ~~the International~~ Minnesota Rules, chapter 1346, the Minnesota Mechanical Code, automatic sprinklers shall be provided in ducts having a cross-sectional area of 75 square inches (480 cm^2) or more and that: (1) convey flammable or combustible components; or ~~that~~ (2) have the potential for combustible residue buildup on the inside. When sprinkler protection is installed, ~~and where the application of water constitutes a serious life or fire hazard, a~~ means shall be provided to prevent water accumulation in the duct ~~or~~ and to prevent the flow of water back to ~~equipment, appliances, machinery, or any apparatus~~ a process where the application of water constitutes a serious life or fire hazard.

Subp. 2. [Repealed, 32 SR 7]

[For text of subpart 2a, see Minnesota Rules]

Subp. 2b. **IBC [F] section 903.3.1.1.1.** IBC [F] section 903.3.1.1.1 is amended by adding a new item 7 to the list of exempt locations to read as follows:

7. Sprinkler protection shall not be installed in elevator shafts, elevator pits, or elevator machine rooms.

Exception to #7: Health care occupancies that are: (1) required to have NFPA 13 systems; (2) licensed by the Minnesota Department of Health ~~or that~~; and (3) participate in Title XVIII (Medicare) or Title XIX (Medicaid) of the Social Security Act.

Subp. 2c. **IBC [F] section 903.3.1.2.1.** IBC [F] section 903.3.1.2.1 is amended to read:

903.3.1.2.1 Protection of decks and balconies. Decks and balconies greater than six feet (1.8 m) above grade, greater than four feet (1.2 m) deep, with an area greater than 40 square feet (3.72 m^2), and attached to new Group R-1 or R-2 occupancy buildings protected in accordance with Section 903.3.1.2 that are three or more stories in height and with 30 or more units, shall be protected with sprinklers under the balcony or deck framing and under attic eaves when both of the following two conditions exist:

1. the building has an unsprinklered attic; and

2. the building has combustible siding.

Subp. 3. [Repealed, 32 SR 7]

Subp. 3a. **IBC [F] section 903.3.1.3.** IBC [F] section 903.3.1.3 is amended to read as follows:

903.3.1.3 NFPA 13D sprinkler systems. Automatic sprinkler systems installed in Group R-3 and R-4 Condition 1 occupancies shall be permitted to be installed throughout in accordance with NFPA 13D.

[For text of subparts 4 and 5, see Minnesota Rules]

Subp. 5a. **IBC [F] section 903.3.1.6.** IBC [F] section 903.3.1 is amended by adding a subsection to read as follows:

903.3.1.6 Modifications to sprinkler standards. The sprinkler installation standards as referenced in Sections 903.3.1.1, 903.3.1.2, and 903.3.1.3 are modified as follows:

903.3.1.6.1 Hose stream requirements. When, in the opinion of the fire chief, an adequate alternate water supply for hose stream requirements is provided or available, the water supply requirements for the sprinkler system hose stream demands may be modified.

903.3.1.6.2 Elevator shafts and equipment. Sprinkler protection shall not be installed in elevator shafts, elevator pits, or elevator machine rooms.

Exception: Health care occupancies that (1) are required to have NFPA 13 systems, (2) are licensed by the Department of Health, and (3) participate in Title XVIII (Medicare) or Title XIX (Medicaid) of the Social Security Act.

903.3.1.6.3 Swimming pools. Sprinkler protection need not be provided on the ceiling of rooms containing swimming pools when the pool area is used exclusively for swimming purposes and when sprinklers are provided around the perimeter of the pool area.

903.3.1.6.4 NFPA 13 modifications. Sections 8.15.8.2 ~~and~~, 8.17.2.5, and 23.2.1.1 of NFPA 13 are revised to read:

8.15.8.2 Linen closets and pantries. Sprinklers are not required in linen closets and pantries within dwelling units that meet the following conditions:

1. the area of the space does not exceed 12 square feet (1.1 m^2);

2. the least dimension does not exceed 3 feet (0.9 m);

3. the walls and materials are surfaced with noncombustible or limited combustible materials; and

4. the closet or pantry contains no mechanical equipment, electrical equipment, or electrical appliances.

8.17.2.5 Valves.

8.17.2.5.1 Fire department connection. A listed check valve shall be installed in each fire department connection.

8.17.2.5.1.1 Maximum pipe length. There shall be a maximum of 25 feet (7.6 m) of pipe between the check valve and the fire department connection inlet.

Exception: This maximum shall not apply to the check valve serving a free-standing fire department connection.

8.17.2.5.1.2 Check valve location. The check valve shall be located to minimize freezing potential.

23.2.1.1 Water supply capacity information. Where a waterflow test is used for the purposes of system design, the test shall be conducted no more than 36 months before the working plan submittal.

903.3.1.6.5 Vestibules. Sprinkler protection is not required in vestibules that meet all of the following conditions:

1. the vestibule is 225 square feet or less in floor area;

2. the vestibule is of noncombustible or limited combustible construction;

3. the vestibule has glazing allowing vision into vestibule;

4. the vestibule's only purpose is ingress and egress; and

5. the vestibule contains no fueled equipment, flammable or combustible liquids, or furniture. Incidental combustible storage in the vestibule is limited to ~~5 feet~~^{3} five cubic feet of material.

Subp. 6. [Repealed, 32 SR 7]

Subp. 6a. **IBC [F] section ~~903.3.7~~ 903.3.9.** IBC [F] section 903.3 is amended by adding a subsection to read as follows:

~~903.3.7~~ 903.3.9 Sprinkler system design pressure safety margin. For new sprinkler systems or additions to existing sprinkler systems, the available water supply shall exceed the sprinkler system demand, including hose stream requirements, by 5 psi (0.34 bars) or more.

Exception: NFPA 13D systems installed in accordance with Section 903.3.1.3.

[For text of subpart 7, see Minnesota Rules]

Subp. 7a. **IBC [F] section 903.4.2.** IBC [F] section 903.4.2 is amended to read as follows:

903.4.2 Alarms. An approved audible alarm and an approved visible alarm are required on the exterior of the building in an approved location. These alarms can be part of the same device or separate devices. The alarms shall be connected to each automatic sprinkler system. The alarms shall be located above the fire department connection and visible from the street or nearest point of fire department vehicle access, or as otherwise approved by the fire code official. Such sprinkler water-flow alarms shall be activated by water flow equivalent to the flow of a single sprinkler of the smallest orifice size installed in the system. Where a fire alarm system is installed, actuation of the automatic sprinkler system shall actuate the building fire alarm system.

[For text of subpart 8, see Minnesota Rules]

1305.0904 SECTION 904, ALTERNATIVE AUTOMATIC FIRE-EXTINGUISHING SYSTEMS.

IBC section 904.13, item 3, is amended to read as follows:

3. In Group R-2 congregate living facilities where domestic cooking facilities are installed in accordance with Section 420.10.

1305.0905 SECTION 905, STANDPIPE SYSTEMS.

Subpart 1. **IBC [F] section 905.2.1.** IBC [F] section 905.2 is amended by adding subsections to read as follows:

905.2.1 Modification to standards. In buildings other than high rise that are ~~protected~~ equipped throughout ~~by~~ with an automatic sprinkler system installed in accordance with Sections 903.3.1.1 ~~and~~ or 903.3.1.2, and a Class I ~~or III~~ standpipe system ~~need only~~, the pipe shall be sized to meet the pressure and flow requirements for the sprinkler system ~~when~~. Such systems shall comply with Sections 905.2.1.1 through ~~905.2.1.5~~ 905.2.1.4:

~~**905.2.1.1 Municipal water supply.** A municipal water supply capable of supplying the required standpipe flow rate with a residual pressure not less than 20 psi (1.4 bars) through a fire hydrant shall be provided. A fire hydrant shall be located within 300 feet (91 m) of the building's fire department connection.~~

~~**905.2.1.2**~~ **905.2.1.1 System ~~testing and~~ pipe size.** ~~The standpipe system shall be able to provide the pressure and flow rate required by NFPA 14 when the standpipe system is supported by local fire department apparatus through the fire department connection as verified with hydraulic calculations. The hydraulic calculations are to be performed between the hydraulically most demanding standpipe hose connection and the fire department connection.~~ Pipe sizes for combined portions of the sprinkler and standpipe systems shall not be less than ~~the minimum requirements in NFPA 14~~ four inches (101.6 mm).

905.2.1.2 System design flow and pressure. The standpipe shall provide a minimum pressure of 100 psi (6.9 bar) at the uppermost outlet and a minimum flow rate of 250 gpm (946 L/min) at the two hydraulically most remote hose connections on the standpipe when the standpipe system is supported through the fire department connection. The hydraulic calculations shall be performed between the hydraulically most demanding standpipe hose connection and the fire department connection.

905.2.1.3 Design pressure. A maximum design pressure of 150 psi (10.3 bars) is permitted at the fire department connection when the standpipe is supported by local fire department apparatus.

~~**905.2.1.4 Hose connection.** At least one 2-1/2 inch (64 mm) hose connection shall be provided on the exterior of the building at the fire department connection for each 250 gpm (980 L/min) of required standpipe flow.~~

~~**905.2.1.5**~~ **905.2.1.4 Automatic sprinkler system demand.** The automatic sprinkler system demand, including the inside and outside hose stream ~~demand~~ demands from NFPA 13, is to be provided by the municipal water supply system without requiring fire department pumping into the system.

Subp. 1a. **IBC [F] section 905.3.** IBC [F] section 905.3 is amended to read as follows:

905.3 Required installations. Standpipe systems shall be installed where required by Sections 905.3.1 through 905.3.10. Standpipe systems are allowed to be combined with automatic sprinkler systems.

Exception: Standpipe systems are not required in Group R-3 occupancies.

Subp. 1b. **IBC [F] section 905.3.1.** IBC [F] section 905.3.1 is amended to read as follows:

905.3.1 Height. Class I wet standpipe systems shall be installed throughout buildings where any of the following conditions exist:

1. Four or more stories are above or below grade plane.

2. The floor level of the highest story is located more than 30 feet (9144 mm) above the lowest level of the fire department vehicle access.

3. The floor level of the lowest story is located more than 30 feet (9144 mm) below the highest level of fire department vehicle access.

Exception: Class I manual, automatic, or semiautomatic dry standpipes are allowed in buildings that are subject to freezing temperatures, provided that the hose connections are located as required for Class II standpipes in accordance with Section 905.5.

905.3.1.1 Lowest level. In determining the lowest level of fire department vehicle access, the following areas should not be considered:

1. recessed loading docks for four vehicles or less; and

2. areas where topography makes access from the fire department vehicle to the building impractical or impossible.

Subp. 2. **IBC [F] section 905.3.2.1.** IBC [F] section 905.3.2 is amended by adding a subsection to read as follows:

905.3.2.1 Group A exhibition. Class ~~II~~ I automatic standpipes shall be provided in Group A-3 Occupancies where the floor area used for exhibition exceeds 12,000 square feet (1115 m^2).

Subp. 3. **IBC [F] ~~section~~ sections 905.3.4 and 905.3.4.1.** IBC [F] sections 905.3.4 and 905.3.4.1 are ~~amended by deleting the sections in their entirety.~~ deleted and replaced with the following:

905.3.4 Stages. Stages are not required to be equipped with standpipe systems.

Subp. 4. [Repealed, 32 SR 7]

Subp. 4a. **IBC [F] section 905.3.6.** IBC [F] section 905.3.6 is amended to read as follows:

905.3.6 Helistops and heliports. Each building with a rooftop helistop or heliport shall be equipped with a Class I standpipe system extended to the roof level on which the helistop or heliport is located in accordance with Section 2007.5 of the International Fire Code.

Subp. 5. [Repealed, 32 SR 7]

Subp. 6. **IBC [F] section 905.3.9.** IBC [F] section 905.3 is amended by adding a subsection to read as follows:

905.3.9 Detention and correctional facilities. Regardless of the height of the building or number of stories, every building in a Group I-3 detention and correctional facility, where 50 or more persons are under restraint or security under Occupancy Condition 3, 4 or 5, shall be provided with a Class ~~II~~ I automatic wet or semiautomatic dry standpipe system.

Exception: Combined systems meeting the provisions of Section 905.2 may be used.

When acceptable to the fire chief, fire department connections may be located inside all security walls or fences on the property.

Standpipes shall be located in accordance with Section 905. In addition, standpipes shall be located so that it will not be necessary to extend hose lines through smoke barriers. When located in cell complexes, standpipes may be located in secured pipe chases.

Subp. 6a. **IBC [F] section 905.3.10.** IBC [F] section 905.3 is amended by adding a subsection to read as follows:

905.3.10 Group R-2 occupancies small hose connections. Small hose connections shall be installed in Group R-2 occupancies three or more stories in height where any portion of the building's interior area is more than 200 feet (60,960 mm) of travel, vertically or horizontally, from the nearest point of fire department vehicle access. Small hose connections required by this section shall comply with the following:

1. Supply one 1-1/2-inch (38-mm) fire hose valve at each floor level or intermediate stair landing in each required and enclosed stairway.

2. The water for the small hose connections shall be supplied separately from the sprinkler system protecting that area so that the small hose connections are still functional if the water supply to the sprinkler system is shut down following fire extinguishment.

3. The piping shall be a minimum of 1-1/2 inch (38 mm).

4. The water shall be supplied from a wet-pipe sprinkler system only.

5. The piping shall be comprised of metallic piping and hose valve connections.

Permanent signage shall be required which reads "Fire Department Overhaul Hose Connection" at each connection in the building. If a separate standpipe system is provided, a sign shall also be provided at the exterior ~~FD~~ fire department connection.

Subp. 7. **IBC [F] section 905.5.1.** IBC [F] section 905.5.1 is deleted.

Subp. 8. **IBC [F] section 905.6.** IBC [F] section 905.6 and all subsections are deleted in their entirety.

1305.0907 SECTION 907, FIRE ALARM AND DETECTION SYSTEMS.

Subpart 1. [Repealed, 39 SR 1605]

Subp. 1a. **IBC section 907.1.2.** IBC [F] section 907.1.2 is amended to read as follows:

907.1.2 Fire alarm shop drawings. Shop drawings for fire alarm systems shall be submitted for review and approval before system installation, and shall include all of the following where applicable to the system being installed:

1. A floor plan that indicates the use of all rooms.

2. Locations of alarm-initiating devices.

3. Locations of alarm notification appliances, including candela ratings for visible alarm notification appliances.

4. Design minimum audibility level for occupant notification.

5. Maximum sound pressure.

6. Location of fire alarm control unit, transponders, and notification power supplies.

7. Annunciators.

8. Power connection.

9. Battery calculations.

10. Conductor type and sizes.

11. Voltage drop calculations.

12. Manufacturers' data sheets indicating model numbers and listing information for equipment, devices, and materials.

13. Details of ceiling height and construction.

14. The interface of fire safety control functions.

15. Classification of the supervising station.

Subp. ~~1a~~ 1b. **IBC [F] section 907.2.** IBC [F] section 907.2 is amended to read as follows:

907.2 Where required in new buildings and ~~structures~~ occupancies. An approved manual, automatic, or manual and automatic fire alarm system shall be provided in new buildings and occupancies in accordance with Sections 907.2.1 through ~~907.2.24~~ 907.2.24.2 and NFPA 72. For the purposes of Sections 907.2.1 through ~~907.2.24~~ 907.2.24.2, fire barrier walls or fire walls shall not define separate buildings. In buildings containing mixed occupancies that are designed as separated uses in accordance with Section 508.4, fire alarm and detection systems need only be installed in those occupancies where required by this section.

Exception: In areas protected by an approved, supervised automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2, automatic fire detectors required by Section 907.2 need not be provided. Where Section 907.2 requires smoke detectors, such protection shall be installed.

Subp. 2. [Repealed, 32 SR 7]

Subp. 2a. **IBC [F] section 907.2.1.** IBC [F] section 907.2.1 is amended to read as follows:

907.2.1 Group A, general. A fire alarm system shall be installed in accordance with Sections 907.2.1 through 907.2.1.3 in Group A occupancies having an occupant load of 300 or more.

Exceptions:

1. Assembly areas used solely for worship purposes.

2. A fire alarm system is not required in buildings with an occupant load of less than 1,000 when an approved automatic fire-extinguishing system is installed throughout the building.

3. Assembly uses within Group E occupancies shall have alarms as required for the Group E occupancy.

4. Group A-5 occupancies~~. See also Section 907.2.11~~.

[For text of subparts 3 to 10, see Minnesota Rules]

Subp. 11. **IBC [F] section 907.2.3.1.** IBC [F] section 907.2.3 is amended by adding a section to read as follows:

907.2.3.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in laundry rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, ~~janitors'~~ custodial closets, trash collection rooms, storage rooms, lounges, and similar areas.

~~Exceptions~~ Exception:

~~1.~~ In buildings protected throughout by an approved ~~fire~~ automatic sprinkler system or having an approved fire alarm system equipped with corridor smoke detection, manual fire alarm boxes are only required in ~~the~~ any main office and in ~~a~~ any custodial area.

~~2. Where all corridors are protected by an approved automatic fire alarm system having smoke detection with alarm verification, manual fire alarm boxes are only required near exits serving shops, chemistry and physics laboratories, boiler rooms, industrial technology and industrial arts rooms, kitchens, custodian's offices, and main offices.~~

[For text of subpart 12, see Minnesota Rules]

Subp. 13. **IBC [F] section 907.2.3.3.** IBC [F] section 907.2.3 is amended by adding a ~~section~~ subsection to read as follows:

907.2.3.3 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate ~~a general evacuation signal~~ an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6.

Exception: An emergency voice/alarm communication system is not required in Group E occupancies with occupant loads of 100 or less, as long as the activation of the fire alarm system or automatic sprinkler system in those occupancies initiates a general evacuation signal.

[For text of subparts 14 to 16, see Minnesota Rules]

Subp. 17. **IBC [F] section 907.2.5.** IBC [F] section 907.2.5 is amended to read as follows:

907.2.5 Group H, general. A fire alarm system shall be installed in accordance with Sections 907.2.5 through 907.2.5.2 in Group H-5 occupancies, occupancies used for the manufacture of organic coatings, and, when required by chapters 60, 62, and 63 of the ~~IFC~~ Minnesota State Fire Code at the following locations:

1. rooms or areas where highly toxic compressed gases are stored or used;

2. rooms or areas where Class I, II, or III organic peroxides are stored; and

3. liquid and solid oxidizer storage areas.

Subp. 18. **IBC [F] section 907.2.5.1.** IBC [F] section 907.2.5 is amended by adding a section to read as follows:

907.2.5.1 Initiation. Initiation of the fire alarm system in Group H-5 Occupancies and in occupancies used for the manufacture of organic coatings shall be by manual means. Initiation of fire alarm systems installed for highly toxic gases, organic

peroxides and oxidizers shall be by automatic means, as specified in chapters 60, 62, and 63 of the ~~2012 IFC~~ Minnesota State Fire Code.

[For text of subparts 19 to 21, see Minnesota Rules]

Subp. 22. **IBC [F] section 907.2.6.** IBC [F] section 907.2.6 and all subsections are deleted in their entirety and replaced with the following:

907.2.6 Group I, general. A fire alarm system shall be installed in accordance with Sections ~~907.2.6~~ 907.2.6.1 through 907.2.6.4.2 in Group I occupancies.

907.2.6.1 Group I-1 occupancies-general. A manual and automatic fire alarm system shall be installed in Group I-1 occupancies in accordance with Sections ~~907.2.6.1~~ 907.2.6.1.1 through 907.2.6.1.3.

907.2.6.1.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, ~~janitors'~~ custodial closets, trash-collection rooms, storage rooms, lounges, gift shops, and similar areas. Automatic smoke detectors shall be provided in corridors and areas that are open to corridors.

Exception: Manual fire alarm boxes in patient sleeping areas of Group I-1 occupancies shall not be required at exits if located at all nurses' stations or other constantly attended staff locations, provided such fire alarm boxes are visible and continuously accessible and provided that travel distances required by Section 907.4.2 are not exceeded.

907.2.6.1.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal. In addition,

activation of the fire alarm system shall immediately transmit an alarm to an approved central station or remote station service.

Exceptions:

1. In lieu of audible notification appliances, visible notification appliances shall be allowed to be used in critical care areas.

2. Where occupants are incapable of evacuating themselves because of age, physical/mental disabilities, or physical restraint, only the attendants or other personnel required to evacuate occupants from a zone, area, floor, or building shall be required to be notified. This notification shall include means to readily identify the zone, area, floor, or building in need of evacuation.

907.2.6.1.3 Sleeping room smoke alarms. Smoke alarms shall be installed in resident sleeping rooms in accordance with Section ~~907.2.11.1~~ 907.2.10.2.

907.2.6.2 Group I-2 occupancies-general. A manual and automatic fire alarm system shall be installed in Group I-2 occupancies in accordance with Sections ~~907.2.6.2~~ 907.2.6.2.1 through 907.2.6.2.4.

907.2.6.2.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, ~~janitors'~~ custodial closets, trash-collection rooms, storage rooms, lounges, gift shops, and similar areas. Hospitals, nursing homes (both intermediate care and skilled nursing facilities), board and care homes, and detoxification facilities shall be provided with smoke detection throughout the corridor and areas open to the corridors, other than nurses' stations.

Exceptions:

1. Corridor smoke detection shall not be required where the sleeping room smoke detectors required in Section ~~907.2.6.3~~ 907.2.6.2.3 are connected to an approved fire alarm system and activate a general evacuation signal.

2. Manual fire alarm boxes shall not be required at exits from patient sleeping areas if located at all nurses' stations or other constantly attended staff locations, provided such fire alarm boxes are visible and continuously accessible and provided that travel distances horizontally on the same floor shall not exceed 200 feet to reach a manual fire alarm box.

907.2.6.2.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a signal that is distinctive from audible signals used for other purposes in the same building. Such signal is intended to notify staff and need not meet the minimum sound pressure levels required for general evacuation fire alarm notification. In addition, activation of the fire alarm system shall immediately transmit an alarm to an approved central station or remote station service.

Exceptions:

1. In lieu of audible notification appliances, visible notification appliances shall be allowed to be used in critical care areas.

2. Where occupants are incapable of evacuating themselves because of age, physical/mental disabilities, or physical restraint, only the attendants or other personnel required to evacuate occupants from a zone, area, floor, or building shall be required to be notified. This notification shall

include means to readily identify the zone, area, floor, or building in need of evacuation.

3. Where total evacuation of occupants is impractical due to building configuration, only the occupants in the affected zones shall be initially notified. Provisions shall be made to selectively notify occupants in other zones to afford orderly evacuation of the entire building.

907.2.6.2.3 Patient room smoke detectors. Smoke detectors shall be installed in patient sleeping rooms of hospitals and nursing homes. Such detectors' primary power shall be other than battery power. Actuation of such detectors shall cause a visual display on the corridor side of the room where the detector is located and shall cause a distinct audible and visual alarm at the nurses' station attending the room. Such detectors may be part of the facility's fire alarm system, nurses' call system, or a standalone system.

907.2.6.2.3.1 Integral smoke detectors for automatic door-closing devices. Integral smoke detectors for automatic door-closing devices on sleeping room doors can be installed only if they also meet all of the requirements in Section 907.2.6.2.3.

907.2.6.2.4 Sleeping room smoke alarms. For Group I-2 facilities other than hospitals and nursing homes, single station smoke alarms shall be installed in resident sleeping rooms.

907.2.6.3 Group I-3 occupancies-general. A manual and automatic fire alarm system shall be installed in Group I-3 occupancies in accordance with Sections ~~907.2.6.3~~ 907.2.6.3.1 through 907.2.6.3.4.

907.2.6.3.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in

laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, ~~janitors'~~ custodial closets, trash-collection rooms, storage rooms, lounges, gift shops, commissaries, and similar areas. Actuation of an automatic fire-extinguishing system, a manual fire alarm box, or a fire detector shall initiate an approved fire alarm signal, which automatically notifies staff. Presignal systems shall not be used.

907.2.6.3.2 Manual fire alarm boxes. Manual fire alarm boxes are not required to be located in accordance with Section 907.4 where the fire alarm boxes are provided at staff-attended locations having direct supervision over areas where manual fire alarm boxes have been omitted.

Manual fire alarm boxes are permitted to be locked in areas occupied by detainees, provided that staff members are present within the subject area and have keys readily available to operate the manual fire alarm boxes.

907.2.6.3.3 Smoke detectors. An approved automatic smoke-detection system shall be installed throughout resident housing areas, including sleeping areas and contiguous day rooms, group activity spaces, and other common spaces normally accessible to residents.

Exceptions:

1. Other approved smoke-detection arrangements providing equivalent protection, such as placing detectors in exhaust ducts from cells or behind protective grills, are allowed when necessary to prevent damage or tampering.

2. Smoke detectors are not required in sleeping rooms with four or fewer occupants in smoke compartments that are equipped throughout with an approved automatic sprinkler system.

907.2.6.3.4 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a signal that is distinctive from audible signals used for other purposes in the same building. Such signal is intended to notify staff and need not meet the minimum sound pressure levels required for general evacuation fire alarm notification. In addition, activation of the fire alarm system shall immediately transmit an alarm to an approved central station or remote station service.

907.2.6.4 Group I-4 occupancies-general. A manual and automatic fire alarm system shall be installed in Group I-4 occupancies in accordance with Sections 907.2.6.4.1 through 907.2.6.4.2.

907.2.6.4.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be installed in laundry and soiled linen rooms, boiler and furnace rooms, mechanical and electrical rooms, shops, laboratories, kitchens, locker rooms, ~~janitors'~~ custodial closets, trash-collection rooms, storage rooms, lounges, gift shops, and similar areas. Automatic smoke detectors shall be provided in corridors and areas that are open to corridors.

907.2.6.4.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal. In addition, activation of the fire alarm system shall immediately transmit an alarm signal to an approved central station or remote station service.

Subp. 23. **IBC [F] section 907.2.7.** IBC [F] section 907.2.7 is deleted in its entirety.

Subp. 24. **IBC [F] section 907.2.7.1.** IBC [F] section 907.2.7.1 is deleted in its entirety.

Subp. 25. **IBC [F] section 907.2.8.** IBC [F] section 907.2.8 is amended to read as follows:

907.2.8 Group R-1, general. A fire alarm system shall be installed in accordance with Sections ~~907.2.8~~ 907.2.8.1 through 907.2.8.3 in Group R-1 occupancies.

Exceptions:

1. A fire alarm system is not required in buildings not over two stories in height where all individual sleeping units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least one-hour fire partitions and each sleeping unit has an exit directly to a public way, exit court, or yard.

2. Buildings containing five or fewer sleeping units shall be allowed to be equipped with approved multiple-station smoke ~~detectors~~ alarms installed as required for Group R-3 Occupancies. Installation shall be in accordance with Section ~~907.2.11~~ 907.2.10.

907.2.8.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, shops, laundry and soiled linen rooms, mechanical and electrical rooms, trash collection rooms, storage rooms, gift shops, kitchens, locker rooms, custodial closets, lounges, and similar areas. Automatic smoke detectors shall be provided in all common areas and interior corridors serving as required means of egress.

Exception: System fire and smoke detectors are not required when an approved automatic fire extinguishing system is installed in accordance with Section 903.3.1.1 or 903.3.1.2 and a manual fire alarm box is provided at a

constantly attended location. When a constantly attended location is not provided, the manual fire alarm box shall be provided at the main exit.

907.2.8.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

907.2.8.3 Sleeping unit smoke alarms. Sleeping unit smoke alarms required by Section ~~907.2.11~~ 907.2.10 shall not be connected to a fire alarm system.

Exception: Connection of such alarms for annunciation only.

Subp. 26. **IBC [F] section 907.2.9.** IBC [F] section 907.2.9 ~~is amended, and sections added, to read as follows~~ and all subsections are deleted in their entirety and replaced with the following:

907.2.9 Groups R-2 and R-4 , general. Fire alarm systems and smoke alarms shall be installed in Group R-2 and Group R-4 occupancies. Group R-2 occupancies shall comply with Sections 907.2.9.1 through 907.2.9.1.3. Group R-4 occupancies shall comply with Sections 907.2.9.2 through 907.2.9.2.3.

~~**907.2.9**~~ **907.2.9.1 Group R-2, general.** A fire alarm system shall be installed in accordance with Sections ~~907.2.9~~ 907.2.9.1 through ~~907.2.9.2~~ 907.2.9.1.2 in Group R-2 occupancies where:

1. any sleeping unit or dwelling unit is located ~~three~~ two or more stories above the story containing the lowest level of exit discharge;

2. any sleeping unit or dwelling unit is located more than one story below the highest level of exit discharge of exits serving the dwelling unit;

3. the building contains more than 16 dwelling units or sleeping units; or

4. the building is used as a congregate living facility, dormitory, convent, monastery, fraternity, sorority, group home, or shelter and has an occupant load of 20 or more.

Exception: A fire alarm system is not required in buildings not over two stories in height where all dwelling units and contiguous attic and crawl spaces are separated from each other and public or common areas by at least one-hour fire partitions and each dwelling unit has an exit directly to a public way, exit court, or yard.

~~**907.2.9.1**~~ **907.2.9.1.1 Initiation.** Initiation of the fire alarm system shall be by automatic means. Automatic fire detectors shall be provided in boiler and furnace rooms, trash-collection rooms, shops, laundry rooms, common kitchens, locker rooms, lounges, mechanical and electrical rooms, storage rooms, and similar areas. Automatic smoke detectors shall be provided in all common areas and interior corridors serving as required means of egress.

Exception: System fire and smoke detectors are not required when an approved automatic fire extinguishing system is installed throughout the building.

~~**907.2.9.2**~~ **907.2.9.1.2 Notification.** Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

~~**907.2.9.3**~~ **907.2.9.1.3 Dwelling unit smoke alarms.** Dwelling unit smoke alarms required by Section ~~907.2.11~~ 907.2.10 shall not be connected to the building fire alarm system.

Exception: Connection of such alarms for annunciation only.

907.2.9.2 Group R-4, general. A fire alarm system shall be installed in accordance with Sections 907.2.9.2.1 through 907.2.9.2.3 in Group R-4 occupancies.

Exceptions:

1. A fire alarm system is not required in buildings two stories or less in height where all individual sleeping units, attics, and crawl spaces contiguous to those units are separated from each other and public or common areas by at least one-hour fire partitions and each sleeping unit room has an exit directly to a public way, exit court, or yard.

2. Buildings containing five or fewer sleeping units are permitted to be equipped with approved multiple-station smoke alarms installed as required for Group R-3 occupancies. Installation shall be in accordance with Section 907.2.10.

907.2.9.2.1 Initiation. Initiation of the fire alarm system shall be by automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, shops, laundry and soiled linen rooms, mechanical and electrical rooms, common kitchens, lounges, trash collection rooms, storage rooms, gift shops, locker rooms, and similar areas. Automatic smoke detectors shall be provided in all common areas and interior corridors serving as required means of egress.

Exception: System fire and smoke detectors are not required when an approved automatic fire-extinguishing system is installed in accordance with Section 903.3.1.1, 903.3.1.2, or 903.3.1.3.

907.2.9.2.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal.

907.2.9.2.3 Smoke alarms. Single and multiple-station smoke alarms shall be installed in accordance with Section 907.2.10.

Subp. 26a. [Repealed, 39 SR 1605]

Subp. 26b. [See repealer.]

Subp. 27. [See repealer.]

Subp. 27a. [Repealed, 39 SR 1605]

Subp. 27b. **IBC [F] section 907.2.22.** IBC [F] section 907.2.22 is amended to read as follows:

907.2.22 Battery rooms. An automatic smoke detection system shall be installed in areas containing stationary storage battery systems where the battery capacity exceeds that listed in Table 907.2.22. Battery systems exceeding the quantities listed in Table 907.2.22 shall comply with Minnesota Rules, chapter 7511, the Minnesota State Fire Code.

Subp. 27c. **IBC [F] section 907.2.22.** IBC [F] section 907.2.22 is amended to add Table 907.2.22 as follows:

TABLE 907.2.22

BATTERY STORAGE SYSTEM THRESHOLD QUANTITIES

Battery Technology	**Capacity [a]**
Flow batteries [b]	20 kWh
Lead acid, all types	70 kWh
Lithium, all types	20 kWh
Nickel cadmium (Ni-Cd)	70 kWh
Sodium, all types	20 kWh [c]
Other battery technologies	10 kWh

For SI: 1 kilowatt hour = 3.6 megajoules.

[a] For batteries rated in amp-hours, kWh shall equal rated voltage times amp-hour rating divided by 1000.

[b] Shall include vanadium, zinc-bromine, polysulfide-bromide, and other flowing electrolyte-type technologies.

[c] 70 kWh for sodium-ion technologies.

Subp. 27d. **IBC [F] section 907.2.23.** IBC [F] section 907.2.23 is amended to read as follows:

907.2.23 Capacitor energy storage systems. An automatic smoke detection system shall be installed in areas containing capacitor energy storage systems where the storage capacity exceeds 3 kWh (10.8 megajoules). Systems exceeding 3 kWh (10.8 megajoules) shall comply with Minnesota Rules, chapter 7511, the Minnesota State Fire Code.

Subp. 28. **IBC [F] section 907.2.24.** IBC [F] section 907.2 is amended by adding sections to read as follows:

907.2.24 Residential hospices. A fire alarm system shall be installed in accordance with ~~Section 907.2.24~~ Sections 907.2.24.1 and 907.2.24.2 in residential hospices. When automatic sprinkler systems or automatic fire detectors are installed, such systems or detectors shall be connected to the building fire alarm system.

907.2.24.1 Initiation. Initiation of the fire alarm system shall be by manual and automatic means. Approved automatic fire detectors shall be provided in boiler and furnace rooms, kitchens, laboratories, shops, gift shops, commissaries, laundry and soiled linen rooms, mechanical and electrical rooms, locker rooms, storage rooms, ~~janitors'~~ custodial closets, trash collection rooms, lounges, and similar areas. Automatic smoke detectors shall be provided in sleeping rooms, corridors, and spaces open to the corridors.

Exception: Manual fire alarm boxes are not required at exits if manual fire alarm boxes are located at all nurses' stations or other continuously attended staff locations, provided such fire alarm boxes are visible and continuously

accessible and that travel distances required by Section ~~907.4.1~~ 907.4.2 are not exceeded.

907.2.24.2 Notification. Activation of the fire alarm system or automatic sprinkler system shall initiate a general evacuation signal. In addition, the fire alarm system shall be monitored by an approved central station service in accordance with Section 903.4.1.

Exception: In lieu of audible notification appliances, visible notification appliances shall be allowed to be used in sleeping areas.

Subp. 29. [Repealed, 32 SR 7]

Subp. 30. [Repealed, 39 SR 1605]

Subp. 31. **IBC [F] section 907.3.** IBC [F] section 907.3 is amended, and subsections added, to read as follows:

907.3 Fire safety functions. Automatic fire detectors required by Section 907.2 of this code and ~~IFC~~ Chapter 11 of the Minnesota State Fire Code are to activate notification appliances in accordance with those sections. When automatic fire detectors are installed for other fire safety functions, they shall perform the intended function upon activation. When automatic detectors are installed for fire safety functions and the building has a fire alarm system, the detectors shall activate supervisory signals at the fire alarm control panel or at a constantly attended location. When the building does not have a fire alarm system, the detectors shall activate a visual and audible supervisory signal at an approved location, which shall indicate the source of the signal.

907.3.1 Air distribution and air-handling systems. Smoke detectors installed to shut down the air distribution or air-handling system shall, upon activation, perform the intended function. Air distribution or air-handling equipment that is part of a smoke-control system shall switch to smoke-control mode upon activation of a detector.

907.3.1.1 Fire alarm system interface. Smoke detectors that are installed in air distribution or air-handling systems for shutdown purposes and that are connected to a fire alarm system shall not sound a general evacuation signal.

907.3.2 Elevator control functions. Smoke detectors that are installed to control or recall elevators or to control doors for elevators, elevator lobbies, or elevator shafts and that are connected to a fire alarm system shall not sound a general evacuation signal. Elevator recall and firefighter's emergency operation for elevators shall only be controlled by elevator smoke detectors and shall not initiate upon other building fire detectors or evacuation signals.

907.3.3 Door hold-open functions. Smoke detectors that are installed to hold open fire doors under nonemergency conditions and that are connected to a fire alarm system shall sound a general evacuation signal when the doors being held open are part of the means of egress corridor or stair system. Door hold-open smoke detectors are not required to activate a visual or audible signal.

(Subsection 907.3.4 remains unchanged.)

Subp. 31a. [See repealer.]

Subp. 31b. **IBC [F] section 907.5.2.1.2.** IBC [F] section 907.5.2.1.2 is amended to read as follows:

907.5.2.1.2 Maximum sound pressure. Fire alarm system audibility levels shall not exceed 35 dB above the average ambient sound level described in Section 907.5.2.1.1 or 35 dB above the peak ambient sound level. The maximum sound pressure level for audible alarm notification appliances shall be 110 dBA at the minimum hearing distance from the audible appliance. Where the average ambient noise is greater than 95 dBA, visible alarm

notification appliances shall be provided in accordance with NFPA 72 and audible alarm notification appliances shall not be required.

Subp. 32. [Repealed, 39 SR 1605]

Subp. 32a. **IBC [F] section 907.6.6.** IBC [F] section 907.6.6 is amended to read as follows:

907.6.6 Monitoring. Where provided, monitoring of fire alarm systems shall comply with Sections 907.6.6.1 and 907.6.6.2.

(The exceptions are removed.)

(Subsections 907.6.6.1 and 907.6.6.2 remain unchanged.)

Subp. 33. [Repealed, 39 SR 1605]

1305.0909 SECTION 909, SMOKE CONTROL SYSTEMS.

Subpart 1. [Repealed, 39 SR 1605]

[For text of subparts 1a and 1b, see Minnesota Rules]

Subp. 1c. **IBC [F] section ~~909.4.7~~ 909.4.8.** IBC [F] section 909.4 is amended by adding a section to read:

~~909.4.7~~ 909.4.8 Door opening force. With any of the design methods allowed by Section 909, the door opening force, latch release, and set-in-motion force shall comply with Section ~~1008.1.3~~ 1010.1.3 requirements when the system is in smoke control mode.

Subp. 1d. **IBC [F] section 909.22.** IBC [F] section 909 is amended by adding a section to read as follows:

909.22 High-rise and covered mall smoke-exhaust systems. High-rise buildings, not provided with a smoke control or a post-fire smoke exhaust system, shall be equipped with

a smoke removal system installed in accordance with this code. Covered mall buildings exceeding 50,000 square feet (4,645 m^2) in floor area, excluding anchor stores, and not provided with a smoke control system, shall be equipped with a post-fire smoke exhaust system installed in accordance with this code.

Subp. 2. [Repealed, 39 SR 1605]

1305.0910 SECTION 910, SMOKE AND HEAT REMOVAL.

~~IBC [F] section 910 is amended to read as follows:~~

~~[F] SECTION 910~~

~~SMOKE AND HEAT REMOVAL~~

Subpart 1. **IBC [F] section 910.1.** IBC [F] section 910.1 is amended by adding sections to read as follows:

910.1.1 Required venting method. Required smoke and heat venting shall be accomplished with mechanical smoke exhaust according to Section 910.4.

Exceptions:

1. Calculated engineering design of mechanical smoke exhaust in accordance with Section 910.5 shall be permitted for buildings sprinklered throughout.

2. For ~~nonsprinklered~~ non-sprinklered buildings, smoke and heat vents as specified in Section 910.3 shall be permitted.

3. Where approved by the building official, smoke and heat vents as specified in Section 910.3 shall be permitted in sprinklered buildings.

910.1.2 Listing. Smoke and heat vents and mechanical smoke exhaust fans shall be listed for the intended purpose.

910.1.3 Curtain boards. When mechanical smoke exhaust is provided in accordance with Section 910.4 or 910.5, curtain boards are only required at the separation between areas protected with early suppression fast response (ESFR) sprinklers and conventional sprinkler systems.

Subp. 2. **IBC [F] section 910.4.** IBC [F] section 910.4 is amended to read as follows:

910.4 Mechanical smoke exhaust. Mechanical smoke exhaust shall be in accordance with Sections 910.4.1 through ~~910.4.6~~ 910.4.7.

(Subsections 910.4.1 through 910.4.7 remain unchanged except as amended in subparts 2a and 3.)

Subp. 2a. **IBC [F] section 910.4.3.1.** IBC [F] section 910.4.3.1 is amended to read as follows:

~~910.4.5~~ 910.4.3.1 Supply air. Supply air for exhaust fans shall be sized to provide a minimum of 50 percent of the required exhaust. Air velocity at each supply air opening shall not exceed an average of 200 feet per minute when measured 4 feet (1219 mm) in front of the opening. Openings for supply air shall be uniformly distributed around the periphery of the area served and be located or ducted to a position not more than one-half the storage height above the floor. Supply air openings shall open automatically upon operation of the smoke exhaust system and shall not require a manual action at each supply opening for operation. Supply air openings shall be kept clear of storage or obstructions to airflow for at least 4 feet (1219 mm) in front of the opening. Supply air openings shall be separated from exhaust fans and exterior combustibles to prevent introduction of smoke into the building.

Subp. 3. **IBC [F] section ~~910.4.3~~ 910.4.4.** IBC [F] section ~~910.4.3~~ 910.4.4 is amended to read as follows:

~~**910.4.3**~~ **910.4.4 Operation.** Mechanical smoke exhaust fans shall be manually activated. ~~In addition,~~ Individual manual controls of each fan unit shall also be provided.

Subp. 4. [Renumbered subp 2a]

Subp. 5. **IBC [F] section 910.5.** IBC [F] section ~~910~~ 910.5 is amended ~~by adding sections~~, and subsections added, to read as follows:

910.5 Calculated engineering design of mechanical smoke exhaust. Calculated engineering design of mechanical smoke exhaust shall be in accordance with Sections 910.5.1 through 910.5.5.

910.5.1 Methodology. Mechanical smoke exhaust systems shall be designed to remove smoke after a fire is extinguished and to assist the fire department during suppression operations or during marginal sprinkler control situations. They are not considered life safety systems and are not designed for occupant safety.

910.5.2 Calculation method. Volumetric flow rate calculations shall demonstrate that the system will provide at least three air changes per hour for the space required to be provided with smoke exhaust. When only a portion of a space is used for high-piled storage requiring smoke exhaust, the volume to be extracted shall be based on the ceiling height multiplied by the actual gross floor area for storage.

910.5.3 Operation. Mechanical smoke exhaust fans shall be manually activated. In addition, individual manual controls of each fan unit shall also be provided.

910.5.4 Supply air. Supply air for exhaust fans shall be sized to provide a minimum of 50 percent of the required exhaust. Air velocity at each supply air opening shall not exceed an average of 200 feet per minute when measured 4 feet (1219 mm) in front of the opening. Openings for supply air shall be uniformly distributed around the periphery of the area served and be located or ducted to a position not more than one-half the storage height above the floor. Supply air openings shall open automatically upon

operation of the smoke exhaust system and shall not require a manual action at each supply opening for operation. Supply air openings shall be kept clear of storage or obstructions to airflow for at least 4 feet (1219 mm) in front of the opening. Supply air openings shall be separated from exhaust fans and exterior combustibles to prevent introduction of smoke into the building.

910.5.5 Equipment. Wiring and controls shall be as required in ~~section 910.4.4. Interlocks~~ Sections 910.4.5 and 910.4.6. Interlock controls shall be as required in Section ~~910.4.6~~ 910.4.7. Exhaust fans shall be uniformly spaced and each fan shall have a maximum individual capacity of 30,000 cfm (850 m^3/min).

Subp. 6. **IBC [F] section 910.6.** IBC [F] section 910 is amended by adding a subsection to read as follows:

910.6 Testing and maintenance. Mechanical smoke exhaust systems shall be tested and maintained as required by Sections 910.6.1 through 910.6.4.

910.6.1 Acceptance testing. Mechanical smoke exhaust systems shall be acceptance tested as required by Sections ~~909.18.1 through 909.18.7~~ 909.18 and 909.19.

910.6.1.1 Controls. For testing purposes, each smoke exhaust system equipped for automatic activation shall be put into operation by the actuation of the automatic initiating device. Control sequences shall be verified throughout the system, including verification of override from the firefighter's control panel when systems are equipped for automatic activation.

910.6.2 Special inspections. Special inspections for mechanical smoke exhaust shall be conducted according to Section 909.18.8.

910.6.3 Maintenance. Mechanical smoke exhaust systems, including exhaust fans, supply air openings and controls, shall be maintained and unobstructed.

910.6.4 Operational testing. Operational testing of the smoke exhaust system shall include all equipment such as initiating devices, fans, dampers, controls, and supply air openings. Mechanical smoke exhaust systems shall be operated and tested under each control sequence at least annually.

1305.0915 IBC [F] SECTION 915, CARBON MONOXIDE DETECTION.

Subpart 1. **IBC [F] section 915.1.** IBC [F] section 915.1 and subsection 915.1.1 are amended to read as follows:

915.1 General. Carbon monoxide detection shall be installed in new buildings in accordance with Sections 915.1.1 through 915.6.

915.1.1 Where required. Carbon monoxide detection shall be provided in Group I-1, I-2, I-4, and R occupancies and in classrooms in Group E occupancies in the locations specified in Section 915.2 where any of the conditions in Sections 915.1.2 through 915.1.6 exist.

Exception: In multi-family dwellings, approved and operational carbon monoxide alarms may be installed between 15 and 25 feet of carbon monoxide-producing central fixtures and equipment provided there is a centralized alarm system or other approved mechanism for responsible parties to hear the alarms at all times.

(Sections 915.1.2 through 915.1.6 remain unchanged.)

Subp. 2. **IBC [F] section 915.2.** IBC [F] section 915.2 and subsections 915.2.1 and 915.2.2 are amended to read as follows:

915.2 Locations. Where required by Section 915.1.1, carbon monoxide detection shall be installed in the locations specified in Sections 915.2.1 through 915.2.3.

915.2.1 Dwelling units. Carbon monoxide detection shall be installed in dwelling units outside of each separate sleeping area within ten feet of the bedrooms. Where a

fuel-burning appliance is located in a bedroom or its attached bathroom, carbon monoxide detection shall be installed within the bedroom.

915.2.2 Sleeping units. Carbon monoxide detection shall be installed in sleeping units.

Exception: Carbon monoxide detection shall be allowed to be installed outside of each separate sleeping area within ten feet of the sleeping unit where the sleeping unit or its attached bathroom does not contain a fuel-burning appliance and is not served by a forced air furnace.

(Section 915.2.3 remains unchanged.)

1305.0916 SECTION 916, GAS DETECTION SYSTEMS.

IBC section 916.2 and its subsections are amended to read as follows:

916.2 Documentation. The installation or modification of gas detection systems shall be documented in accordance with Sections 916.2.1 and 916.2.2.

916.2.1 Construction documents. Documentation of the gas detection system design and equipment to be used that demonstrates compliance with the requirements of this code shall be provided with the application for permit.

916.2.2 Fire authority notification. On each occasion when a gas detection system is either installed or modified, the licensed design professional shall notify the fire authority having jurisdiction.

1305.0917 SECTION 917, MASS NOTIFICATION SYSTEMS.

IBC section 917.1 is deleted in its entirety.

1305.0918 SECTION 918, EMERGENCY RESPONDER RADIO COVERAGE.

IBC section 918 is deleted in its entirety.

~~1305.0916~~ 1305.0919 SECTION ~~916~~ 919, POST-FIRE EXHAUST SYSTEM.

IBC chapter 9 is amended by adding a section to read as follows:

SECTION ~~916~~ 919

POST-FIRE SMOKE EXHAUST SYSTEM

~~916.1~~ 919.1 Scope and purpose. This section applies to post-fire smoke exhaust systems when they are required by other provisions of this code. The purpose of this section is to establish minimum requirements for the design and installation of smoke exhaust systems that are intended for the timely restoration of operations and overhaul activities once a fire is extinguished.

~~916.2~~ 919.2 General design requirements. Post-fire smoke exhaust systems are not intended or designed as life safety systems and are not required to meet the provisions of Section 909. These systems are permitted to use dedicated equipment, the normal building HVAC system or other openings and shall have the capability to exhaust smoke from occupied spaces. Smoke removal may be by either mechanical or natural ventilation, but shall be capable of removing cold smoke. Smoke exhaust shall be permitted through elevator shafts. Smoke removed from a space shall be discharged to a safe location outside the building and may not be recirculated into the building in accordance with the Minnesota Mechanical Code.

~~916.3~~ 919.3 Exhaust capability. The system shall have an air supply and smoke exhaust capability that will provide a minimum of three air changes per hour or remove smoke to less than a 5 percent concentration within one hour of operation. The system does not need to exhaust from all areas at the same time, but is permitted to be zoned based on the largest fire area served. For the purpose of calculating system size, the height of a compartment shall be considered to run from slab to slab and include the volume above suspended ceilings.

~~916.4~~ 919.4 **Operation.** The smoke exhaust system shall be operated by manual controls that are readily accessible to the fire department at an approved location and shall incorporate an approved control diagram. When a system is zoned into areas of operation less than the entire building, each zone shall have an individual control. Fire department manual controls of post-fire smoke exhaust systems shall have the highest priority of any control point within the building. Smoke exhaust shall not be permitted through any exit enclosure as defined in Section 1002.

~~916.5~~ 919.5 **Inspection and testing.** Post-fire smoke exhaust systems shall be inspected and tested annually.

1305.1006 SECTION 1006, NUMBER OF EXITS AND EXIT ACCESS DOORWAYS.

Subpart 1. **IBC Table 1006.2.1.** IBC Table 1006.2.1 is amended to read as follows:

TABLE 1006.2.1
SPACES WITH ONE EXIT OR EXIT ACCESS DOORWAY

Occupancy	Maximum Occupant Load of Space	Maximum Common Path of Egress Travel Distance (feet)		
		Without Sprinkler System (feet)		With Sprinkler System (feet)
		Occupant Load		
		OL ≤ 30	OL > 30	
A[c], E, M	49	75	75	75[a]
B	49	100	75	100[a]
F	49	75	75	100[a]
H-1, H-2, H-3	3	NP	NP	25[b]
H-4, H-5	10	NP	NP	75[b]
I-1, I-2[d]	10	NP	NP	75[a]
I-3	10	NP	NP	100[a]
I-4	10	75	75	75[a]
R-1	10	75	75	75[a]
R-2	20	75	75	125[a]

R-3	20	75	75	125[a,f]
R-4	20	75	75	125[a,f]
S[e]	29	100	75	100[a]
U	49	100	75	75[a]

NP = Not Permitted

[a] Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.2.

[b] Group H occupancies equipped throughout with an automatic sprinkler system in accordance with Section 903.2.5.

[c] For a room or space used for assembly purposes having fixed seating, see Section 1029.8.

[d] For the travel distance limitations in Group I-2, see Section 407.4.

[e] The common path of egress travel distance in a Group S-2 open parking garage shall not be more than 100 feet.

[f] For the travel distance limitations in Groups R-3 and R-4 equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3, see Section 1006.2.2.6.

Subp. 2. **IBC section 1006.2.2.1.** IBC section 1006.2.2.1 is amended to read as follows:

1006.2.2.1 Boiler, incinerator, and furnace rooms. Two exit access doorways are required in boiler, incinerator, and furnace rooms where the area is over 500 square feet (46 m^2) and any fuel-fired equipment exceeds 400,000 British thermal units (Btu) (422,000 kJ) input capacity. Where two exit access doorways are required, one is permitted to be a fixed ladder or an alternating tread device. Exit access doorways shall be separated by a horizontal distance not less than one-half

the length of the maximum overall diagonal dimension of the room. The exit access path of travel shall not converge to a separation distance less than one-third the length of the maximum overall diagonal dimension of the room.

Subp. 3. **IBC section 1006.2.2.4.** IBC section 1006.2.2.4 is amended to read as follows:

1006.2.2.4 Group E and I-4 means of egress. Group E and I-4 facilities, rooms, or spaces where care is provided for more than ten children that are 2-1/2 years of age or less, shall have access to not less than two exits or exit access doorways.

Subp. 4. **IBC section 1006.2.2.7.** IBC section 1006.2.2 is amended by adding a subsection to read as follows:

1006.2.2.7 Educational occupancy laboratories and prep areas. Laboratories and prep areas containing hazardous materials shall be provided with not less than two means of egress when located in an E occupancy and the space is greater than 500 square feet.

Subp. 5. **IBC section 1006.3.3.** IBC section 1006.3.3 is amended to read as follows:

1006.3.3 Single exits. A single exit or access to a single exit shall be permitted from any story or occupied roof where one of the following conditions exists:

1. The occupant load, number of dwelling units or sleeping units, and common path of egress travel distance do not exceed the values in Table 1006.3.3(1) or 1006.3.3(2).

2. Rooms, areas, and spaces complying with Section 1006.2.1 with exits that discharge directly to the exterior at the level of exit discharge are permitted to have one exit or access to a single exit.

3. Parking garages where the vehicles are mechanically parked shall be permitted to have one exit or access to a single exit.

4. Group R-3 and R-4 occupancies shall be permitted to have one exit or access to a single exit.

5. Individual single-story or multi-story dwelling units and sleeping units shall be permitted to have a single exit or access to a single exit from each dwelling unit or sleeping unit, provided that both of the following criteria are met:

5.1. Each dwelling unit and sleeping unit complies with Section 1006.2.1 as a space with one means of egress.

5.2. Each sleeping unit and dwelling unit either:

(a) has an exit that discharges directly to the exterior at the level of exit discharge; or

(b) has an exit access outside the entrance door that provides access to at least two approved independent exits.

(Subsection 1006.3.3.1 remains unchanged.)

1305.1009 [Renumbered 1305.1011]

1305.1009 SECTION 1009, ACCESSIBLE MEANS OF EGRESS.

IBC section 1009.1 is amended by adding a new exception to read as follows:

3. Accessible means of egress is not required for alterations to existing buildings.

~~1305.1008~~ 1305.1010 SECTION ~~1008~~ 1010, DOORS, GATES, AND TURNSTILES.

Subpart 1. [Repealed, 32 SR 7]

Subp. 2. [Repealed, 32 SR 7]

Subp. 3. [Repealed, 32 SR 7]

Subp. 4. [Repealed, 39 SR 1605]

Subp. 5. **IBC section ~~1008.1.5~~ 1010.1.5.** IBC section ~~1008.1.5~~ 1010.1.5 is amended by modifying exception 5 to read as follows:

~~Exceptions:~~

5. Exterior decks, patios, or balconies that are part of Type B dwelling units, have impervious surfaces, and that are not more than 2 inches (50 mm) below the finished floor level of the adjacent interior space of the dwelling unit.

Subp. 5a. **IBC section 1010.1.9.2.** The exception to IBC section 1010.1.9.2 is amended to read as follows:

Exception: The ingress side of access doors or gates in barrier walls and fences protecting pools, spas, and hot tubs shall be permitted to have operable parts of the latch release on self-latching devices at 54 inches (1370 mm) maximum above the finished floor or ground, provided that the self-latching devices are not also self-locking devices operated by means of a key, electronic opener, or integral combination lock. All hardware shall comply with Section 1010.1.9.6.

Subp. 6. **IBC section ~~1008.1.9.3~~ 1010.1.9.4.** IBC section ~~1008.1.9.3~~ 1010.1.9.4 is amended to read as follows:

~~1008.1.9.3~~ 1010.1.9.4 Locks and latches. Locks and latches shall be permitted to prevent operation of doors where any of the following exists:

1. Places of detention or restraint.

2. In buildings in occupancy Group A having an occupant load of 300 or less, in buildings in occupancy Groups B, F, M, and S, and in places of religious worship, the main exterior door or doors are permitted to be equipped with key-operated locking devices from the egress side provided:

2.1. The locking device is readily distinguishable as locked.

2.2. A readily visible durable sign is posted on the egress side on or adjacent to the door stating: THIS DOOR TO REMAIN UNLOCKED WHEN BUILDING IS OCCUPIED. The sign shall be in letters 1 inch (25 mm) high on a contrasting background.

2.3. The use of the key-operated locking device is ~~revokable~~ revocable by the building official for due cause.

3. Where egress doors are used in pairs, approved automatic flush bolts shall be permitted to be used, provided that the door leaf having the automatic flush bolts has no doorknob or surface-mounted hardware.

4. Doors from individual dwelling or sleeping units of Group R occupancies having an occupant load of 10 or less are permitted to be equipped with a night latch, dead bolt, or security chain, provided such devices are openable from the inside without the use of a key or tool.

5. Fire doors, after the minimum elevated ~~temperatures have~~ temperature has disabled the unlatching mechanism, in accordance with listed fire door test procedures.

6. Doors serving roofs not intended to be occupied shall be permitted to be locked preventing entry to the building from the roof.

~~6~~ 7. Delayed egress locks, installed and maintained in conformance with Section ~~1008.1.9.7~~ 1010.1.9.8.

~~7~~ 8. ~~Special locking arrangements~~ Controlled egress doors installed and maintained in accordance with Section ~~1008.1.9.6~~ 1010.1.9.7.

~~8~~ 9. ~~Electromagnetically~~ Electrically locked egress doors, installed and maintained in conformance with Section ~~1008.1.9.9~~ 1010.1.9.9 or 1010.1.9.10.

~~9~~ 10. In rooms, other than detention cells, where occupants are being restrained for safety or security reasons, special detention arrangements that comply with the requirements of Section ~~1008.1.11~~ 1010.1.11 are permitted.

11. Means of egress stairway doors, installed and maintained in conformance with Section 1010.1.9.12.

Subp. 6a. **IBC section ~~1008.1.9.6~~ 1010.1.9.7.** IBC section ~~1008.1.9.6~~ 1010.1.9.7 is amended to read as follows:

~~1008.1.9.6 Special door locking arrangements~~ 1010.1.9.7 Controlled egress doors in Group I-1, I-2, R-3, ~~or~~ and R-4 occupancies. ~~Approved special door locking arrangements~~ Controlled egress door locking systems, including electromechanical locking systems and electromagnetic locking systems, shall be permitted in ~~a~~ Group I-1 Condition 2, I-2, R-3, ~~or~~ and R-4 ~~occupancy~~ Condition 2 occupancies when a person's clinical needs require ~~such locking~~ their containment. ~~Special locking devices~~ Controlled egress doors shall be permitted ~~on doors~~ in these occupancies when the building is equipped throughout with an approved automatic sprinkler system in accordance with ~~IBC~~ Section 903.3.1.1 and an approved automatic smoke ~~or heat~~ detection system ~~is~~ installed in accordance with Section 907. ~~The special locking arrangements and devices are permitted if they are installed and~~ Electric locking systems and controlled egress doors shall comply with the requirements in items 1 through ~~10~~ 11 below. ~~Items 1 through 4 shall not apply to special locking arrangements in areas where persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.~~

1. The ~~special locking devices~~ egress control locks shall unlock upon actuation of either the automatic sprinkler system or the automatic ~~fire-detection~~ smoke-detection system within the means of egress served by the locked area.

2. The ~~special locking devices~~ egress control locks shall unlock upon loss of power controlling the lock or lock mechanism.

3. The ~~special locking devices~~ egress control locking system shall have the capability of being unlocked by a signal or switch from the fire-command center, a nursing station, or other approved location. The signal or switch shall directly break power to the lock.

4. A building occupant shall not be required to pass through more than one door equipped with a ~~special~~ controlled egress lock before entering an exit.

5. The procedures for the operations of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by ~~IFC Chapter 4~~ Minnesota Rules, chapter 7511, the Minnesota State Fire Code.

6. All clinical staff shall have the keys, codes, or other means necessary to operate the controlled egress locking devices or systems.

7. Emergency lighting shall be provided at both sides of a door ~~containing~~ equipped with a ~~special~~ controlled egress locking device.

8. 24-hour resident or patient supervision is provided within the secured area.

9. The ~~special~~ controlled egress locking devices are designed to fail in the open position.

10. Floor levels within the building or portion of the building with ~~special~~ controlled egress locking ~~arrangements~~ devices shall be divided into at least

two compartments by smoke barriers meeting the requirements of Section 709.

11. The controlled egress door locking system units shall be listed in accordance with UL 294.

~~**Exception to item #10:** In existing Group R-3 occupancies where the construction of smoke barrier compartmentation is not practical, an existing sleeping room provided with smoke-tight construction and having an escape window complying with Section 1029 is allowed.~~

Exceptions to items 1 through 11:

1. Items 1 through 4 shall not apply to doors to areas occupied by persons who, because of clinical needs, require restraint or containment as part of the function of a psychiatric treatment area.

2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction from nursery and obstetric areas of a Group I-2 hospital.

3. Item 10 shall not apply to existing Group R-3 or R-4, Condition 1 occupancies where all of the following conditions apply: (i) the construction of smoke barrier compartmentation is not practical; (ii) existing sleeping rooms are provided with smoke-tight construction; and (iii) existing sleeping rooms have an emergency escape and rescue opening complying with Section 1030.

Subp. 7. **IBC ~~section 1008.1.9.7~~ sections 1010.1.9.8 and 1010.1.9.8.1.** IBC ~~section 1008.1.9.7 is~~ sections 1010.1.9.8 and 1010.1.9.8.1 are amended to read as follows:

~~**1008.1.9.7**~~ **1010.1.9.8 Delayed egress door locks.** ~~Approved, listed, delayed egress locks shall be permitted to be installed on doors serving any occupancy except Assembly Group A occupancies and High Hazard Group H occupancies, and assembly uses within Educational Group E occupancies.~~ Delayed egress ~~locks~~ locking systems shall be permitted to be installed ~~only~~ on doors serving the following occupancies in buildings that are equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved smoke detection system installed ~~in a means of egress system serving the locked area, provided that the doors unlock~~ throughout the means of egress in accordance with ~~items 1 through 4 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit~~ Section 907.

1. Group B, F, I, M, R, S, and U occupancies.

2. Group E in locations where the means of egress does not serve an assembly use area.

Exception: Delayed egress locking systems shall be permitted to be installed on exit or exit access doors, other than the main exit or exit access door, serving a courtroom in buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

1010.1.9.8.1 Delayed egress locking system. The delayed egress locking system shall be installed and operated in accordance with all of the following:

1. The ~~doors unlock~~ delay electronics of the delayed egress locking system shall deactivate upon actuation of the automatic sprinkler system or automatic fire detection system, allowing immediate free egress.

2. The ~~doors unlock~~ delay electronics of the delayed egress locking system shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate egress.

3. The ~~door locks~~ delayed egress locking system shall have the capability of being ~~unlocked by a signal from~~ deactivated at the fire command center and other approved locations.

4. ~~The door locks shall include~~ An attempt to egress shall initiate an irreversible process that ~~will release the latch~~ shall allow such egress in not more than 15 seconds when a ~~force~~ physical effort to exit of not more than 15 pounds (67 N) is applied to the egress side door hardware for not more than one second ~~to the release device~~. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the ~~door lock has been released by the application of force to the releasing device~~ delay electronics have been deactivated from an approved location, relocking the delay electronics shall be by manual means only.

Exception to item 4: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

~~Doors that have been equipped with delayed egress locks shall also comply with items 1 to 3 below.~~

5. The egress path from any point shall not pass through more than one delayed egress locking system.

Exceptions to item 5:

1. In Group I-2 or I-3 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress

locking systems provided that the combined delay does not exceed 30 seconds.

2. In Group I-1 or I-4 occupancies, the egress path from any point in the building shall pass through not more than two delayed egress locking systems provided the combined delay does not exceed 30 seconds and the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1.

~~1~~ 6. A sign shall be provided on the door and shall be located above and within 12 inches (305 mm) of the ~~release device reading~~ door exit hardware:

6.1. For doors that swing in the direction of egress, the sign shall read: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

6.2. For doors that swing in the opposite direction of egress, the sign shall read: PULL UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 [30] SECONDS.

6.3. The sign shall comply with the visual character requirements in ICC A117.1.

Exception to item 6: Where approved, in Group I occupancies, the installation of a sign is not required where care recipients who because of clinical needs require restraint or containment as part of the function of the treatment area.

~~2~~ 7. Emergency lighting shall be provided ~~at~~ on the egress side of the door.

~~3~~ 8. The delayed egress ~~locks~~ locking system units shall be ~~maintained and tested in accordance with the Minnesota State Fire Code~~ listed in accordance with UL 294.

Subp. 7a. **IBC section ~~1008.1.9.11~~ 1010.1.9.12.** IBC section ~~1008.1.9.11~~ 1010.1.9.12 is amended by revising exception 3 to read as follows:

3. In stairways serving not more than four stories, doors are permitted to be locked from the side opposite the egress side. The exit door is permitted to be locked but shall be operable from the egress side.

Subp. 8. **IBC section ~~1008.1~~ 1010.1.** IBC section ~~1008.1~~ 1010.1 is amended by adding subsections as follows:

~~1008.1.11~~ 1010.1.11 Special detention arrangements. Special detention arrangements meeting the requirements of Sections ~~1008.1.11~~ 1010.1.11.1 through ~~1008.1.11.4~~ 1010.1.11.4 are permitted for rooms, other than cells, where the occupants are being restrained for safety or security reasons. The use of Sections ~~1008.1.11~~ 1010.1.11.1 through ~~1008.1.11.5~~ 1010.1.11.4 may be revoked by the fire code official or building official for due cause.

~~1008.1.11.1~~ 1010.1.11.1 Locking hardware. Locking devices shall release upon any of the following conditions:

1. Activation of the automatic sprinkler system.

2. Activation of any automatic fire detection device.

3. Activation of any automatic fire alarm system.

4. Loss of electrical power to the locking device or the fire alarm system.

5. Activation of the fire alarm trouble signal.

6. Operation of a manual switch located in an approved location.

All locking devices shall be designed to fail in the open position. Following the release of the locking devices for any of the conditions specified in Items 1 through 6 above, relocking of the devices shall be by manual means only at the door.

~~1008.1.11.2~~ 1010.1.11.2 Fire-extinguishing system. When special detention arrangements are used, the room or area being secured shall be protected with quick-response sprinklers.

~~1008.1.11.3~~ 1010.1.11.3 Fire alarm and detection. When special detention arrangements are used, the room or area and spaces between the room or area and an exterior exit door shall be protected with automatic smoke detection connected to the building's fire alarm system. If the walls of the room or area do not extend to the ceiling, automatic smoke detection can be provided in the adjacent room or area, provided that there are no substantial obstructions to delay activation of the smoke detection.

~~1008.1.11.4~~ 1010.1.11.4 Door swing. Doors separating detention rooms from other spaces must swing in the direction of egress travel from the detention room.

~~1305.1009~~ 1305.1011 SECTION ~~1009~~ 1011, STAIRWAYS ~~AND HANDRAILS~~.

Subpart 1. **IBC section ~~1009.13~~ 1011.14.** IBC section ~~1009.13~~ 1011.14 is amended to read as follows:

~~1009.13~~ 1011.14 Alternating tread devices. Alternating tread devices are limited to an element of a means of egress in buildings of Groups F, H, and S from a mezzanine not more than 250 square feet (23 m^2) in area and which serves not more than five occupants; and in buildings of Group I-3 from a guard tower, observation station, or control room not more than 250 square feet (23 m^2) in area and for access to unoccupied roofs. Access to mechanical equipment or appliances on a roof shall be in accordance with Section ~~1209.3.1~~ 1208.3.1 and the Minnesota Mechanical Code.

(IBC Sections ~~1009.13.1, 1009.13.2~~ 1011.14.1, 1011.14.2, and the exception still apply.)

Subp. 2. **IBC section ~~1009.14~~ 1011.15.** IBC section ~~1009.14 is amended to read as follows~~ 1011.15 and all subsections are deleted in their entirety and replaced with the following:

~~1009.14~~ 1011.15 Ships ladders. Ships ladders constructed as required for permanent stairs in accordance with the Minnesota ~~Rules, part 1305.1209~~ Mechanical Code, Minnesota Rules, part 1346.0306, subpart 1, amending IMC Section 306.5, shall be permitted to be used as a means of egress component at the following locations:

1. Ships ladders are permitted to be used in Group I-3 occupancies for means of egress at control rooms or elevated facility observation stations not more than 250 square feet (23 m^2) in floor area.

2. Ships ladders are permitted to be used as a component for means of egress at recessed or elevated floors or platforms when the area served has an occupant load of five or ~~less~~ fewer and the space meets all of the following criteria:

~~(a)~~ 2.1 access to the area served is limited to building facilities staff, maintenance staff, employees, or other authorized personnel;

~~(b)~~ 2.2 required access to the area served is limited and periodic;

~~(c)~~ 2.3 the area served is used for building maintenance service functions, or for equipment access or monitoring;

~~(d)~~ 2.4 the area served is not required to have a second means of egress by other provisions of this code; and

~~(e)~~ 2.5 the area served is not classified as a Group H occupancy.

3. Ships ladders are permitted to be used for access to unoccupied spaces in accordance with ~~Minnesota Rules, part 1305.1209~~ the Minnesota Mechanical Code.

~~1305.1013~~ 1305.1015 SECTION ~~1013~~ 1015, GUARDS.

Subpart 1. **IBC section ~~1013.2~~ 1015.2, Where required.** IBC section ~~1013.2~~ 1015.2 is amended by adding ~~an~~ item 8 to the exception as follows:

~~Exception:~~

8. ~~In accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112, guards are not required~~ On bleachers 55 inches or less in height, in accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112.

Subp. 2. **IBC section ~~1013.3~~ 1015.3, Height.** IBC section ~~1013.3~~ 1015.3 is amended by modifying exception 4 to read as follows:

4. The guard height in assembly seating areas shall be in accordance with Section ~~1028.14~~ 1029.17 and the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112.

Subp. 2a. **IBC section 1015.6, Mechanical equipment, systems, and devices.** IBC section 1015.6 is amended to read as follows:

1015.6 Mechanical equipment, systems and devices. Guards shall be designed and installed in accordance with the Minnesota Mechanical Code, Minnesota Rules, chapter 1346.

Subp. 3. **IBC section ~~1013.8~~ 1015.8.** IBC section ~~1013.8~~ 1015.8 is amended to read as follows:

~~1013.8~~ 1015.8 Window ~~sills~~ openings. In occupancy groups R-1, R-2, and R-3 where the lowest part of the opening of an operable window is located more than 72 inches (1829 mm) above the finished grade or other surface below, the lowest part of the window opening shall be at a height not less than 36 inches (914 mm) above the finished floor surface of the room in which the window is located. Operable sections of windows shall not permit openings that allow passage of a 4-inch-diameter (102 mm) sphere where such openings are located within 36 inches (914 mm) of the finished floor.

Exceptions:

1. Operable windows where the lowest part of the opening is located more than 75 feet (22,860 mm) above the finished grade or other surface below and that are provided with window fall-prevention devices that comply with ASTM F 2006.

2. Windows whose openings will not allow a 4-inch-diameter (102 mm) sphere to pass through the opening when the window is in its largest opened position.

3. Openings that are provided with window fall-prevention devices that comply with ASTM F 2090.

4. Windows that are provided with window opening control devices that comply with Section ~~1013.8.1~~ 1015.8.1.

~~5. Replacement windows for occupancy groups R-1, R-2, and R-3 located on or below the third story above grade plane.~~

(Subsection 1015.8.1 remains unchanged.)

~~**1013.8.1 Window opening control devices.** Window opening control devices shall comply with ASTM F 2090. The window opening control device, after operation to release the control device allowing the window to fully open, shall not reduce the minimum net clear opening area of the window unit to less than the area required by Section 1029.2.~~

1305.1017 [Renumbered 1305.1018]

~~1305.1017~~ 1305.1018 SECTION ~~1017~~ 1018, AISLES.

IBC section ~~1017~~ 1018 and all subsections are deleted in their entirety and replaced with the following:

SECTION 1018

AISLES

~~1017.1~~ **1018.1 Aisles and aisle accessways.** Aisles and aisle accessways serving as a portion of the exit access in the means of egress system shall comply with the requirements of this section. Aisles and aisle accessways shall be provided from all occupied portions of the exit access. Aisles and aisle accessways serving assembly areas, other than seating at tables, shall comply with Section ~~1028~~ 1029. Aisles and aisle accessways serving reviewing stands, grandstands, and bleachers shall comply with Section ~~1028~~ 1029.

~~1017.2~~ **1018.2 Width determination.** Where tables or counters are served by fixed seats, the width of the aisle or aisle accessway shall be measured from the back of the seat. Where seating is located at a table or counter and is adjacent to an aisle or aisle accessway, the measurement of required clear width of the aisle or aisle accessway shall be made to a line 19 inches (483 mm) ~~measured perpendicular to and~~ away from and ~~running~~ parallel to the edge of the table or counter. The 19-inch (483 mm) distance shall be measured perpendicular to the side of the table or counter. In the case of other side boundaries for aisle or aisle accessways, the clear width shall be measured to walls, tread edges, or other obstructions.

The required width of ~~the~~ aisles and aisle accessways shall be unobstructed.

Exception: Doors, when fully opened, and handrails shall not reduce the required width by more than 7 inches (178 mm). Doors in any position shall not reduce the required width by more than one-half. Other nonstructural projections, such as trim and similar decorative features, are permitted to project into the required width 1.5 inches (38 mm) from each side.

~~1017.2.1~~ **1018.2.1 Minimum aisle accessway width.** Aisle accessways not required to be accessible by ~~IBC Chapter 11~~ Minnesota Rules, chapter 1341, the Minnesota Accessibility Code, shall provide a minimum of 12 inches (305 mm) of width, plus 0.5 inches (12.7 mm) of width for each additional one foot (305 mm), or fraction thereof, beyond 12 feet (3658 mm) of aisle accessway length.

Exception: Portions of an aisle accessway having a length not exceeding six feet and used by a total of not more than four persons.

~~**1017.2.2**~~ **1018.2.2 Minimum aisle width.** The minimum clear width shall be determined by Section 1005.1 for the occupant load served, but shall not be less than 36 inches (914 mm).

Exception: Nonpublic aisles serving fewer than 50 people, and that are not required to be accessible by ~~IBC Chapter 11~~ Minnesota Rules, chapter 1341, need not exceed 28 inches (711 mm) in width.

~~**1017.3**~~ **1018.3 Length.**

~~**1017.3.1**~~ **1018.3.1 Aisle accessway.** The length of travel along the aisle accessway shall not exceed 30 feet (9144 mm) to an aisle or exit access doorway.

~~**1017.3.2**~~ **1018.3.2 Aisle.** The length of travel along an aisle or combination aisle accessway and aisle to a point where a person has a choice of two or more paths of egress travel to separate exits or exit access doorways shall not exceed that permitted by Section ~~1014.3~~ 1006.2.1 for common path of egress travel.

1305.1018 [Renumbered 1305.1020]

~~**1305.1018**~~ **1305.1020 SECTION ~~1018~~ 1020, CORRIDORS.**

Subpart 1. **IBC Table ~~1018.1~~ 1020.1.** IBC Table ~~1018.1~~ 1020.1 is amended as follows:

TABLE 1020.1

CORRIDOR FIRE-RESISTANCE RATING

		REQUIRED FIRE-RESISTANCE RATING (hours)	
OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	Without sprinkler system	With sprinkler system[c]

H-1, H-2, H-3	All	Not permitted	1
H-4, H-5	Greater than 30	Not permitted	1
A, B, E, F, M, S, U	Greater than 30	1	0
R	Greater than 10	1	0.5[c]/1[d]
I-2[a]~~, I-4~~	All	Not permitted	0
I-1, I-3	All	Not permitted	1[b]
I-4	All	1	0

[a]~~.~~ For requirements for occupancies in Group I-2, see Sections 407.2 and 407.3.

[b]~~.~~ For a reduction in the fire-resistance rating for occupancies in Group I-3, see Section 408.8.

[c]~~.~~ Buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2, where allowed.

[d] Group R-3 and R-4 buildings equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.3. See Section 903.2.8 for occupancies where automatic sprinkler systems are permitted in accordance with Section 903.3.1.3.

Subp. 2. **IBC section ~~1018.6~~ 1020.6.** IBC section ~~1018.6~~ 1020.6 is amended by modifying the exceptions to read as follows:

Exceptions:

1. Foyers, lobbies, or reception rooms constructed as required for corridors shall not be construed as intervening rooms if the aggregate area of these spaces does not exceed 1,000 square feet per floor.

2. Foyers, lobbies, or reception rooms that are more than 1,000 square feet per floor in aggregate area and other rooms or spaces that are constructed as required for corridors

shall not be construed as intervening rooms when the rooms or spaces meet the following:

(a) The spaces are not occupied as dwelling units, sleeping units, incidental uses or hazardous uses.

(b) The rooms, spaces, or corridors are protected by an automatic smoke detection system that initiates alarm notification devices in all normally occupied rooms or spaces that use the corridor for a means of egress.

(c) The room or space is arranged so that it does not obstruct access to the required exits.

(d) Group R occupancies shall be provided with an automatic sprinkler system throughout to allow the use of exception #2.

3. Enclosed elevator lobbies as permitted by Section 1016.2 item 1 shall not be construed as intervening rooms.

~~1305.1022~~ 1305.1023 SECTION ~~1022~~ 1023, INTERIOR EXIT STAIRWAYS AND RAMPS.

IBC section ~~1022.5~~ 1023.5 is amended to read as follows:

~~1022.5~~ 1023.5 Penetrations. Penetrations into ~~and openings~~ or through interior exit stairways and ramps are prohibited except for ~~required exit doors,~~ the following:

1. Equipment~~,~~ and ductwork necessary for independent ventilation or pressurization~~, sprinkler piping, standpipes,~~.

2. Fire protection systems.

3. Security systems that serve the exit stairway or ramp.

4. Wiring that serves the exit stairway or ramp.

5. Two-way communication systems that serve the exit stairway or ramp.

6. Electrical raceway for fire department ~~communications~~ communication systems ~~and~~.

7. Electrical raceway serving the interior exit stairway or ramp and terminating ~~at~~ in a steel box not exceeding 16 square inches (0.010 m^2).

Such penetrations shall be protected in accordance with Section 714. There shall not be ~~no~~ penetrations or ~~communicating~~ communication openings, whether protected or not, between ~~any other~~ adjacent interior exit stairways and ramps or exit passageways.

(The exception to Section 1023.5 is deleted.)

1305.1023 [Renumbered 1305.1024]

~~1305.1023~~ 1305.1024 SECTION ~~1023~~ 1024, EXIT PASSAGEWAYS.

IBC section ~~1023.6~~ 1024.6 is amended to read as follows:

~~1023.6~~ 1024.6 Penetrations. Penetrations into ~~and openings~~ or through an interior exit passageway are prohibited except for ~~required exit doors, equipment, and ductwork necessary for independent pressurization, sprinkler piping, standpipes, electrical raceway for fire department communication, and electrical raceway serving the exit passageway and terminating at a steel box not exceeding 16 square inches (0.010 m^2).~~ the following:

1. Equipment and ductwork necessary for independent ventilation or pressurization.

2. Fire protection systems.

3. Security systems that serve the exit passageway.

4. Wiring that serves the exit passageway.

5. Two-way communication systems that serve the exit passageway.

6. Electrical raceway for fire department communication systems.

7. Electrical raceway serving the exit passageway and terminating in a steel box not exceeding 16 square inches (0.010 m^2).

Such penetrations shall be protected in accordance with Section 714. There shall not be ~~no~~ penetrations or ~~communicating~~ openings, whether protected or not, between ~~any other exit passageway~~ adjacent interior exit stairways and ramps or adjacent exit passageways.

(The exception to Section 1024.6 is deleted.)

1305.1028 [Renumbered 1305.1029]

~~1305.1028~~ 1305.1029 SECTION ~~1028~~ 1029, ASSEMBLY.

Subpart 1. **IBC section 1029.1.1.** IBC section ~~1028.1.1~~ 1029.1.1 is amended to read as follows:

~~1028.1.1~~ 1029.1.1 Bleachers. Bleachers, grandstands, and folding and telescopic seating, that are not building elements, shall comply with International Code Council (ICC) 300, with the following amendments to ICC 300:

a. ICC 300 Section 404.5 is amended by adding an exception as follows:

Exception: Aisles shall not be required to be more than 66 inches (~~1.676~~ 1,676 mm) in width when the following are satisfied:

1. the seating area served by such aisles is composed entirely of bleachers;

2. the row-to-row dimension is 28 inches (71 cm) or less; and

3. front egress is not limited.

b. ICC 300 section 405.1 is amended to read as follows:

405.1 Aisles. The minimum width of aisles shall be in accordance with Section 404.5, but not less than that required by this section. An aisle is not required in seating facilities where all of the following conditions exist:

1. Seats are without backrest.

2. The rise from row to row does not exceed 6 inches (152 mm) per row.

Exception: Bleachers 55 inches or less in height.

3. The row to row spacing does not exceed 28 inches (711 mm) unless the seat boards and footboards are at the same elevation.

4. The number of rows does not exceed 16 rows in height.

5. The first seat board is not more than 12 inches (305 mm) above the ground floor or a cross aisle.

Exception: Bleachers 55 inches or less in height.

6. Seat boards have a continuous flat surface.

7. Seat boards provide a walking surface with a minimum width of 11 inches (279 mm).

8. Egress from seating is not restricted by rails, guards, or other obstructions.

c. ICC 300 Section 405.6 is amended by adding an exception as follows:

3. Aisles serving bleachers in compliance with Section 404.5.

d. ICC 300 Section 408.1, item 1, is amended by modifying the exceptions to read as follows:

Exceptions:

1. Tiered seating ~~that~~ is not required to have a guard if: (a) the tiered seating is located adjacent to a wall; and (b) the space between the wall and the tiered seating is less than 4 inches (102 mm) ~~is not required to have a guard~~.

2. In accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112:

(a) bleachers must have vertical perimeter guards or other approved guards that address climbability and are designed to prevent accidents; and

(b) guards are not required on bleachers 55 inches (1397 mm) and less in height.

e. ICC 300 Section 408.3 is amended to read as follows:

408.3 Guard design. Guards and their attachment shall be designed to resist the loads indicated in Section 303. Bleachers must have vertical perimeter guards or other approved guards that address climbability and are designed to prevent accidents, in accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112.

f. ICC 300 Chapter 5 is deleted and replaced with the following:

All bleachers or bleacher open spaces over 55 inches (1397 mm) above grade or the floor below, and all bleacher guardrails, if any part of the guardrail is over 30 inches (762 mm) above grade or the floor below, must be certified to conform with the safety requirements contained in Minnesota Statutes, section 326B.112.

(IBC Section ~~1028.1.1.1~~ 1029.1.1.1 still applies.)

Subp. 2. **IBC section 1029.6.** IBC section 1029.6 is amended by adding a section to read:

1029.6.4 Width of means of egress for bleacher facilities. Aisles for bleachers shall not be required to be more than 66 inches (167 cm) in width when calculated in accordance with Section 1029.6.1 or 1029.6.3 when the following conditions are satisfied:

1. the seating area served by such aisles is composed entirely of bleachers;

2. the row-to-row dimension is 28 inches (71 cm) or less; and

3. front egress is not limited.

Subp. 3. **IBC section 1029.9.5.** IBC section 1029.9.5 is amended by adding an exception to read:

5. Aisles serving bleachers in compliance with Section 1029.6.4.

Subp. 4. **IBC section 1029.17.** IBC section 1029.17 is amended by adding an exception to read:

Exception: In accordance with the Minnesota Bleacher Safety Act, Minnesota Statutes, section 326B.112:

1. guards are not required on bleachers 55 inches and less in height; and

2. bleachers must have vertical perimeter guards or other approved guards that address climbability and are designed to prevent accidents.

(Subsections 1029.17.1 through 1029.17.4 remain unchanged.)

~~1305.1029~~ 1305.1030 SECTION ~~1029~~ 1030, EMERGENCY ESCAPE AND RESCUE.

Subpart 1. **IBC section ~~1029.1~~ 1030.1.** IBC section ~~1029.1~~ 1030.1 is amended to read as follows:

~~1029.1~~ 1030.1 General. In addition to the means of egress required by this chapter, ~~provisions shall be made for emergency escape and rescue openings~~ emergency escape and rescue openings shall be provided in Group R occupancies as follows. Basements and sleeping rooms below the fourth story above grade plane shall have at least one exterior emergency escape and rescue opening in accordance with this section. Where basements contain one or more sleeping rooms, emergency ~~egress~~ escape and rescue openings shall be required in each sleeping room, but shall not be required in adjoining areas of the basement. Such openings shall open directly into a public way~~, public alley,~~ or to a yard or court that opens to a public way.

Exceptions:

1. Basements with a ceiling height of less than 80 inches (2032 mm) and not used for purposes other than mechanical equipment or storage shall not be required to have emergency escape and rescue openings.

2. Emergency escape and rescue openings are not required from basements or sleeping rooms that have an exit door or exit access door that opens directly into a public way or to a yard, court, or exterior exit balcony that opens to a public way.

3. Basements without habitable spaces and having not more than 200 square feet (18.6 m^2) in floor area shall not be required to have emergency escape and rescue openings.

4. Emergency escape and rescue openings shall not be required under the following conditions:

A. the building is equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2; and

B. the means of egress system complies without utilizing the single exit provisions under Section 1006.3.3.

~~1. In other than Group R-2 occupancies in accordance with Table 1021.2(1), stories with one exit or access to one exit for R-2 occupancies, and Table 1021.2(2), stories with one exit or access to one exit for other occupancies, and Group R-3 occupancies, buildings equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.~~

~~2~~ 5. In other than Group R-3 occupancies, sleeping rooms provided with a door to a fire-resistance-rated corridor having access to two remote exits in opposite directions.

~~3~~ 6. The emergency escape and rescue opening is permitted to open onto a balcony within an atrium in accordance with the requirements of Section 404, provided the balcony provides access to an exit and the dwelling unit or sleeping unit has a means of egress that is not open to the atrium.

~~4~~ 7. High-rise buildings in accordance with Section 403.

~~5. Emergency escape and rescue openings are not required from basements or sleeping rooms which have an exit door or exit access door that opens directly into a public way, or to a yard, court, or exterior exit balcony that opens to a public way.~~

~~6. Basements without habitable spaces and having no more than 200 square feet (18.6 m^2) in floor area shall not be required to have emergency escape windows.~~

~~7. Basements or basement bedrooms in Group R-3 occupancies, when the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.~~

8. Basements in Group R-3 occupancies used only to house mechanical equipment that do not exceed a total floor area of 200 square feet (18.58 m^2).

~~9. Basements or basement bedrooms in Group R-3 occupancies that comply with all of the following conditions:~~

~~A. constructed prior to August 1, 2008;~~

~~B. undergoing an alteration or repair; and~~

~~C. the entire basement area is protected with an automatic sprinkler system in accordance with section 903.3 and all portions of the means of egress to the level of exit discharge, and all areas on the level of exit discharge that are open to the means of egress, are protected with an automatic sprinkler system in accordance with Section 903.3.~~

Subp. 2. [See repealer.]

Subp. 3. [See repealer.]

~~1305.1203~~ 1305.1202 SECTION ~~1203~~ 1202, VENTILATION.

IBC section ~~1203.1~~ 1202.1 is amended to read as follows:

~~**1203.1**~~ **1202.1 General.** Buildings shall be provided with natural ventilation in accordance with Section ~~1203.4~~ 1202.5 or mechanical ventilation in accordance with Minnesota Rules, chapter 1346. For additional ventilation requirements, see Minnesota Rules, chapters 1322 and 1323, as applicable.

Exceptions:

1. Buildings or portions thereof that are not intended for normal human occupancy, or where the primary purpose is not associated with human comfort.

2. Group U occupancies.

~~1305.1210~~ 1305.1209 SECTION ~~1210~~ 1209, ~~SURROUNDING MATERIALS~~ TOILET AND BATHROOM REQUIREMENTS.

IBC section ~~1210.2.1~~ 1209.2.1 is amended to read as follows:

~~1210.2.1~~ 1209.2.1 Floors and wall bases. In other than dwelling units, toilet, bathing and shower room floor finish material shall have a smooth, hard, nonabsorbent surface, such as Portland cement, concrete, ceramic tile, sheet vinyl, or other approved floor covering material. The intersections of such floors with walls shall have a smooth, hard, nonabsorbent vertical base that extends upward onto the walls at least 4 inches (101 mm).

~~1305.1403~~ 1305.1402 SECTION 1402, PERFORMANCE REQUIREMENTS.

IBC section ~~1403.5~~ 1402.5 is deleted in its entirety.

~~1305.1405~~ 1305.1404 SECTION ~~1405~~ 1404, INSTALLATION OF WALL COVERINGS.

Subpart 1. **IBC section ~~1405.4.2~~ 1404.4.2.** IBC section ~~1405.4.2~~ 1404.4.2 is amended to read as follows:

~~1405.4.2~~ 1404.4.2 Masonry. Flashing and weepholes in anchored veneer shall be located above finished ground level above the foundation wall or slab, and other points

of support, including structural floors, shelf angles and lintels where anchored veneers are designed in accordance with Section ~~1405.4.6~~ 1404.4.2.

Subp. 2. [Repealed, 32 SR 7]

Subp. 3. [Repealed, 39 SR 1605]

~~1305.1503~~ 1305.1502 SECTION ~~1503~~ 1502, ~~WEATHER PROTECTION~~ ROOF DRAINAGE.

Subpart 1. **IBC section ~~1503.4~~ 1502.1.** IBC section ~~1503.4~~ 1502.1 is amended and subsections are added to read as follows:

~~1503.4~~ 1502.1 Roof drainage. Design and installation of roof drainage systems shall comply with Minnesota Rules, chapter 4714, Minnesota Plumbing Code, and the following provisions:

~~1.~~ 1502.1.1 Where required. All roofs shall drain into a separate storm sewer system or to an approved place of disposal. ~~For one- and two-family dwellings, and where approved, storm water is permitted to discharge onto flat areas, such as streets or lawns, provided that the storm water flows away from the building.~~

~~2.~~ 1502.1.2 Roof design. Roofs shall be structurally designed for the maximum possible depth of water that will pond thereon as determined by the relative levels of roof deck and overflow weirs, scuppers, edges, or serviceable drains in combination with the deflected structural elements. In determining the maximum possible depth of water, all primary roof drainage means shall be assumed to be blocked.

Subp. 1a. **IBC section 1502.2.** IBC section 1502.2 is amended and subsections and Table 1502.2.3 are added to read as follows:

~~3.~~ 1502.2 Secondary drainage required. Secondary (emergency) roof drains or scuppers shall be provided where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason.

~~4.~~ **1502.2.1 Separate systems required.** Secondary (emergency) roof drain systems shall have piping and point of discharge separate from the primary system. Discharge shall be above grade in a location which would normally be observed by the building occupants or maintenance personnel.

~~5.~~ **1502.2.2 Sizing of secondary drains.** Secondary (emergency) roof drain systems shall be sized ~~in accordance with~~ to the same capacity as the primary roof drain areas in accordance with Minnesota Rules, chapter 4714, the Minnesota ~~State~~ Plumbing Code.

1502.2.3 Sizing of scuppers. Scuppers shall be sized to prevent the depth of ponding water from exceeding that for which the roof was designed as determined by this code. Scuppers shall not have an opening weir length dimension of less than 4 inches (102 mm) and shall be sized in accordance with Table 1502.2.3. The flow through the primary system shall not be considered when sizing the secondary roof drainage system.

TABLE 1502.2.3 SCUPPER SIZING[a]
Square feet of Roof Area

Head Height in Inches[b]	Length of Weir in inches						
	4	6	8	12	16	20	24
1	273	418	562	851	1139	1427	1715
2	734	1141	1549	2365	3180	3996	4813
3	1274	2023	2772	4270	5768	7267	8766
4	1845	2999	4152	6460	8766	11073	13381
6	2966	5087	7204	11442	15860	19918	24160

[a] Table based upon 4-inch per hour rainfall.

[b] Minimum 1-inch vertical free space above Head (H) is required.

Subp. 2. **IBC section ~~1503.4.1~~ 1502.3.** IBC section ~~1503.4.1~~ 1502.3 is deleted in its entirety.

~~1305.1509~~ 1305.1510 SECTION ~~1509~~ 1510, ROOFTOP STRUCTURES.

IBC section ~~1509.2.3~~ 1510.2.2 is amended to read as follows:

~~1509.2.3~~ 1510.2.2 Use limitations. Penthouses shall not be used for purposes other than shelter of mechanical or electrical equipment, tanks, or vertical shaft openings in the roof assembly.

Exception: Accessory uses necessary for the maintenance of building systems shall be permitted when the penthouse is sprinkled in accordance with Section 903.1.1.

~~1305.1510~~ 1305.1511 SECTION ~~1510~~ 1511, REROOFING.

Subpart 1. **IBC section 1511.1.** IBC section ~~1510.5~~ 1511.1 is amended to read as follows:

1511.1 General. Materials and methods of application used for recovering or replacing an existing roof covering shall comply with the requirements of chapter 15.

Exception: Reroofing shall not be required to meet the minimum design slope requirement of one-quarter unit vertical in 12 units horizontal (two percent slope) in Section 1507 for roofs that provide positive drainage if all the following conditions are met:

1. The minimum required roof slope is technically infeasible due to existing parapet heights, existing unalterable flashing that requires positive drainage, or other obstacle.

2. The existing structure is demonstrated through structural analysis to be capable of supporting ponding to the level of the secondary emergency drainage system or point of overflow.

3. A secondary (emergency) drainage system is installed in compliance with Section 1502.

Subp. 2. **IBC section 1511.5.** IBC section 1511.5 is amended to read as follows:

~~**1510.5**~~ **1511.5 Reinstallation of materials.** Existing slate, clay, or cement tile shall be permitted for reinstallation, except that damaged, cracked, or broken slate or tile shall not be reinstalled. Existing vent flashing, metal edging, drain outlets, collars, and metal counterflashings shall not be reinstalled where rusted, damaged, or deteriorated. Aggregate surfacing materials shall not be reinstalled unless such aggregate complies with the gradation requirements of ASTM C-33 Standard Specification for Concrete Aggregate.

Subp. 3. **IBC section 1511.7.** IBC section 1511 is amended by adding section 1511.7 to read as follows:

1511.7 Drainage. Existing roofs where the roof perimeter construction extends above the roof in such a manner that water will be entrapped if the primary drains allow buildup for any reason shall be equipped with a secondary (emergency) drainage system.

Exception: Existing roofs that are demonstrated to have the structural capacity to support the depth of ponding water where the water will discharge over an exterior building edge if the primary drainage system fails.

1305.1904 SECTION 1904, DURABILITY REQUIREMENTS.

IBC section 1904.3 is amended to read as follows:

1904.3 Corrosion protection. Where bonded reinforcing and pre-stressing steel is located in concrete assigned to Exposure Class F3 or Exposure Class C2, the steel shall be protected from corrosion by one of the following methods:

1. impermeable barrier;

2. epoxy coating in accordance with ACI 318; or

3. hot dipped galvanizing in accordance with ACI 318.

1305.2308 SECTION 2308, CONVENTIONAL LIGHT-FRAME CONSTRUCTION.

Subpart 1. [See repealer.]

Subp. 2. **IBC Table ~~2308.9.3(1)~~ 2308.6.1.** IBC Table ~~2308.9.3(1)~~ 2308.6.1, ~~Braced Wall Panels~~ Wall Bracing Requirements, is amended to read as follows:

~~TABLE 2308.9.3(1)~~

~~BRACED WALL PANELS[a]~~

~~WIND SPEED~~	~~CONDITION~~	~~CONSTRUCTION METHODS[b,c]~~								~~BRACED PANEL LOCATION AND LENGTH[d]~~
		~~1~~	~~2~~	~~3~~	~~4~~	~~5~~	~~6~~	~~7~~	~~8~~	
	~~One story, top of two or three story~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
~~90 mph~~										~~Located in accordance with section 2308.9.3 and not more than 25 feet on center~~
	~~First story of two story or second story of three story~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
	~~First story of three story~~	~~--~~	~~X~~	~~X~~	~~X~~	~~X[e]~~	~~X~~	~~X~~	~~X~~	

TABLE 2308.6.1[a]

WALL BRACING REQUIREMENTS

Design Category (Wind Speed)	Story Condition (see Section 2308.2)	Maximum Spacing of Braced Wall Lines	Braced Panel Location, Spacing (o.c.) and Minimum Percentage (x)	Maximum Distance of Braced Wall Panels from
			Bracing Method[b]	

					LIB	DWB, WSP	SFB, PBS, PCP, HPS, GB [c,d]	Each End of Braced Wall Line
See Section 1609.3	■	■ □	■ □ □	35'-0"	Each end and < 25'-0" o.c.	Each end and < 25'-0" o.c.	Each end and < 25'-0" o.c.	12'-6"
	□ ■	□ ■ □		35'-0"	Each end and < 25'-0" o.c.	Each end and < 25'-0" o.c.	Each end and < 25'-0" o.c.	12'-6"
	□ □ ■			35'-0"	NP	Each end and < 25'-0" o.c.	Each end and < 25'-0" o.c.	12'-6"

For SI: 1 inch = 25.4 mm, 1 foot = 304.8 mm

NP= Not permitted

[a] This table specifies minimum requirements for braced wall panels ~~that form~~ along interior or exterior braced wall lines.

[b] See section ~~2308.9.3~~ 2308.6.3 for full description of bracing methods.

~~[c]See Sections 2308.9.3.1 and 2308.9.3.2 for alternative braced panel requirements.~~

~~[d]Building length is the dimension parallel to the braced wall length.~~

[c] For method GB, gypsum wallboard applied to framing supports that are spaced at 16 inches on center.

[d] The required lengths shall be doubled for gypsum board applied to only one face of a braced wall panel.

1305.2510 SECTION 2510, LATHING AND FURRING FOR CEMENT PLASTER (STUCCO).

IBC section 2510.6 is amended to read as follows:

2510.6 Water-resistive barriers. Water-resistive barriers shall be installed as required in Section ~~1404.2~~ 1403.2 and, where applied over wood-based sheathing, shall include a water-resistive, vapor-permeable barrier with a performance at least equivalent to two layers of Grade D paper.

Exception: Where the water-resistive barrier that is applied over wood-based sheathing has a water resistance equal or greater than that of 60-minute Grade D paper and is separated from the stucco by an intervening, substantially non-water-absorbing layer or drainage space.

1305.2702 SECTION 2702, EMERGENCY AND STANDBY POWER SYSTEMS.

IBC section ~~2702.1~~ 2702.1.3 is amended to read as follows:

~~2702.1~~ 2702.1.3 Installation. Emergency and standby power systems shall be installed in accordance with Minnesota Rules, chapter 1315.

1305.2902 SECTION 2902, MINIMUM PLUMBING FACILITIES.

[For text of subpart 1, see Minnesota Rules]

Subp. 1a. [See repealer.]

Subp. 2. **IBC Table 2902.1, Minimum number of required plumbing fixtures.**

A. The body of IBC Table 2902.1 is amended as follows:

1. Add footnote ~~"h"~~ "l" to the ~~A-5 Use Group~~ No. 1, Assembly Classification, "Stadiums, amusement parks, bleachers, and grandstands for outdoor sporting events and activities" description of the table.

2. Add footnotes ~~"f,"~~ "g," "h," "i," and "j" to the "Drinking Fountains" heading in the table.

3. Add footnote "k" to the "Water Closets" heading in the table.

4. In No. 5, Institutional Classification, delete the requirement for a bathtub or shower fixture from adult day care and child day care.

B. The footnotes to IBC Table 2902.1 are amended to read as follows:

[a]~~.~~ The fixtures shown are based on one fixture being the minimum required for the number of persons indicated or any fraction of the number of persons indicated. The number of occupants shall be determined by this code.

[b]~~.~~ Toilet facilities for employees shall be separate from facilities for inmates or care recipients.

[c]~~.~~ A single-occupant toilet room with one water closet and one lavatory serving not more than two adjacent patient rooms shall be permitted where the room is provided with direct access from each patient room and with provisions for privacy.

[d]~~.~~ The occupant load for seasonal outdoor seating and entertainment areas shall be included when determining the minimum number of facilities required.

[e]~~. The minimum number of required drinking fountains shall comply with Table 2902.1 and IBC chapter 11~~ For business and mercantile classifications with an occupant load of 50 or fewer, a service sink shall not be required.

[f]~~. A drinking fountain shall not be required in buildings or tenant spaces having an occupant load less than 50~~ The required number and type of plumbing fixtures for swimming pools shall be in accordance with Minnesota Rules, part 4717.3650.

[g]~~. For business and mercantile occupancies with an occupant load of 15 or fewer, service sinks shall not be required~~ The minimum number of required drinking fountains shall comply with Table 2902.1 and Minnesota Rules, chapter 1341.

[h]~~. Permanent facilities located either on site or available in an adjacent building or portable temporary facilities available on site during times when the stadium or grandstand is in use may be used~~ A drinking fountain shall not be required in buildings or tenant spaces having an occupant load of less than 50.

[i]~~.~~ Where water is served in restaurants, drinking fountains shall not be required.

[j] ~~.~~ Water or other beverages available through free or fee-based serving or dispensers may be substituted for up to 50 percent of the required number of drinking fountains.

[k] ~~.~~ In each bathroom or toilet room, urinals shall not be substituted for more than 67 percent of the required water closets.

[l] Permanent facilities located either on site or available in an adjacent building or portable temporary facilities available on site during times when the stadium or grandstand is in use may be used.

Subp. 3. **IBC section 2902.2.** IBC section 2902.2 is amended to read as follows:

2902.2 Separate facilities. Where plumbing fixtures are required, separate facilities shall be provided for each sex.

Exceptions:

1. Separate facilities shall not be required for dwelling units and sleeping units.

2. Separate facilities shall not be required in structures or tenant spaces with a total occupant load, including both employees and customers, of ~~20~~ 25 or less.

3. Separate facilities shall not be required in mercantile occupancies in which the maximum occupant load is 100 or less.

Subp. 4. **IBC section 2902.6.** IBC section 2902 is amended by adding a subsection to read as follows:

2902.6 Controlled access to required facilities. Sanitation facilities required by this chapter may have controlled access, but in all cases shall be maintained available for utilization by those employees, customers, or patrons used to calculate the minimum required facilities.

1305.3001 SECTION 3001, GENERAL.

Subpart 1. **IBC section 3001.2.** IBC section 3001.2 is deleted in its entirety.

Subp. 2. **IBC section 3001.3.** IBC section 3001.3 is amended to read as follows:

3001.3 Referenced standards. Except as otherwise provided for in this code, the design, construction, installation, alteration, repair, and maintenance of elevators and conveying systems and their components shall conform to the applicable standard specified in Table 3001.3; Minnesota Rules, chapter 1307, Elevators and Related Devices; and Minnesota Rules, chapter 1335, Floodproofing Regulations.

(Table 3001.3 remains unchanged.)

Subp. 3. **IBC section 3001.4.** IBC section 3001.4 is amended to read as follows:

3001.4 Accessibility. Passenger elevators required to be accessible or to serve as part of an accessible means of egress shall comply with Section 1009 and Minnesota Rules, chapter 1341.

Subp. 4. **IBC section 3001.5.** IBC section 3001.5 is amended as follows:

3001.5 Change in use. A change in use of an elevator from freight to passenger, passenger to freight, or from one freight class to another freight class shall comply with Minnesota Rules, chapter 1307.

1305.3002 SECTION 3002, HOISTWAY ENCLOSURES.

Subpart 1. **IBC section 3002.3.** IBC section 3002.3 is amended as follows:

3002.3 Emergency signs. An approved pictorial sign of a standardized design shall be posted adjacent to each elevator call station on all floors instructing occupants to use the exit stairways and not to use the elevators in case of fire. The sign shall be as illustrated in ASME A17.1, Figure 2.27.9.

(The exceptions remain unchanged.)

Subp. 2. **IBC section 3002.4.** IBC section 3002.4 is amended to read as follows:

3002.4 Elevator car to accommodate ambulance stretcher. Where elevators are provided in buildings four or more stories above grade plane or four or more stories below grade plane, at least one elevator shall be provided for fire department emergency access to all floors. The elevator car shall be of such a size and arrangement to accommodate an ambulance stretcher 24 inches by 84 inches (610 mm by 2133.5 mm) with not less than 5-inch (127 mm) radius corners, in the horizontal, open position. The emergency access elevator shall be identified by the international symbol for emergency medical services (star of life). The symbol shall be not less than three inches (76 mm) high and shall be placed inside on both sides of the hoistway door frame at each floor level.

Exception: When approved by the authority having jurisdiction, in passenger elevators to be installed in existing buildings where existing hoistway configuration or technical infeasibility prohibits strict compliance with the minimum inside car size, the minimum inside car area may be reduced to not less than 48 inches by 48 inches.

Subp. 3. **IBC section 3002.6.** IBC section 3002.6 is amended to read as follows:

3002.6 Prohibited doors. Doors, other than hoistway doors, elevator car doors, and smoke control doors, when required, shall be prohibited at the point of access to an elevator car. Smoke control doors shall be:

1. held open during normal operation by a "hold-open" device that is activated for closure by fire or smoke sensing devices located in the elevator lobby or its immediate vicinity; and

2. readily openable from inside the car without a key, tool, special knowledge, or effort when closed.

Subp. 4. **IBC section 3002.9.** IBC section 3002.9 is amended to read as follows:

3002.9 Plumbing and mechanical systems. Plumbing and mechanical systems installed within elevator hoistways shall be provided in accordance with the following:

3002.9.1 Plumbing systems. Plumbing systems in hoistways shall be limited to and provided in accordance with Minnesota Rules, chapter 1307.

3002.9.2 Mechanical systems. Mechanical systems and mechanical components in hoistways shall be limited to those serving the hoistway. Mechanical systems serving the hoistway shall not serve other portions of the building.

(The exception is deleted.)

1305.3003 SECTION 3003, EMERGENCY OPERATIONS.

Subpart 1. **IBC section 3003.1.1.** IBC section 3003.1.1 is modified to read:

3003.1.1 Manual transfer. At elevator locations where standby power is required, standby power shall be manually transferable to all elevators in each bank. Standby power shall not be transferred from elevator banks where standby power is required to elevator banks where standby power is not required.

Subp. 2. **IBC section 3003.1.3.** IBC section 3003.1.3 is modified to read:

3003.1.3 Two or more elevators. Where two or more elevators are controlled by a common operating system, where standby power is required, all elevators controlled by that common operating system shall automatically transfer to standby power within 60 seconds after failure of normal power where the standby power source is of sufficient capacity to operate all elevators at the same time. Where the standby power source is not of sufficient capacity to operate all elevators at the same time, the elevators shall operate according to ASME A17.1/CSA B44-2016 2.27.2.

1305.3111 SECTION 3111, SOLAR ~~PHOTOVOLTAIC PANELS/MODULES~~ ENERGY SYSTEMS.

Subpart 1. **IBC section 3111.1.** IBC section 3111.1 ~~is~~ and its subsections are amended to read as follows:

3111.1 General. Solar ~~photovoltaic panels/modules~~ energy systems shall comply with the requirements of this ~~code~~ section.

Exception: Buildings regulated by Minnesota Rules, chapter 1309, the Minnesota Residential Code.

3111.1.1 Wind resistance. Rooftop mounted photovoltaic panels and modules and solar thermal collectors shall be designed in accordance with Section 1609.

3111.1.2 Roof live load. Roof structures that provide support for solar energy systems shall be designed in accordance with Section 1607.13.5.

3111.1.3 Roof access points. Roof access points shall meet all the following criteria:

1. Roof access points shall be located where fire departments have ground access.

2. Roof access points shall be located in areas that do not require the placement of fire department ground ladders over openings such as windows or doors.

3. Roof access points shall be located at strong points of building construction.

4. Roof access points shall be in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.

5. Each roof access point shall be provided with a landing on the roof side not less than six feet in each direction. The landing shall be free and clear of obstructions such as vent pipes, conduit, and mechanical and electrical equipment.

6. Roof access point landings on roofs with slopes greater than two units vertical in 12 units horizontal (2:12) shall be positioned with direct access to a pathway to ridge.

7. Each solar array or grouping of arrays shall have not less than two roof access points spaced not closer than 1/3 the diagonal dimension of the array or arrays served.

3111.1.4. When solar photovoltaic panels are installed on any building or site, the licensed design professional shall notify the fire code official.

Subp. 2. **IBC section 3111.3.** IBC section 3111.3 is amended to read as follows:

3111.3 Photovoltaic solar energy systems. Solar photovoltaic energy systems shall be designed and installed in accordance with this section, the Minnesota State Fire Code, the Minnesota Electrical Code, and the manufacturer's instructions.

Exception: Solar photovoltaic power systems installed on detached, nonhabitable Group U structures including parking shade structures, carports, solar trellises, and similar structures need only comply with the Minnesota Fire Code, the Minnesota Electrical Code, and the manufacturer's instructions.

(Subsections 3111.3.1, 3111.3.2, and 3111.3.3 remain unchanged.)

Subp. 3. **IBC section 3111.3.4.** IBC section 3113.3.4 and its subsections are amended to read as follows:

3111.3.4 Access and pathways. Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 3111.3.4.1 through 3111.3.4.2.3. Pathways shall be over areas capable of supporting fire fighters accessing the roof. Pathways shall be located in areas without obstructions such as vent pipes, conduit, and mechanical and electrical equipment.

Exceptions:

1. Detached, nonhabitable Group U structures including but not limited to detached garages serving Group R-3 buildings, parking shade structures, carports, solar trellises, and similar structures.

2. Roof access, pathways, and spacing requirements need not be provided where the fire code official has determined that rooftop operations will not be employed.

3111.3.4.1 Solar photovoltaic systems for roof slopes greater than two units vertical in 12 units horizontal (2:12). Solar photovoltaic systems for buildings with roof slopes greater than two units vertical in 12 units horizontal (2:12) shall comply with Sections 3111.3.4.1.1 through 3111.3.4.1.3.

3111.3.4.1.1 Pathways to ridge. Not fewer than two 36-inch-wide pathways on separate roof planes, from the lowest roof edge to ridge, shall be provided on all buildings. Pathways shall be provided at intervals not greater than 150 feet throughout the length and width of the roof. Not fewer than one pathway shall be provided on the street or driveway side, or fire-department-access side of the roof. For each roof plane with a photovoltaic array, not fewer than one 36-inch-wide pathway from lowest roof edge to ridge shall be provided on the same roof plane as the photovoltaic array, on an adjacent roof plane, or straddling the same and adjacent roof planes.

3111.3.4.1.2 Setbacks at ridge. For photovoltaic arrays occupying 33 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge. For photovoltaic arrays occupying more than 33 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.

3111.3.4.1.3 Alternative setbacks at ridge. Where an automatic sprinkler system is installed within the building, setbacks at the ridge shall conform to one of the following criteria:

1. For photovoltaic arrays occupying 66 percent or less of the plan view total roof area, a setback of not less than 18 inches (457 mm) wide is required on both sides of a horizontal ridge.

2. For photovoltaic arrays occupying more than 66 percent of the plan view total roof area, a setback of not less than 36 inches (914 mm) wide is required on both sides of a horizontal ridge.

3111.3.4.1.4 Emergency escape and rescue openings. Panels and modules installed on Group R buildings shall not be placed on the portion of a roof that is below an emergency escape and rescue opening. A pathway of not less than 36 inches (914 mm) wide shall be provided from the roof edge to the emergency escape and rescue opening.

3111.3.4.2 Solar photovoltaic systems for roofs with slopes of two units vertical in 12 units horizontal or less. Access to systems for buildings with roofs with slopes of two units vertical in 12 units horizontal (2:12) or less, shall be provided in accordance with Sections 3111.3.4.2.1 through 3111.3.4.2.3.

3111.3.4.2.1 Perimeter pathways. There shall be a minimum six-foot-wide (1,829 mm) clear perimeter around the edges of the roof.

Exception: Where either axis of the building is 250 feet (76,200 mm) or less, the clear perimeter around the edges of the roof shall be permitted to be reduced to a minimum width of four feet (1,219 mm).

3111.3.4.2.2 Interior pathways. Interior pathways shall be provided between array sections to meet the following requirements:

1. Pathways shall be provided at intervals not greater than 150 feet (45,720 mm) throughout the length and width of the roof.

2. A pathway of not less than four feet (1,219 mm) wide in a straight line to roof standpipes or ventilation hatches.

3. A pathway not less than four feet (1,219 mm) wide around roof access hatches, with not fewer than one such pathway to a parapet or roof edge.

4. A pathway not less than four feet (1,219 mm) wide from the perimeter pathway to an emergency escape and rescue opening located above the roof.

3111.3.4.2.3 Smoke ventilation. The solar installation shall be designed to meet the following requirements:

1. Where non-gravity-operated smoke and heat vents occur, a pathway not less than four feet (1,219 mm) wide shall be provided bordering all sides.

2. Smoke ventilation options between array sections shall be one of the following:

2.1 A pathway not less than eight feet (2,438 mm) wide.

2.2 Where gravity-operated dropout smoke and heat vents occur, a pathway not less than four feet (1,219 mm) wide on at least one side.

2.3 A pathway not less than four feet (1,219 mm) wide bordering four-foot by eight-foot (1,219 mm by 2,438 mm) venting cutouts every 20 feet (6,096 mm) on alternating sides of the pathway.

Subp. 4. **IBC section 3111.3.5.** IBC section 3111.3.5 is amended to read as follows:

3111.3.5 Ground-mounted photovoltaic panel systems. Ground-mounted photovoltaic panel systems shall comply with this section and Section 3111.1. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of ten feet (3048 mm) shall be required for ground-mounted photovoltaic arrays.

Subp. 5. **IBC section 3111.3.6.** IBC section 3111.3 is amended by adding subsection 3111.3.6 with subsections, and Figures 3111.3.6.1(1) and 3111.3.6.1(2), to read as follows:

3111.3.6 Buildings with rapid shutdown. Buildings with rapid shutdown solar photovoltaic systems shall have permanent labels in accordance with Sections 3111.3.6.1 through 3111.3.6.3.

3111.3.6.1 Rapid shutdown type. The type of solar photovoltaic system rapid shutdown shall be labeled with one of the following:

1. For solar photovoltaic systems that shut down the array and the conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8-inch (ten mm) in black on a yellow background. The remaining characters shall be uppercase with a minimum height of 3/16-inch (five mm) in black on a white background. The label shall be in accordance with Figure 3111.3.6.1(1) and state the following:

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN ARRAY.

2. For photovoltaic systems that only shut down conductors leaving the array, a label shall be provided. The first two lines of the label shall be uppercase characters with a minimum height of 3/8-inch (ten mm) in white on a red background. The remaining characters shall be capitalized with a minimum height of 3/16-inch (five mm) in black on a white background. The label shall be in accordance with Figure 3111.3.6.1(2) and state the following:

THIS SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN. TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN CONDUCTORS OUTSIDE THE ARRAY. CONDUCTORS WITHIN ARRAY REMAIN ENERGIZED IN SUNLIGHT

Figure 1204.5.1(1) of the 2018 IFC is incorporated by reference and renumbered Figure 3111.3.6.1(1).

Figure 1204.5.1(2) of the 2018 IFC is incorporated by reference and renumbered Figure 3111.3.6.1(2).

3111.3.6.1.1 Diagram. The labels in Section 3111.3.6.1 shall include a simple diagram of a building with a roof. Diagram sections in red signify sections of the solar photovoltaic system that are not shut down when the rapid shutdown switch is turned off.

3111.3.6.1.2 Location. The rapid shutdown label in Section 3111.3.6.1 shall be located not greater than three feet (914 mm) from the service disconnecting means to which the photovoltaic systems are connected, and shall indicate the location of all identified rapid shutdown switches if not at the same location.

3111.3.6.2 Buildings with more than one rapid shutdown type. Solar photovoltaic systems that contain rapid shutdown in accordance with Section 3111.3.6.1, items 1 and 2, or solar photovoltaic systems where only portions of the systems on the building contain rapid shutdown, shall provide a detailed plan view diagram of the roof showing each different photovoltaic system and a dotted line around areas that remain energized after the rapid shutdown switch is operated.

3111.3.6.3 Rapid shutdown switch. A rapid shutdown switch shall have a label located not greater than three feet (914 mm) from the switch that states the following:

RAPID SHUTDOWN SWITCH FOR SOLAR PV SYSTEM

1305.3113 SECTION 3113, ~~SOLAR PHOTOVOLTAIC POWER SYSTEMS~~ RELOCATABLE BUILDINGS.

~~IBC chapter 31 is amended to add a section to read as follows:~~

~~**3113. Solar photovoltaic power systems; general.** Solar photovoltaic power systems shall be installed in accordance with this part and Minnesota Rules, chapter 1315.~~

~~**Exception:** Detached, nonhabitable Group U structures including parking shade structures, carports, solar trellises, and similar structures shall not be subject to the requirements of this part. Minnesota Rules, chapter 1315, applies.~~

~~**3113.1 Access and pathways.** Roof access, pathways, and spacing requirements shall be provided in accordance with Sections 3113.1 through 3113.3.~~

~~**Exceptions:**~~

~~1. Residential structures shall be designed so that each photovoltaic array is no greater than 150 feet (45,720 mm) by 150 feet (45,720 mm) in either axis.~~

~~2. Panels/modules shall be permitted to be located up to the roof ridge where an alternative ventilation method approved by the fire department has been provided or where the fire department has determined vertical ventilation techniques will not be employed.~~

~~**3113.1.1 Roof access points.** Roof access points shall be located in areas that do not require the placement of fire department ground ladders over openings such as windows or doors, and located at strong points of building construction in locations where the access point does not conflict with overhead obstructions such as tree limbs, wires, or signs.~~

~~**3113.1.2 Residential systems for dwelling units.** Access to residential systems for dwelling units shall be provided in accordance with Sections 3113.1.2.1 through 3113.1.2.4.~~

~~3113.1.2.1 Residential buildings with hip roof layouts.~~ ~~Panels or modules installed on residential buildings with hip roof layouts shall be located in a manner that provides a 3-foot-wide (914 mm) clear access pathway from the eave to the ridge on each roof slope where panels/modules are located. The access pathway shall be located at a location on the building capable of supporting the live load of firefighters accessing the roof.~~

> **~~Exception:~~** ~~These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~3113.1.2.2 Residential buildings with a single ridge.~~ ~~Panels or modules installed on residential buildings with a single ridge shall be located in a manner that provides two 3-foot-wide (914 mm) clear access pathways from the eave to the ridge on each roof slope where panels/modules are located.~~

> **~~Exception:~~** ~~This requirement shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~3113.1.2.3 Residential buildings with roof hips and valleys.~~ ~~Panels or modules installed on residential buildings with roof hips and valleys shall be located no closer than 18 inches (457 mm) to a hip or valley where panels/modules are to be placed on both sides of a hip or valley. Where panels are to be located on only one side of a hip or valley that is of equal length, the panels shall be permitted to be placed directly adjacent to the hip or valley.~~

> **~~Exception:~~** ~~These requirements shall not apply to roofs with slopes of two units vertical in 12 units horizontal (2:12) or less.~~

~~3113.1.2.4 Residential building smoke ventilation.~~ ~~Panels or modules installed on residential buildings shall be located no higher than 3 feet (914~~

~~mm) below the ridge in order to allow for fire department smoke ventilation operations.~~

~~**3113.2 Other than residential buildings.** Access to systems for occupancies other than dwelling units shall be provided in accordance with Sections 3113.2.1 through 3113.2.1.2.~~

~~**Exception:** Where it is determined by the fire department that the roof configuration is similar to that of dwelling units, the residential access and ventilation requirements in Sections 3113.1.2 through 3113.1.2.4 shall be permitted.~~

~~**3113.2.1 Access.** There shall be a minimum 6-foot-wide (1829 mm) clear perimeter around the edges of the roof.~~

~~**Exception:** Where either access of the building is 250 feet (76,200 mm) or less, there shall be a minimum 4-foot-wide (1290 mm) clear perimeter around the edges of the roof.~~

~~**3113.2.1.2 Pathways.** The solar installation shall be designed to provide designated pathways. The pathways shall meet the following requirements:~~

~~1. The pathway shall be over areas capable of supporting the live load of firefighters accessing the roof.~~

~~2. The centerline access pathways shall be provided in both axes of the roof. Centerline access pathways shall run where the roof structure is capable of supporting the live load of firefighters accessing the roof.~~

~~3. The pathway shall be a straight line not less than 4 feet (1290 mm) clear to skylights or ventilation hatches.~~

~~4. The pathway shall be a straight line not less than 4 feet (1290 mm) clear to roof standpipes.~~

~~5. The pathway shall provide not less than 4 feet (1290 mm) clear around roof access hatch with at least one not less than 4 feet (1290 mm) clear pathway to parapet or roof edge.~~

~~**3113.3 Smoke ventilation.** The solar installation shall be designed to meet the following requirements:~~

~~1. Arrays shall be no greater than 150 feet (45,720 mm) by 150 feet (45,720 mm) in distance in either axis in order to create opportunities for fire department smoke ventilation operations.~~

~~2. Smoke ventilation options between array sections shall be one of the following:~~

~~2.1 A pathway 8 feet (2438 mm) or greater in width.~~

~~2.2 A 4-foot (1290 mm) or greater in width pathway and bordering roof skylights or smoke and heat vents.~~

~~2.3 A 4-foot (1290 mm) or greater in width pathway and bordering 4-foot by 8-foot (1290 mm by 2438 mm) "venting cutouts" every 20 feet (6096 mm) on alternating sides of the pathway.~~

~~**3113.4 Ground-mounted photovoltaic arrays.** Ground-mounted photovoltaic arrays shall comply with this part and Minnesota Rules, chapter 1315. Setback requirements shall not apply to ground-mounted, free-standing photovoltaic arrays. A clear, brush-free area of 10 feet (3048 mm) shall be required for ground-mounted photovoltaic arrays.~~

IBC sections 3113.1 through 3113.4 are deleted in their entirety and replaced with the following:

3113.1 Relocatable buildings. Relocatable buildings shall comply with Minnesota Rules, chapter 1361.

~~1305.3112~~ 1305.3114 SECTION ~~3112~~ 3114, WINDOW CLEANING ANCHORS.

IBC chapter 31 is amended by adding a new section to the chapter:

SECTION 3114

WINDOW CLEANING ANCHORS

~~3112.~~ 3114.1 Window cleaning anchors. Building anchors for window cleaning safety shall be provided for buildings four or more stories above grade plane. Building anchors for window cleaning safety shall be designed, installed, and located in accordance with the design criteria of ANSI/IWCA I-14.1-2001.

Exceptions:

1. Buildings without windows.

2. Existing buildings undergoing reconstruction, alteration, or repair that does not include the exposure of primary structural roof components.

3. In accordance with Minnesota Statutes, section 326B.106, subdivision 4, paragraph (m), the commissioner of the Minnesota Department of Labor and Industry may waive all or a portion of the requirements for existing buildings if the installation of the dedicated anchorages would not result in significant safety improvements due to limits on the size of the project, or other factors as determined by the commissioner.

1305.3500 CHAPTER 35, REFERENCED STANDARDS.

Subpart 1. [Repealed, 39 SR 1605]

Subp. 1a. **ANSI MH29.1-2012.** ANSI MH29.1-2012 Safety Requirements for Industrial Scissor Lifts shall replace ANSI MH29.1-2008 on the list of referenced documents in IBC chapter 35.

Subp. 1b. **ASME A18.1-2017.** ASME A18.1-2017 Safety Standard for Platform Lifts and Stairway Chairlifts shall replace ASME A18.1-2014 on the list of referenced documents in IBC chapter 35.

Subp. 2. **Supplemental standards.** The standards listed in this subpart shall supplement the list of referenced documents in IBC chapter 35 ~~of the IBC~~. The standards referenced in this subpart shall be considered part of the requirements of this part to the extent prescribed in each part or reference.

~~NFPA 45 - 2011 Standard on Fire Protection for Laboratories Using Chemicals~~

NFPA 99 - 2012 Health Care Facilities Code

NFPA 101 - 2012 Life Safety Code

ANSI/IWCA I-14.1-2001 - Standard for Window Cleaning

REPEALER. Minnesota Rules, parts 1305.0011, subpart 3; 1305.0308, subpart 4; 1305.0402, subpart 1; 1305.0507; 1305.0509; 1305.0907, subparts 26b, 27, and 31a; 1305.0908; 1305.1015; 1305.1029, subparts 2 and 3; 1305.1209; 1305.1511; 1305.1607, subparts 2 and 3; 1305.2308, subpart 1; 1305.2603; 1305.2902, subpart 1a; 1305.3030; and 1305.3401, are repealed.

EFFECTIVE DATE. The amendments to this chapter are effective March 31, 2020, or five business days after publication of the notice of adoption in the State Register, whichever is later.