

Health Care Engineers Fire & Life Safety Boot Camp



**MINNESOTA HEALTH CARE ENGINEERS ASSOCIATION
FALL CONFERENCE
SEPTEMBER 11, 2014**

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WEBSITE: [HTTPS://DPS.MN.GOV/DIVISIONS/SFM/PROGRAMS-SERVICES/PAGES/HEALTH-CARE-INSPECTION.ASPX](https://dps.mn.gov/divisions/sfm/programs-services/pages/health-care-inspection.aspx)



Definitions



CMS – Center for Medicare and Medicaid

LSC – 2000 NFPA 101 Life Safety Code

MSFC – 2007 MN State Fire Code

NFPA – National Fire Protection Association

SFMD – State Fire Marshal Division



Objective



Review the requirements for
hazardous rooms as defined in
2000 NFPA 101 (LSC)



Definitions



2000 NFPA 101 - 3.3.13.2 - Area, Hazardous. An area of a structure or building that poses a degree of hazard greater than that normal to the general occupancy of the building or structure, such as areas used for the storage or use of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.



Definitions



2000 NFPA 101 - 3.3.29 Combustible.

A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible.



Definitions



2000 NFPA 101 - 3.3.131 Noncombustible. Refers to a material that, in the form in which it is used and under the conditions anticipated, does not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C*, are considered noncombustible materials.



EXISTING – HAZARDOUS AREA



2000 NFPA 101 - 19.3.2.1 Hazardous Areas. Any hazardous areas shall be safeguarded by a fire barrier having a 1-hour fire resistance rating **or** shall be provided with an automatic extinguishing system in accordance with 8.4.1. The automatic extinguishing shall be permitted to be in accordance with 19.3.5.4.



EXISTING – HAZARDOUS AREA



Where the sprinkler option is used, the areas shall be separated from other spaces by smoke-resisting partitions and doors.

The doors shall be self-closing or automatic-closing. Hazardous areas shall include, but shall not be restricted to, the following:



EXISTING – HAZARDOUS AREA



- (1) Boiler and fuel-fired heater rooms
- (2) Central/bulk laundries larger than 100 ft² (9.3 m²)
- (3) Paint shops
- (4) Repair shops
- (5) Soiled linen rooms
- (6) Trash collection rooms



EXISTING – HAZARDOUS AREA



(7) Rooms or spaces larger than 50 ft₂ (4.6 m₂), including repair shops, used for storage of **combustible supplies and equipment in quantities deemed hazardous by the authority having jurisdiction**

(8) Laboratories employing flammable or combustible materials in quantities less than those that would be considered a severe hazard.

Exception: Doors in rated enclosures shall be permitted to have nonrated, factory- or field-applied protective plates extending not more than 48 in. (122 cm) above the bottom of the door.



NEW – HAZARDOUS AREA



2000 NFPA 101 - 18.3.2.1* Hazardous Areas. Any hazardous area shall be protected in accordance with Section 8.4. The areas described in Table 18.3.2.1 shall be protected as indicated.



NEW – HAZARDOUS AREA



Table 18.3.2.1 Hazardous Area Protection

Hazardous Area Description	Separation/Protection
Boiler and fuel-fired heater rooms	1 hour
Central/bulk laundries larger than 100 ft ² (9.3 m ²)	1 hour
Laboratories employing flammable or combustible materials in quantities less than those that would be considered a severe hazard	See 18.3.6.3.4
Laboratories that use hazardous materials that would be classified as a severe hazard in accordance with NFPA 99, <i>Standard for Health Care Facilities</i>	1 hour



NEW – HAZARDOUS AREA



Paint shops employing hazardous substances and materials in quantities less than those that would be classified as a severe hazard	1 hour
Physical plant maintenance shops	1 hour
Soiled linen rooms	1 hour
Storage rooms larger than 50 ft ² (4.6 m ²) but not exceeding 100 ft ² (9.3 m ²) storing combustible material	See 18.3.6.3.4
Storage rooms larger than 100 ft ² (9.3 m ²) storing combustible material	1 hour
Trash collection rooms	1 hour



NEW – HAZARDOUS AREA



2000 NFPA 101 - 18.3.6.3.4 Door-closing devices shall not be required on doors in corridor wall openings other than those serving required exits, smoke barriers, or enclosures of vertical openings and **hazardous** areas.



HAZARDOUS AREA



1. Empty resident rooms now become hazardous rooms
2. If the room has signage “STORAGE”
3. What quantity makes it hazardous





Circuit Breaker Panels



1999 NFPA 70 - 110-26. Spaces About Electrical Equipment. 600 V or less

Depth of Working Space – 3 feet

Width of Working Space – 30 inches

Height of Working Space - The work space shall be clear and extend from the grade, floor, or platform to the height required by Section 110-26(e). **Headroom.** The minimum headroom of working spaces about service equipment, switchboards, panel boards, or motor control centers shall be 6-1/2 ft. (1.98 m). Where the electrical equipment exceeds 6-1/2 ft. (1.98 m) in height, the minimum headroom shall not be less than the height of the equipment.





Oxygen - Storage



1999 NFPA 99 - 8-3.1.11.2 Storage for nonflammable gases less than 3000 ft³ (85 m³).

(c) Oxidizing gases such as oxygen and nitrous oxide shall be separated from combustibles or incompatible materials by either:



Oxygen - Storage



1. A minimum distance of 20 ft (6.1 m), or
2. A minimum distance of 5 ft (1.5 m) if the entire storage location is protected by an automatic sprinkler system designed in accordance with NFPA 13, *Standard for the Installation of Sprinkler Systems*, or



Oxygen - Storage



3. An enclosed cabinet of noncombustible construction having a minimum fire protection rating of one-half hour for cylinder storage. An approved flammable liquid storage cabinet shall be permitted to be used for cylinder storage.



WRAP UP



QUESTIONS ?



Documentation



REMEMBER

If you didn't document it.

It didn't happen!



MINNESOTA HEALTH CARE ENGINEERS



THANK YOU!

