Introduction to the 2015 Fire Code

Presented by:

Washington State Association
of Fire Marshals

WASHINGTON STATE FIRE MARSHALS

Introduction to the 2015 Fire Code.

- General Introduction
- Code History
- Code Development Process
- Review of Significant Changes
  - 2015 IFC and Washington State Amendments
- Questions?

Introduction

Disclaimer:

"The contents of this presentation provide a general overview of the changes to the 2015 International Fire Code and the proposed Washington State amendments. It does not include all of the significant changes, but addresses particular significant changes that are of interest to the presenter. That is one of the advantages to giving the class versus taking it. Where applicable, names have been changed to protect the innocent. It always seems that there are changes that you do not really see until later anyways. And when you think about it, who really reads all the text in the PowerPoint slides?"

Who needs codes anyways?

The History of the Codes

Codes have been in place for some time:

The Great Fire of Rome

- Rome burned in 64 A.D.
- Narrow streets, tall buildings, combustible building materials, and common walled buildings contributed to the fire devastation
- Emperor Nero created a new urban plan
- Wider streets, restrictions on the height of houses; no common walls of buildings and homes were constructed with fire resistant materials (stone vs. wood)

The History of the Codes

For some locations, it took time for fire codes to go into effect – or it was put into effect due to a response to a significant event.

Great Seattle Fire of 1889 (same year as large fire in Spokane!)

The History of the Codes

As the times have changed, many significant events have caused the codes to be revised. (Can you identify the fires?)

The Washington State Code Process

Every three years the ICC issues a new model Fire code.

After the model code is published, the State Building Code Council (SBCC) enters into the State Code Development process

- Technical Advisory Groups (TAGs) are formed
- Review of existing amendments
- Review of new changes
- Review of proposed public submitted changes

The recommendations of the TAGs are presented to the SBCC – and must include a small business impact analysis

The recommendations are then published for public review.

The Washington State Code Process

There are two public hearings (one on the East side in September, one on the West side in October).

The SBCC deliberates and votes on the changes in November.

The proposed changes are placed on the Legislative agenda for the session beginning in December.

Unless the item is pulled to the legislative floor, the recommendations are codified at the end of the regular legislative session with an effective date of July 1.

The Washington State Code Process

The proposed State Amendments, links to submit written comments, and the link to comments submitted are located on the following web page:

https://fortress.wa.gov/ga/apps/SBCC/Page.aspx?cid=3119

First – Be sure to have the current errata.
http://www.iccsafe.org/errata-central/

Second – Be sure to have the most current State Amendments and Emergency Rules

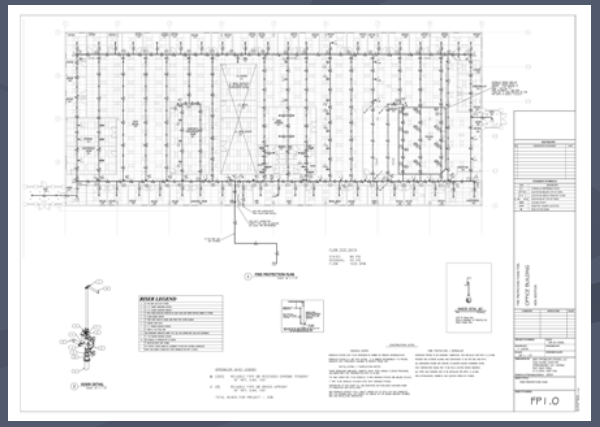
https://fortress.wa.gov/ga/apps/sbcc/Page.aspx?nid=14
https://fortress.wa.gov/ga/apps/SBCC/Page.aspx?cid=3119

And now, the 2015 IFC . . .

Chapter 1 – Scope and Administration

105.1.4 – Emergency Repairs – now allows where equipment or repairs occur in an emergency situation, permit application can be made the next working business day.

105.1.6 – Annual Permit – Instead of individual construction permits for each alteration, an annual permit can be issued to qualified individuals in the building. Records are to be kept of alterations and filed with the Fire Dept.

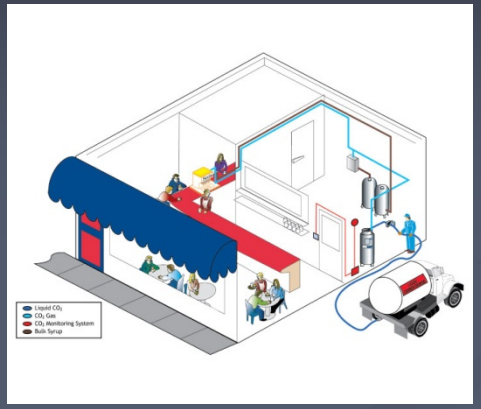


105.4.5 – Amended Construction Documents – Changed from Corrected Documents – now requires work not in accordance with approved documents are required to be resubmitted for approval.

Chapter 1 – Scope and Administration

New/Revised Operational Permits

105.6.4 Carbon Dioxide Systems – systems with more than 100 pounds. This was originally for beverage systems, but has been amended at the State for all uses.



105.6.31 Motor fuel-dispensing facilities – permit now required for operation of these types of facilities

105.6.45 Temporary Membrane structures and tents – temporary stage canopies have now been added to this permit.

Chapter 1 – Scope and Administration

New/Revised Construction Permits

Note: Several construction permits now do not require a permit when maintenance work is done on the system.

105.7.9 Gates and barricades across fire apparatus access roads – now requires a construction permit for approval.

105.7.12 LP-gas – maintenance work will not require a permit.

Chapter 1 – Scope and Administration

New/Revised Construction Permits

105.7.14 Smoke Control or smoke exhaust systems – installation or alteration of a smoke control or smoke exhaust system.

105.7.18 Temporary Membrane structures and tents – temporary stage canopies have now been added to this permit.

Chapter 1 – Scope and Administration

Cannabis Permits (WAC)

105.6.4.9 Marijuana Extraction Systems under WAC 314-55-104 – operational permit

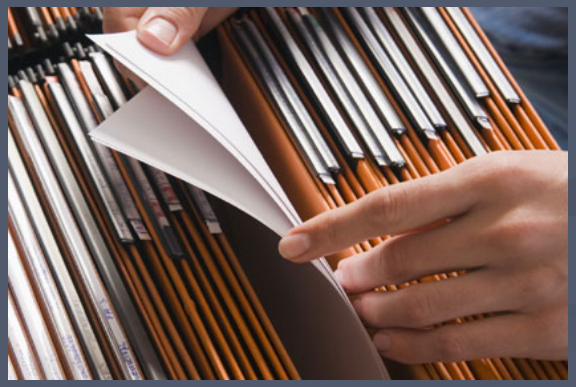
105.7.19 Marijuana Extraction Systems under WAC 314-55-104 – construction permit

Chapter 1 – Scope and Administration

105.7.20 – Underground supply piping for automatic sprinkler system – construction permit for private or public

- Exception for contractors doing work that are Level III
- Exception for 13D installations

107.3 Recordkeeping – Records of inspections, tests, and other operations and maintenance shall be kept for not less than 3 years.



Chapter 2 - Definitions

We have some new definitions related to recognized systems and occupancy:

-Agro-Industrial – operations that transform raw agricultural products into intermediate or consumable products.

-Assisted Living Facility - revises Washington state amendments (WAC) to use the phrase ‘assisted living facility’ in lieu of ‘boarding home’ where addressing facilities licensed by the state of Washington.

-Automatic Water Mist System – a high pressure, fine droplet water suppression system.

-Biomass – plant or animal based material of biological origin other than fossils

-Commercial Motor Vehicle – vehicle used to transport passengers (16 or more) or property (GVW 10,000lbs or more).

Chapter 2 - Definitions

Change of Occupancy – A change in the use of a building or portion of a building; shall include any change in occupancy classification, any change from one group to another group within an occupancy classification or any change is use within a group for a specific occupancy classification.

Chimney – A primarily vertical structure containing one or more flues for the purpose of carrying gaseous products of combustion and air from a fuel-burning appliance to the outdoor atmosphere.

Factory-Built – Listed & labeled, composed of factory-made components, assembled in a factory per manufacture specifications and listing.

Masonry – Field-constructed of solid masonry units, brick, stones or concrete.

Metal – Field-constructed of metal.

Chapter 2 - Definitions

Common path of egress travel – Portion of the exit access travel distance measured from the most remote point within a story to the point where occupants have separate and distinct access to two exit or exit access doorways.

Common use – Interior or exterior circulation paths, rooms, spaces or elements for shared use by two or more people, not available for public use.

Critical Circuit – A circuit that requires continuous operation to ensure safety of the structure and occupants.

Custodial Care – Assistance with day-to-day living tasks; such as cooking, medication, bathing; have the ability to respond to emergency situations and evacuate at a slower rate and/or have mental and psychiatric complications.

Chapter 2 - Definitions

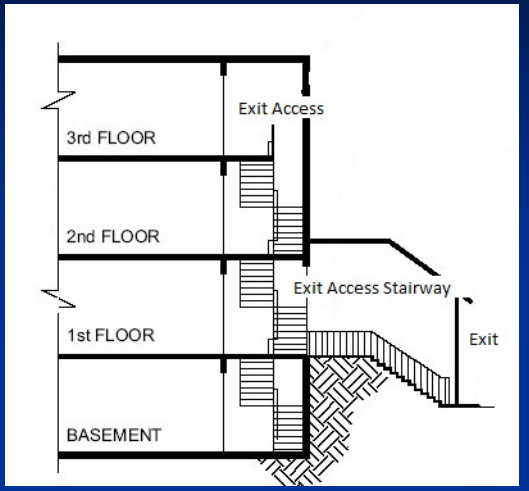
Decorative Materials – All materials applied over the building interior finish for decorative, acoustical or other effect; do not include wall, ceiling or floor coverings, ordinary window shades, interior finish and materials 0.025-in or less in thickness directly adhered to a substrate.

Dutch Door – A door divided horizontally so that the top operates independently from the bottom.

Emergency Power System – A source of automatic electric power to operate required life safety, fire alarm/detection and ventilation systems in the event of a primary power failure; required for electrical loads where primary power interruption could result in loss of life or serious injury.

Employee Work Area – All or any portion of a space used by employees and only for work.

Chapter 2 - Definitions



Exit Access Ramp – A ramp within the exit access portion of the means of egress system.

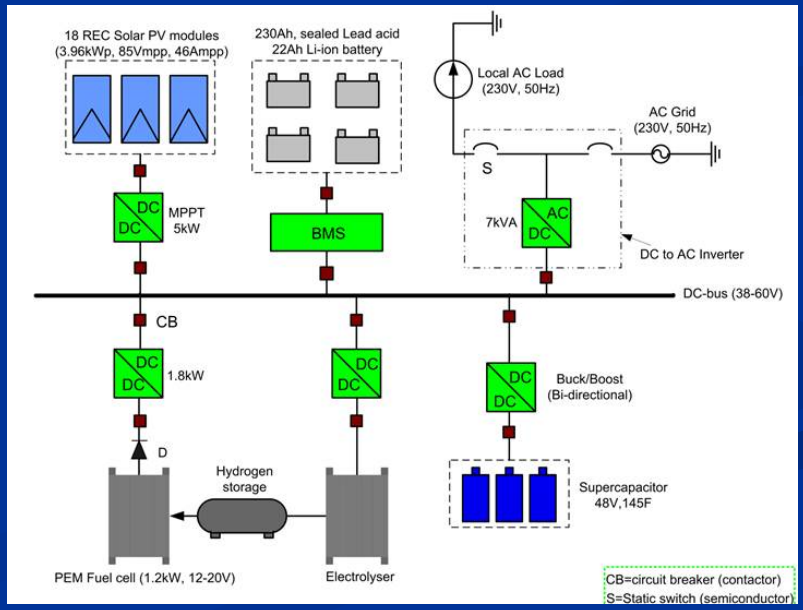
Exit Access Stairway – A stairway within the exit access portion of the means of egress system.

Exterior exit Ramp & Exterior Exit Stairway – An exit component that serves to meet one or more means of egress design requirements and is open to yards, courts or public ways.

Chapter 2 - Definitions

Combustible Gas Detectors – A detector measuring the presence of ignitable vapors within the flammable range.

Gaseous Hydrogen System – Systems designed to generate, store, contain, distribute or transport hydrogen gas.



Guest Room – A room used or intended to be used by one or more quests for living or sleeping purposes.

Chapter 2 - Definitions

Horizontal Exit – An exit component consisting of fire-resistance-rated construction and opening protectives intended to compartmentalize portions of a building thereby creating refuge areas that afford safety from fire and smoke from the area of fire origin.

Hydrogen Gas Room – A room or space that is intended exclusively to house a gaseous hydrogen system.

Lodging House – A one-family dwelling where one or more occupants are primarily permanent in nature and rent is paid for guest rooms.

Low-Energy Power-Operated Door – Swinging door which opens automatically upon an action by a pedestrian such as pressing a push plate or waving a hand in front of a sensor. The door closes automatically, and operates with decreased forces and decreased speeds.

Chapter 2 - Definitions

Occupancy Classifications:

Group A: Accessory with Places of religious worship – accessory religious educational rooms & religious auditoriums with occupant loads of less than 100 per room or space are not considered separate occupancies.

Group B:

Food processing and commercial kitchens not associated with restaurants and similar dining facilities not more than 2,500 sq.ft. in area.

Training and skill development not in a school or academic program (includes: tutoring, martial arts studios, gymnastics etc. regardless of age served, where not classified as a Group A).

Chapter 2 - Definitions

Group F-1: Food processing and commercial kitchens not associated with restaurants and similar dining facilities more than 2,500 sq.ft. in area.

Group H: Uses other than Group H – The storage, use or handling of hazardous materials as described in one or more of the following items shall not cause the occupancy to be classified as a Group H, but it shall be classified as the occupancy that it most nearly resembles.

High-hazard Group H-3: Combustible fibers, other than densely packed baled cotton, where manufactured, generated or used in such a manner that the concentration and conditions create a fire or explosion hazard based on information prepared in accordance with Section 414.1.3 of the International Building Code.

Chapter 2 - Definitions

Group I-1: Occupied by 16 or more (excluding staff) on a supervised 24-hr basic receiving custodial care.

- Condition 1 – Occupants are capable, without assistance, to evacuate.
- Condition 2 – Occupants require limited verbal or physical assistance to evacuate.

Group I-2: occupied by 5 or more on a 24-hr basis who are not capable of self-preservation.

- Condition 1 – Provide nursing and medical care but not emergency care, surgery or obstetrics; or in-patient stabilization.
- Condition 2 – Provides nursing and medical care and could provide emergency care, surgery or obstetrics; or in-patient stabilization.

Group S-1: Accessory storage spaces – a room or space used for storage purposes that is less than 100 sq.ft. in area and accessory to another occupancy shall be classified as part of that occupancy.

Chapter 2 - Definitions

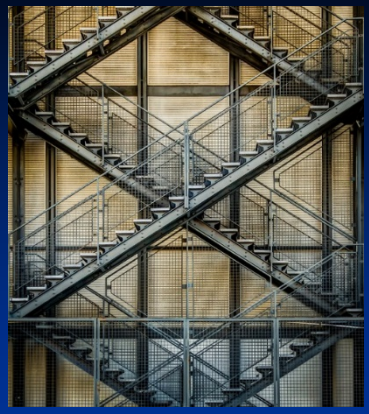
Open Ended Corridors – An interior corridor that is open on each end and connects to an exterior stairway or ramp at each end with no intervening doors or separation from the corridor.

Plenum – An enclosed portion of the building structure, other than an occupiable space being conditioned, that is designed to allow air movement and serves as part of an air distribution system.

Power Assisted Door - Swinging door which opens automatically upon an action by a pedestrian such as pressing a push plate or waving a hand in front of a sensor. The door closes automatically, and operates with decreased forces and decreased speeds.

Power Operated Door - swinging door which opens automatically upon an action by a pedestrian such as pressing a push plate or waving a hand in front of a sensor. The door closes automatically, and operates with decreased forces and decreased speeds.

Chapter 2 - Definitions



Private Garage – A building or portion of a building in which motor vehicles used by the tenants are stored or kept.

Public Use Areas – Interior or exterior rooms or spaces that are made available to the general public.

Scissor stairway – Two interlocking stairways providing two separate paths of egress located within one exit enclosure.

Sky Lantern – an unmanned device with a fuel source that incorporates an open flame in order to make the device airborne.

Solid Biofuel – Densified biomass made in the form of cubiform, polyhedral, polyhydric or cylindrical units, produced by compressing milled biomass.

Solid Biomass Feedstock – The basic materials of which solid biofuel is composed, manufactured or made.

Chapter 2 - Definitions

Standby Power System - A source of automatic electric power to operate required building, hazardous materials or ventilations systems in the event of a primary power failure; required for electrical loads where interruption of the primary power could create hazards or hamper rescue or fire-fighting operations.

Static Piles – Piles in which processed wood product or solid biomass feedstock is mounded and is not being turned or moved.

Temporary Stage Canopy – A temporary ground-supported membrane-covered frame structure used to cover state areas and support equipment in the production of outdoor entertainment events.

Chapter 3 – General Requirements

305.5 Unwanted fire ignition – Acts or processes that have caused repeated unwanted ignition of unwanted fires shall be modified to prevent future ignition.

308.1.6.3 Sky Lanterns – Sky lanterns are required to be tethered and not released.

Chapter 3 – General Requirements

308.1.10 (TAG WAC) Decorative Open Flame Tables – requires Fire Official approved method to protect occupants from using or exposure to flame.

Chapter 3 – General Requirements

311.6 – moved from 4-8.11.3 – Unoccupied Tenant Spaces in Mall Buildings

- Kept free of any storage
- separated from remainder of building with ½ GWB or equivalent.
- Doors or access openings shall be locked
-Area kept free of combustible waster and broom swept clean.

Chapter 3 – General Requirements

312 – Vehicle Impact Protection

312.3 - Has been changed to allow for other physical barriers, where approved.

Chapter 3 – General Requirements

315.6 – Storage in Plenums

Storage is not allowed in plenums, and abandoned material (including cables) in plenums is deemed to be storage.

It does allow that only accessible cables need to be removed.

318.1 – Laundry Carts

Non-combustible if 1 yard capacity or more: added E and M occupancies

Chapter 4 – Emergency Planning and Preparedness

The 2015 Chapter 4 has been extensively revised, so the Fire TAG recommended use of the model language as the basis.

Significant changes affect Section 403 (was 408) - Emergency Preparedness Requirements

Assembly Occupancies

403.2.3 – Fire Watch Personnel – provided where required by 403.12.1

403.2.4 – Crowd Managers where required by 403.12.3

Other Occupancies Added:

403.3 Ambulatory Care Facilities

Chapter 4 – Emergency Planning and Preparedness

The State amendments for Emergency Evacuation Drills remain. The State version of Table 405.2 has had some changes. Most are to bring the Table in line with the model language

Lockdown is still not adopted by the State

Other parts of 405 amended by the State remain with minor edits.

406 has been edited to address State wording for the employee fire training.

Chapter 5 – Fire Service Features

503.2.2 Authority (not adopted per RCW) – The fire code official shall have the authority to require or permit modifications to the required access widths where they are inadequate for fire or rescue operations.

505 Address Identification – (added) Where required by the fire code official, address shall be provided in additional approved locations to facilitate emergency response. Where access is a private road a sign shall be used to identify structure when it cannot be viewed from the public way. Address shall be maintained.

Chapter 5 – Fire Service Features

Fire Command Center

508.1.5 – Storage unrelated to operation of the fire commend center shall be prohibited.

508.1.6 #12 Schematic building plans for high-rise to now include air replenishment systems.

510.4.2.3 Standby power – Emergency responder radio coverage system shall be provided with standby power in accordance with Section 604. The standby power supply shall be capable of operating the emergency responder radio coverage system for a duration of not less than 24 hours.

Chapter 6 – Building Services and Systems

603.8.6 Flue-fed incinerators in Group I-2 occupancies, the continued use of existing flue-fed incinerators is prohibited.

603.8.7 Incinerator in Group I-2 occupancies shall be inspected not less than annually in accordance with the manufacturers instructions.

Section 604 Emergency and Standby Power Systems

604.1 All emergency and standby power systems required by this code shall comply with Sections 604.1.1 through 604.1.8.

604.1.2 Installation – In accordance with IBC, NFPA 70, NFPA 110 & NFPA 111.

604.1.3 Load transfer – Emergency power to automatically transfer within 10 seconds of primary power loss & stand-by power within 60 seconds unless otherwise specified by this code.

Chapter 6 – Building Services and Systems

604.1.4 Load duration – Shall be designed to provide the required load for a minimum of 2-hrs without refueling or recharging unless otherwise specified.

604.1.5 Uninterruptable power source – Shall be provided where required by the manufacturer, the listing, this code or other standards.

604.1.6 Interchangeability – Emergency power is an acceptable alternative to stand-by power.

604.1.7 Group I-2 occupancies – Where an essential electrical system is located in a flood hazard area, per IBC 1612.3, new or replacement generators shall be located and installed per ASCE 24.

604.1.8 Maintenance – Existing systems shall be maintained per original approval and Section 604.

Chapter 6 – Building Services and Systems

604.2 Where required by 604.2.1 through 604.2.16 (Sections have be relocated from elsewhere in the code and compiled in one location)

604.2.1 Elevators and Platform Lifts

604.2.2 Emergency Alarm Systems

604.2.3 Emergency Responder Radio Coverage Systems

604.2.4 Emergency Voice/Alarm Communication Systems

604.2.5 Exit Signs

604.2.6 Group I-2 Occupancies

604.2.7 Group I-3 Occupancies

604.2.8 Hazardous Materials

604.2.9 High-Rise Buildings

604.2.10 Horizontal Sliding Doors

Chapter 6 – Building Services and Systems

604.2.11 Hydrogen Fuel Gas Rooms

604.2.12 Means of Egress Illumination

604.2.13 Membrane Structures

604.2.14 Semiconductor Fabrication Facilities

604.2.15 Smoke Control Systems

604.2.16 Underground Buildings

604.3 Critical Circuits - Cables used for survivability of required critical circuits shall be UL 2196 listed. Electrical circuits protective system shall be installed in accordance with their listing.

Chapter 6 – Building Services and Systems

605.11 (Solar PV TAG - WAC) Solar photovoltaic power systems – revises references and moved residential requirements & exceptions to the IRC.

WAC: Deleted the following model code sections:

605.11.2 & 605.11.3 & 605.11.3.2 & 605.11.3.2.3 & 605.11.3.2.4

And renumbered 605.11.2

Chapter 6 – Building Services and Systems

605.12 Abandoned wiring in plenums – If accessible and not tagged for future use wiring in plenums is to be removed (nice bit of housekeeping).

Section 606 Mechanical Refrigeration

606.9.2 Ventilation System – Also allows for an approved tamper-resistance cover

606.10 – Clarifies for permanently installed refrigeration systems

606.12 Discharge and termination of pressure relief and purge systems – Sections have been reorganized

Section 607 Elevator Operation, Maintenance and Fire Service Keys

607.5 Occupant evacuation elevator lobbies – Where provided per IBC 3008 shall be maintained free and of storage and furniture.

607.6 Water Protection of Hoist way Enclosures – Methods to prevent water from infiltrating into a hoist way enclosure required by IBC Section 3307.4 & 3008.4 shall be maintained.

Chapter 6 – Building Services and Systems

Section 609 Commercial Kitchen Hoods

609.2 Exception - A Type I hood shall not be required for an electric cooking appliance where an approved testing agency provides documentation that the appliance effluent contains 5mg/m^3 or less of grease when tested at an exhaust flow rate of 500 cfm in accordance with UL 710B.

609.3.3.3.1 Tags – When a commercial kitchen hood or duct system is inspected, a tag containing the service provider information and date of service shall be provided in a conspicuous location. Prior tags shall be covered or removed.

609.4 Appliance connection to building piping – Gas-fired commercial cooking appliances installed on casters or that are moved for cleaning shall be connected with a listed appliance connector installed per the manufacturer's installation instructions. Movement of an appliance with casters shall be limited by a restraining device installed in accordance with the connector and appliance manufacturer's instructions.

Chapter 6 – Building Services and Systems

Section 610 Commercial Kitchen Cooking Oil Storage

610.1 General – Above-ground tanks greater than 60 gal installed within a building shall comply with Sections 610.2 through 610.7 and NFPA 30, cooking oils to be classified as Class IIIB, unless testing shows otherwise.

610.2 Metallic storage tanks – Changed Section to cover metallic tanks

610.3 Nonmetallic storage tanks – Shall comply with the tank manufacturer's instructions and the following:

1. Shall be listed for use with cooking oil, including maximum temperature exposed during use.

2. Tank capacity shall not exceed 200 gal.

Chapter 6 – Building Services and Systems

610.4 Cooking oil storage system components – Shall include piping, connections, fittings, valves, tubing, hose, pumps, vents and other transfer related components, may be either metallic or nonmetallic.

610.4.1 Design standards – shall be suitable for the working pressures, temperatures and structural stresses to be encountered.

610.4.2 Components in contact with heated oil – Shall be rated for the expected maximum operating temperatures.

610.5 Tank Venting – Normal and emergency venting shall be provided.

610.5.1 Normal vents – Shall be located above the normal liquid line; have an effective area larger than the largest filling or withdrawal connection; permitted to vent inside the building.

610.5.2 – Emergency vents – Shall be located above the normal liquid line; shall be a device that will relieve excessive pressure caused by an exposure fire; for nonmetallic tanks the vent may be in the form of construction; permitted to vent inside the building.

Chapter 6 – Building Services and Systems

610.6 Heating of cooking oil – Electrical equipment used shall be UL 499 listed and comply with NFPA 70; use of immersion heaters in prohibited in nonmetallic tanks.

610.7 Electrical equipment – Shall comply with NFPA 70.

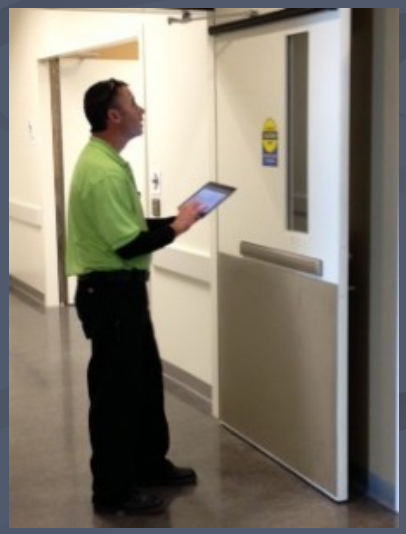
Section 611 Hyperbaric Facilities – New Section as more of the facilities are showing up. Uses NFPA 99 as referenced standard.

Chapter 7 – Fire and Smoke Protection Features

- The title has changed to match the contents better (was Fire-Resistance-Rated Construction).

- This Chapter deals with the maintenance of the materials, systems, and assemblies used for fire resistance and protection.

- The only significant change is that records of inspections and repairs are required to be maintained.



Chapter 8 – Interior Finishes

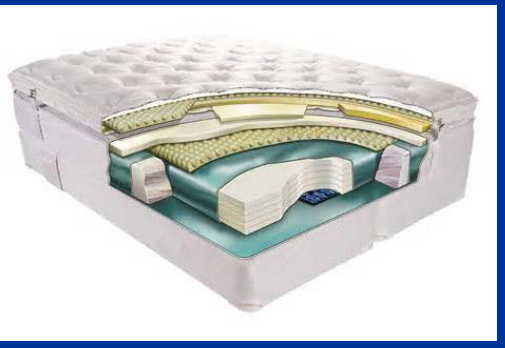
803.7 Facing or wood veneers intended to be applied on site over a wood substrate shall comply with one of the following:

1. Shall have a Class A, B or C flame spread index and smoke-development index per Table 803.3 (ASTM E 84 or UL 723) with testing per ASTM E 2404.

2. Shall meet Section 803.1.2.1 when tested per NFPA 286, Section 5.8.9.

805.3.2 Mattresses

805.3.2.2 Fire performance tests – Newly introduced mattresses shall be tested in accordance with 05.3.2.2.1 or 805.3.2.2.2.



805.3.2.2.2 – Mass loss test – Mass loss shall be less than 15% of the initial mass where tested per Annex A of ASTM F 1085.

Chapter 8 – Interior Finishes

Section 806 Decorative Vegetation in New and Existing Buildings

806.1.1 Restricted Occupancies – Minor modification but refer to WAC

806.2 Artificial Vegetation – revises NFPA 701 reference to include Test Method A and Test Method B.

806.3 Obstruction of Means of Egress – Natural cut trees shall not be located within an exit, corridor, lobby or vestibule.

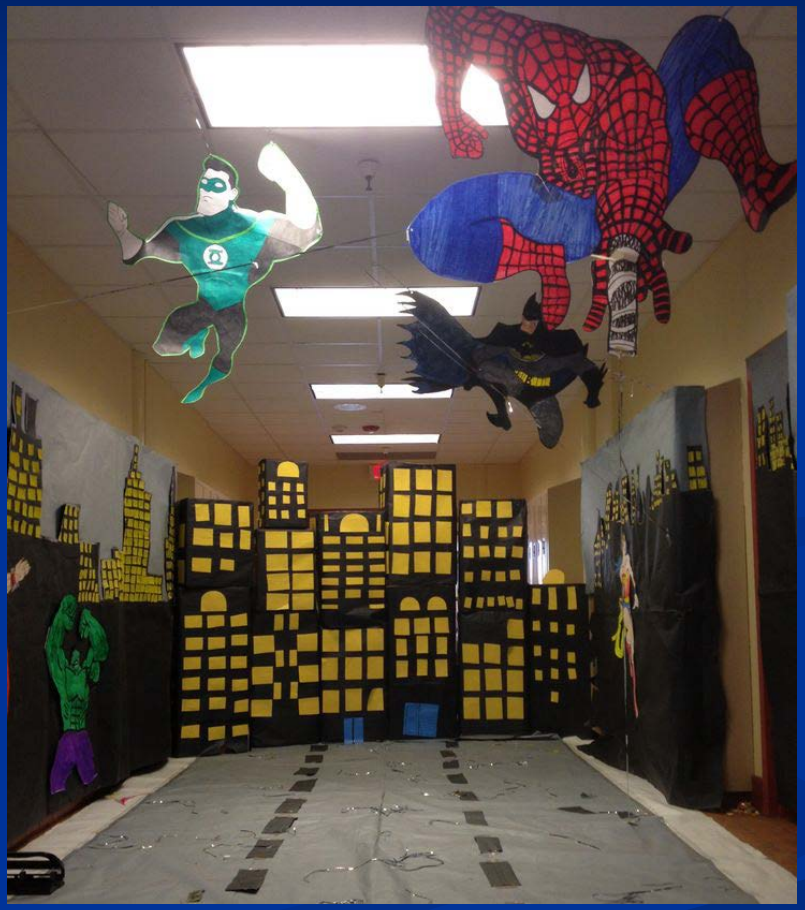
Section 807 Decorative Materials Other than Decorative Vegetation in New and Existing Buildings – Section has been reorganized and expanded and NFPA 701 requirements now reference Testing Method A and Testing Method B.

Chapter 8 – Interior Finishes

Section 806 Decorative Vegetation – minor modifications to tests referenced – but WAC removes some restricted occupancies – we're still not the Christmas tree police.

Section 807 Decorative Materials

Other Then Decorative Vegetation – minor modifications to tests referenced; test sections rearranged; big thing – clarification of specific limitations



Hmmmm . . . Code compliant !?!?!

(probably not – but really cool)

Chapter 8 – Interior Finishes

807.3 Exception 1 – Has clarified auditorium decorative materials to include: curtains, draperies, fabric hangings and others similar materials suspended from walls or ceilings.

Exception 2 – Added compliance with 807.4.

807.4 Acceptance Criteria and Reports - Revises NFPA 701 reference to include Test Method A and Test Method B; adds a 100kW maximum rate of heat release per NFPA 289, using 20 kW ignition source.

807.5 Occupancy Based Requirements:

807.5.1 Group A

807.5.2 Group E

807.5.2.3 Artwork in Classrooms – Shall be limited to 50% or less of the wall attached.

Chapter 8 – Interior Finishes

807.5.3 Group I-1 and I-2 – Includes new breakdowns with Condition 1 and Condition 2.

807.5.4 Group I-3 – Combustible decorative materials are prohibited.

807.5.5 Group I-4

807.5.5.3 Artwork in Classrooms – shall be limited to 50% or less of the wall attached

807.5.6 Dormitories in Group R-2 – Within sleeping and dwelling units the amounts of combustible decorative materials shall be limited so that the hazard of fire development or spread is not present.

Chapter 9 – Fire Protection Systems

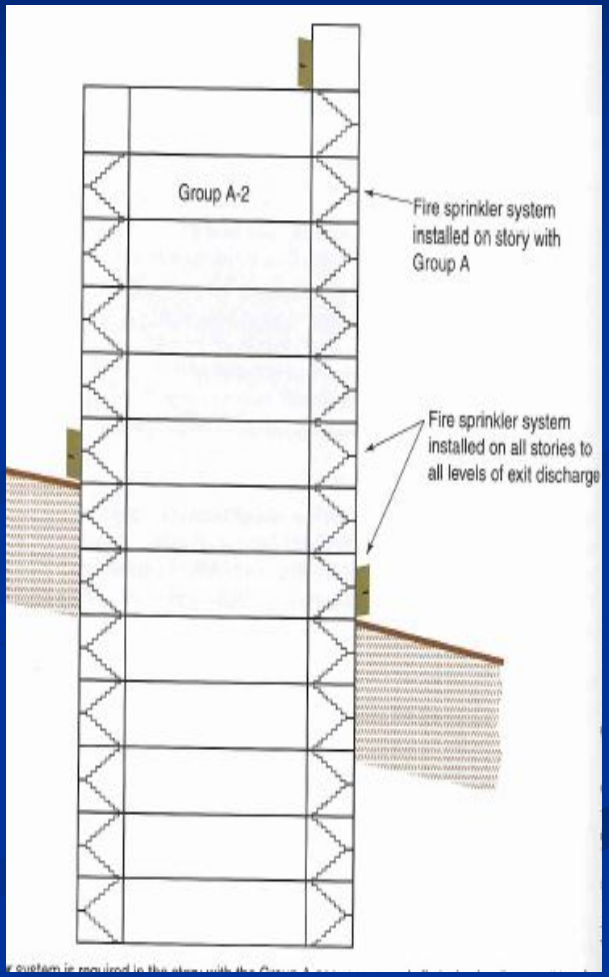
901.4.1 Required fire protection systems – any system for which a design option, exception or reduction to code provisions has been granted. (WAC amendment require s non-required systems to have signage)

901.8.2 Removal of existing occupant use hose lines – outlines when occupant use hose lines may be removed (TAG WAC: would clarify that occupant use hoses approved as part of an alternative method design could not be removed).

Chapter 9 – Fire Protection Systems

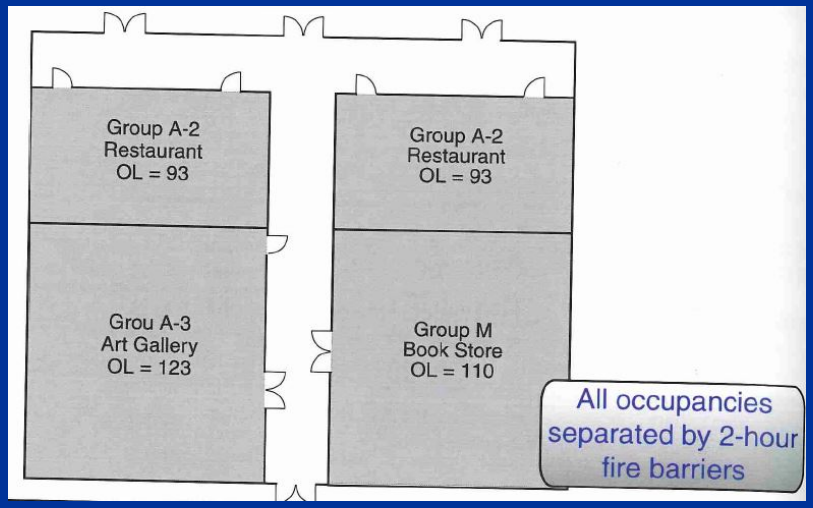
903.2.1 Group A – Sprinklers shall be provided throughout the story and all stories to, and including, the levels of exit discharge.

903.2.1.1 Group A-1; 903.2.1.2 Group A-2; 903.2.1.3 Group A-3 & 903.2.1.4 Group A-4 - Clarifies that the fire area containing the occupancy as well as the intervening floors of the building shall be equipped with a sprinkler system.



Chapter 9 – Fire Protection Systems

903.2.1.6 Group A occupancies on roofs – Where an occupied roof has a Group A-2 with an occupant load of 100 or more or other Group A assemblies with occupant loads of 300 or more , all floors between the occupied roof and the level of exit discharge shall be equipped with a sprinkler system. (WAC) Changes requirement to sprinklers for the entire building.



903.2.1.7 Multiple fire areas – Where the combined occupant load of multiple fire areas of Group A-1, A-2, A-3 or A-4 occupancies share a single egress component exceeds 300 sprinklers would be required.

Chapter 9 – Fire Protection Systems

903.2.3 Group E – (WAC) – An automatic sprinkler system shall be provided for Group E fire areas.

1. Portable school classrooms with an occupant load of 50 or less calculated in accordance with table 1004.1.2, provided that the aggregate area of any cluster of portable classrooms does not exceed 6,000 sq.ft., and clusters of portable school classrooms shall be separated as required by the building code; or
2. Portable school classrooms with an occupant load of 51 through 98, calculated in accordance with table 1004.1.2, and provided with two means of direct independent exterior egress from each classroom in accordance with Chapter 10, and one exit from each class shall be accessible, provided that the aggregate area of any cluster of portable classrooms does not exceed 6,000 sq.ft., and clusters of portable school classrooms shall be separated as required by the building code; or
3. An automatic sprinkler system is not required in Group E occupancies with an occupant load of 50 or less with the Group E occupancy, calculated in accordance with table 1004.1.2.
4. An automatic sprinkler system is not required in Group E day care and preschool facilities with an occupant load of 100 or less, when located at the level of exit discharge, where every room in which care is provided has not fewer than one exterior exit door

Chapter 9 – Fire Protection Systems

903.2.6 Group I – (WAC) – An automatic sprinkler system shall be provided throughout buildings with a Group I fire area.

1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-2 Condition 1 facilities.
2. An automatic sprinkler system is not required in Group I-4 day care facilities with an occupant load of 100 or less, when located at the level of exit discharge, where every room in which care is provided has not fewer than one exterior exit door.
3. In buildings where Group I-4 day care is provided on levels other than the level of exit discharge, an automatic sprinkler system in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided, all floors between the level of care and the level of exit discharge, and all floors below the level of exit discharge other than areas classified as an open parking garage.
4. Where new construction or additions house less than 16 persons receiving care, an automatic sprinkler system installed in accordance with Section 903.2.8.3 shall be permitted for Group I-1, Condition 2, assisted living facilities licensed under chapter 388-78A WAC and residential treatment facilities licensed under chapter 246-337 WAC.

Chapter 9 – Fire Protection Systems

903.2.9 Group S-1 #4; 903.2.9.1 Repair Garages #4 and 903.2.10.1 Commercial Parking Garages - Changes “commercial trucks and buses” to “commercial vehicles”

903.2.11.3 Buildings 55 Feet or More in Height – Has been revised to include one or more stories and clarifies that the 55 ft. Is to be measured to the finished floor.

new 903.2.11.7 (WAC) – Relocateable Buildings Within Buildings – Provides guidance beyond NFPA 13

Chapter 9 – Fire Protection Systems

903.3.1.1.2 Bathrooms – Sprinkler omission of sprinklers in Group R bathrooms meeting the listed conditions (NFPA 13 ed. 2013 – Limited sprinkler omission to hotels & motels only – as IFC references the standard this revision reintroduces the exception for other R-occupancies)

903.3.1.2.2 Open-Ended Corridors – Clarifies that sprinklers are required in open-ended corridors per Section 1027.6 exception #3.

903.3.5 Water Supplies – Added: For connections to public water systems water supply tests used to design fire protection systems shall be adjusted to account for seasonal fluctuations as approved

New 903.3.5.3 (WAC) - Clarifies that underground fire suppression supply mains shall be installed per NFPA 24 & RCW 18.160.

Chapter 9 – Fire Protection Systems

903.3.8 Limited Area Sprinkler Systems – Shall be in accordance with 903.3.1 except as provided in Sections 903.3.8.1 through 903.3.8.5.

903.3.8.1 Number of sprinklers – Shall not exceed 6 sprinklers in any single fire area.

903.3.8.2 Occupancy Hazard Classification – Permitted only in areas classified as Light Hazard or Ordinary Hazard Group 1.

903.3.8.3 Piping Arrangement – Shall be supplied by an automatic wet standpipe where present; where not present shall be permitted to be supplied from building plumbing where it can supply both domestic and sprinkler demand.

903.3.8.4 Supervision – Control valves shall not be installed in the sprinkler supply unless provided with an indicating control valve, either supervised or locked in the open position.

903.3.8.5 Calculations – Calculations per NFPA 13 are required to verify the demand of all sprinklers in each single fire area.

Chapter 9 – Fire Protection Systems

904.11 Automatic Mist Systems – Use recognized per its listing and the following Sections.

904.11.1 Design and Installation Requirements

904.11.1.1 General – Shall be designed and installed per NFPA 750 and manufacturer's instructions.

904.11.1.2 Actuation – Automatically actuated.

904.11.1.3 Water Supply Protection – Provide backflow protection.

904.11.1.4 Secondary Water Supply – Where required for a sprinkler system, shall be provided.

904.11.2 Water Mist System Supervision and Alarms – Per Section 903.4

904.11.2.1 Monitoring – Per Section 903.4.1

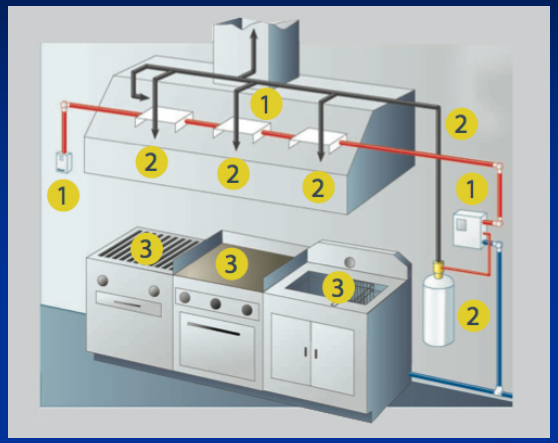
904.11.2.2 Alarms – Per Section 903.4.2

904.11.2.3 Floor Control Valves – Per Section 903.4.3

904.11.3 Testing and Maintenance – Per Section 901.6

Chapter 9 – Fire Protection Systems

904.12 Commercial Cooking System (WAC) - Requires signage on the kitchen with type, size and arrangement of cooking appliances under each Class I hood.



904.13 Domestic Cooking Systems in Group I-2 Condition 1 – Where cooking facilities are installed per IBC Section 407.2.6 the domestic hood shall be equipped with an automatic extinguishing system. Systems shall be tested per UL300A and listed for the use. The system shall be installed per the this code, the listing and the manufacturer's instructions.

904.13.1 Manual System – Manual actuation and system interconnection per 904.12.1 and 904.12.2.

904.13.2 Portable Fire Extinguishers for Domestic Cooking Equipment in Group I-2 Condition 1 – An extinguisher meeting Section 906 shall be installed within 30 ft. of travel distance.

Chapter 9 – Fire Protection Systems

907.2.3 Group E – Emergency measure expires as was pre-adopted model language.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be require in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5

907.2.6.1 Group I-1 and 907.2.6.2 Group I-2 – Adds new Condition 1 and Condition 2 language.

Chapter 9 – Fire Protection Systems

New 907.2.6.4 Group I-4 (WAC) – A manual fire alarm system that initiates the occupant notification signal utilizing an emergency voice/alarm communication system meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall be installed in group I-4 occupancies. When automatic sprinkler systems or smoke detectors are installed, such systems or detectors shall be connected to the building fir alarm system.

Exceptions:

1. A manual fire alarm system is not required in Group E occupancies with an occupant load of 50 or less.
2. Emergency voice/alarm communication systems meeting the requirements of Section 907.5.2.2 and installed in accordance with Section 907.6 shall not be require in Group E occupancies with occupant loads of 100 or less, provided that activation of the manual fire alarm system initiates an approved occupant notification signal in accordance with Section 907.5

Chapter 9 – Fire Protections Systems

907.2.9.3 Group R-2 College and University Buildings – Adds staff housing

Exception: an automatic detection system is not required in buildings without interior corridors serving sleeping/dwelling units and each sleeping/dwelling unit has a door opening directly into the exit system.

907.2.11.3 Installation Near Cooking Appliances – Smoke alarms shall not be installed in the following locations, unless required by other sections:

1. Ionization alarms within 20ft. of cooking appliances
2. Ionization alarms with an alarm-silencing switch within 20ft. of cooking appliances
3. Photoelectric alarms within 6ft. of cooking appliances

907.2.11.4 Installation Near Bathrooms – Shall be installed at least 3ft. from the door when a shower or bathtub or present.

Chapter 9 – Fire Protections Systems

907.2.11.6 Power Source – Smoke detectors with integral strobes not provided with battery back-up shall be provided with emergency power per Section 604.

Exception: Smoke detectors may be provided with emergency power per Section 604 in lieu of battery back-up.

907.2.11.7 Smoke Detection System – Devices listed per UL 268 and provided as part of a building system shall be permitted as an alternative to single- and multi-station smoke detectors and shall comply with:

1. The fire alarm system shall comply with Section 907.
2. Activation in sleeping/dwelling units shall initiate alarm notification in the sleeping/dwelling unit per Section 907.5.2.
3. Activation in sleeping/dwelling units shall not initiate alarm notification outside the sleeping/dwelling unit, provided that a supervisory signal is generated and monitored per Section 907.6.6.

Chapter 9 – Fire Protections Systems

907.2.13.1.1 Area Smoke Detection – Added 2: In each elevator machine room, machinery space, control room and control space and in elevator lobbies.

907.2.14 Atriums Connecting More Than Two Stories – Clarified smoke detection in locations required by a rational analysis in Section 909.4 and in accordance with system operation requirements in Section 909.17.

907.2.22 Airport Traffic Control Towers

907.2.22.1 Airport Traffic Control Towers with Multiple Exits and Automatic Sprinklers – Shall be provided with smoke detectors in the following locations:

1. Air traffic control cab
2. Electrical and mechanical equipment rooms
3. Airport terminal radar and electrical rooms
4. Outside each opening into interior exit stairways
5. Along the single means of egress permitted from observation levels
6. Outside each opening into the single means of egress permitted from observation levels

Chapter 9 – Fire Protections Systems

907.2.22.2 Other Airport Traffic Control Towers – Towers with a single exit or where sprinklers are not installed throughout smoke detectors shall be provided in the following locations:

1. Airport traffic control cab
2. Electrical and mechanical equipment rooms
3. Airport terminal radar and electronics rooms
4. Office spaces incidental to the tower operation
5. Lounges for employees, including sanitary facilities
6. Means of egress
7. Accessible utility shafts

Chapter 9 – Fire Protections Systems

907.3.1 Duct Smoke Detectors – In facilities required to be monitored duct smoke detectors shall report only as a supervisory signal, not as an alarm.

907.4.2.1 Location – In non-sprinkled buildings provide additional manual fire alarm boxes located so that travel distance to the nearest does not exceed 200ft.

907.5.2.1 Audible Alarms Exceptions:

1. Audible alarms are not required in critical care areas of Group I-2 Condition 2 that comply with Section 907.2.6 exception 2.
2. A visible alarm notification appliance installed in a nurse's control station or other continuously attended location in a Group I-2 Condition 2 shall be acceptable in lieu of notification appliances throughout that comply with Section 907.2.6 exception 2.

907.5.2.1.2 Maximum Sound Pressure (WAC) – Level for audible alarm notification appliances shall be 110dBA at the minimum hearing distance. In public mode the level shall not exceed 30dBA over ambient, ambient over 95dBA visible and audible appliance shall be provided per NFPA 72.

Chapter 9 – Fire Protections Systems

907.5.2.2.5 Emergency Power – Voice/alarm communication systems shall be provided emergency per Section 604, for a duration of not less than 24-hrs per NFPA 72.

907.6.3 Initiating Device Identification – The fire alarm system shall identify the specific initiating device address, location, type floor and status including indication of normal, alarm, trouble and supervisory.

Exceptions:

1. Systems in single story buildings less than 22,500sq.ft.
2. Systems with only manual pulls, waterflow devices, and not more than 10 additional devices
3. Special initiating devices that do not support individual identification.
4. Systems or devices replacing existing equipment.

Chapter 9 – Fire Protections Systems

907.10 NICET (WAC)

907.10.1 Scope – This section shall apply to new and existing fire alarm systems.

907.10.2 Design Review – All construction documents shall be reviewed by a NICET III in fire alarms or a licensed professional engineer prior to being submitted for permitting. The reviewing professional shall submit a stamped, signed, and dated letter; or a verification method approved by the local authority having jurisdiction indicating the system has been reviewed and meets or exceeds the design requirements of the state of Washington and the local jurisdiction (effective July 1, 2017).

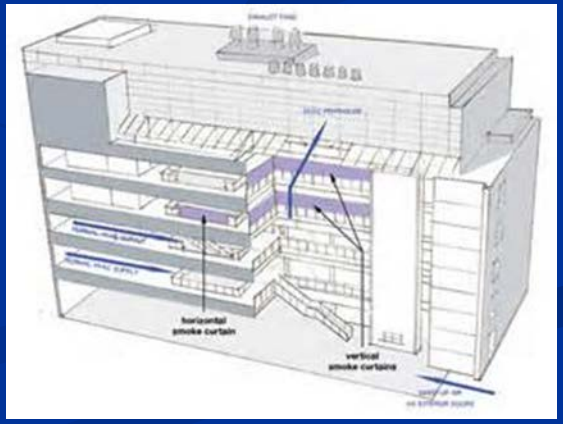
907.10.3 Installation/maintenance – All installation, inspection, testing, maintenance and programming not defines as “Electrical Work” by chapter 19.28 RCW shall be completed by a NICET II in fire alarm (effective July 1, 2017).

Chapter 9 – Fire Protections Systems

908.7 Carbon Dioxide (CO_2) Systems – Emergency alarm systems per Section 5307.5.2 shall be provided where required for compliance with Section 5307.5.

909.4.6 Duration of Operation - Changed reference to engineered smoke control system; changed the egress time to the greater of the two methods of calculating.

909.4.7 Smoke Control System Interaction – Designs to include the effects of the interaction of various smoke control systems on each other.



Chapter 9 – Fire Protections Systems

909.5 Smoke Barrier Construction – Smoke barriers required for passive smoke control and smoke control using the pressurization method shall comply with IBC 709.

The total leakage area of the smoke barriers shall be determined per Section 909.5.1 and tested per Section 909.5.2. (Previously in Section 909.5.1.)

909.5.3 (Previously Section 909.5.2) Opening Protection #3 & #4 – Added new Group I-1 & Group I-2 Conditions 1 & 2.

909.5.3.1 Group I-1 Condition 2, Group I-2 and Ambulatory Care Facilities – Doors across corridors shall be automatic closing by smoke detection (per IBC Section 716.5.9.3) with vision panels of fire-protection-rated glazing in fire-protection-rated frames.

Chapter 9 – Fire Protections Systems

909.6.3 Pressurized Stairways and Elevator Hoist ways – Where stairways or elevator hoist ways are pressurized, the system shall comply with Section 909 as a smoke control system, requirements of Section 909.21 and IBC Section 909.20 also apply.

909.12.1 Verification – Control systems for mechanical smoke control systems verification pre-programmed weekly tests shall operate all devices, equipment and components.

Exception: Where weekly testing will interfere or produce unwanted effects to normal building operations testing of these components may be bypassed where approved and in accordance with the following:

1. Where testing of components is bypassed verification of power downstream shall be verified weekly.
2. Testing of bypassed components shall be per Section 909.20.6.

909.21 Elevator Smoke Pressurization: previous WAC now adopted as Model Code language

Chapter 9 – Fire Protections Systems

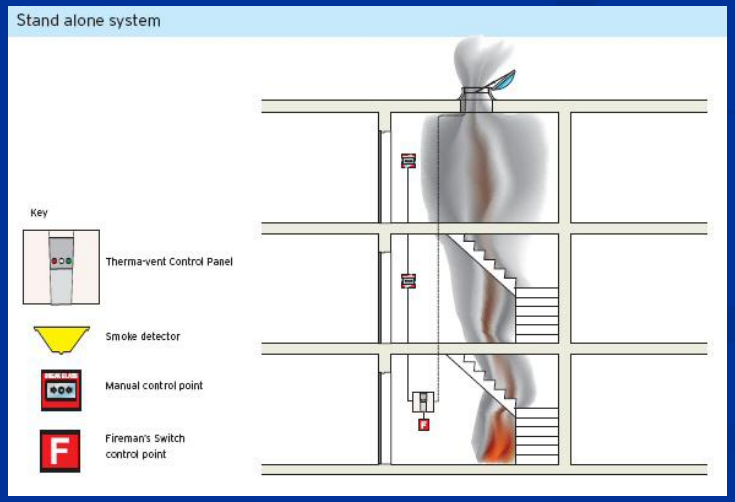
910.2 Where required – Adds mechanical smoke removal systems

Exception: 3 – Smoke and heat removal shall not be required in areas equipped with control mode special application sprinklers that are listed to control a fire in stored commodities with 12 or fewer sprinklers.

910.3.3 Smoke and Heat Vent Areas

Sprinkled buildings – $A_{VR} = V/9000$ (Equation 9-4)

Non-sprinkled buildings – $A_{VR} = A_{FA}/50$ (Equation 9-5)



Chapter 9 – Fire Protections Systems

910.4 Mechanical Smoke Removal Systems – Design and install in accordance with 910.4.1 through 910.4.7.

910.4.1 Automatic Sprinklers Required – Shall be equipped throughout.

910.4.2 Exhaust Fan Construction – Rated for operation at 221 deg. F., motors shall be located outside air stream.

910.4.3 System Design Criteria – Sized to exhaust the building at a minimum of two air changes per hour, capacity per fan shall not exceed 30,000cfm.

910.4.3.1 Makeup Air – Makeup air openings within 6ft of floor, manual or automatic operation, minimum gross area of inlets 8ft per 1,000cfm.

910.4. Activation – Activation by manual controls.

910.4.5 Manual Control Location – Accessible to fire service, protected against interior fire exposure by 1-hr fire barriers.

910.4.6 Control Wiring – Shall be connected ahead of the main disconnect.

910.4.7 Controls – Fans to shutdown automatically per IMC, manual controls shall include override of automatic shutdown of fans.

Chapter 9 – Fire Protections Systems

910.5 Maintenance – Smoke and heat vents and mechanical smoke removal systems shall be maintained per Section 910.5.1 or 910.5.2.

910.5.1 Smoke and Heat Vents – Maintained per NFPA 204 and Section 910.5.1.1.

910.5.1.1 Fusible Links – Replace when fused, damaged or painted.

910.5.2 Mechanical Smoke Removal Systems – Maintained per equipment manufacturer instructions and Section 910.5.2.1 through 910.5.4.

910.5.2.1 Frequency – Operationally tested annually.

910.5.2.2 Testing – Shall include all equipment: fans, controls and makeup air openings.

910.5.2.3 Schedule – A testing program shall be initiated.

910.5.2.4 Written Record – A complete testing record shall be maintained on site.

Chapter 9 – Fire Protections Systems

913.2.2 Circuits Supplying Fire Pumps – Cables used for survivability of circuits to fire pumps shall be UL 2196 listed.

914.3.1.2 – Water Supply to Required Fire Pumps – Revises secondary water connection requirements to buildings more than 420ft. in building height.

914.8.2 Automatic Sprinkler System for New Airport Traffic Control Towers – A fire sprinkler system is required when there is an occupied floor more than 35ft above the lowest level of fire department access.

Chapter 9 – Fire Protections Systems

WAC Section 915 Alerting Systems was renumbered to 916 as new Section 915 was created for Carbon Monoxide (CO). Single family CO was moved to the IRC.

915.1 General. CO detection shall be installed in new buildings in accordance with Section s 915.1.1 through 915.6. CO detection shall be installed in existing buildings in accordance with Chapter 11 of the IFC.

Chapter 9 – Fire Protections Systems

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

Exceptions: 1. R-2 occupancies, with the exception of R-2 college dormitories, are required to install CO detectors without exception.

2. Sleeping units or dwelling units in I and R-1 occupancies and R-2 college dormitories, hotels, DOC prisons and work releases and assisted living facilities and residential treatment facilities licensed by the State of Washington, which do not themselves contain a fuel-burning appliance, a fuel-burning fireplace, or have an attached garage, need not be provided with CO alarms provided that they comply with the exceptions of Section 915.1.4.

915.1.2 Fuel-burning appliances and fuel-burning fireplaces. CO detection shall be provided in dwelling units, sleeping units and classrooms that contain a fuel-burning appliance or a fuel-burning fireplace.

915.1.3 Forced-air furnaces. CO detection shall be provided in dwelling units, sleeping units and classrooms served by a fuel-burning, forced-air furnace.

Chapter 9 – Fire Protections Systems

Exception: CO detection shall not be required in dwelling units, sleeping units and classrooms where CO detection is provided in the first room or area served by each main duct leaving the furnace, and the CO alarm signals are automatically transmitted to an approved location.

915.1.4 Fuel-burning appliances outside of dwelling units, sleeping units and classrooms. CO detection shall be provided in dwelling units, sleeping units and classrooms located in buildings that contain fuel-burning appliances or fuel-burning fireplaces.

Exception: 1. CO detection shall not be required in dwelling units, sleeping units and classrooms where there are no communicating openings between the fuel-burning appliances or fuel-burning fireplace and the dwelling unit, sleeping unit or classroom.

2. CO detection shall not be required dwelling units, sleeping units and classrooms where CO detection is provided in one of the following locations:

    2.1 In an approved location between the fuel-burning appliance or fuel-burning fireplace, and the dwelling unit, sleeping unit or classroom.

    2.2 On the ceiling of the room containing the fuel-burning appliance or fuel-burning fireplace.

Chapter 9 – Fire Protections Systems

915.1.5 Private garages. CO detection shall be provided in dwelling units, sleeping units and classrooms located in buildings with attached private garages.
Exception:

1. CO detection shall not be required where there are no communicating openings between the private garage and the dwelling unit, sleeping unit or classroom.
2. CO detection shall not be required in dwelling units, sleeping units and classrooms located more than one story above or below a private garage.
3. CO detection shall not be required where the private garage connects to the building through an open-ended corridor.
4. Where CO detection is provided in an approved location between openings to a private garage and dwelling units, sleeping units and classrooms CO detection shall not be required in dwelling units, sleeping units and classrooms.

915.1.6 Exempt garages. For determining compliance with Section 915.1.5, an open parking garage complying with IBC Section 406.5 or an enclosed parking garage complying with IBC Section 406.6 shall not be considered a private garage.

Chapter 9 – Fire Protections Systems

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

915.2.1 Dwelling units. CO detection shall be installed outside of each separate sleeping area in the immediate vicinity of the bedrooms and on each level of the dwelling. Where a fuel-burning appliance or a fuel-burning fireplace is located within a bedroom or its attached bathroom, CO detection shall be installed within the bedroom.

915.2.2 Sleeping units. CO detection shall be installed in sleeping units.

Exception: CO detection shall be allowed to be installed outside of each separate sleeping area in the immediate vicinity of the sleeping unit where the sleeping unit or its attached bathroom does not contain a fuel-burning appliance or fuel-burning fireplace and is not served by a forced air furnace.

Chapter 9 – Fire Protections Systems

915.2.3 Group E occupancies. When required by Section 915.1 in new buildings, or by IFC Chapter 11, CO detection shall be installed in classrooms in Group E occupancies. CO alarm signals shall be automatically transmitted to an on-site location that is staffed by school personnel.

Exceptions: 1. CO alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies with an occupant load of 50 or less.

2. CO alarm signals shall not be required to be automatically transmitted to an on-site location that is staffed by school personnel in Group E occupancies where an exception contained in Section 915.1 applies, or in Group E occupancies where signals are transmitted to an off-site service monitored by a third party, such as a service that monitors fire protection systems in the building.

Section 916 (WAC) was relocated from Section 915 (no changes)

Chapter 10 – Means of Egress

1003.6 Means of egress continuity – clarified that both portions of this section apply equally to the minimum egress width and the required egress capacity.

1004.1.1.1 Intervening spaces or accessory areas

1004.1.1.2 Adjacent levels for mezzanines

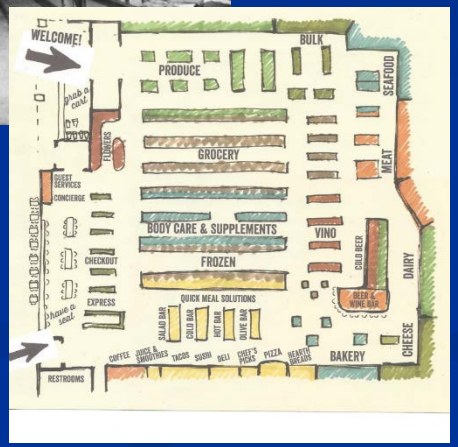
- Clarifies that rooms/spaces that share an egress path, that path must be designed using the aggregate occupants load – however – only the egress width/capacity is based on the aggregate, not the number of means of egress.

1004.1.1.3 Adjacent stories – clarifies that adjacent stories do not aggregate occupant loads, except for those specifically designed for convergence (main egress stair towers).

Chapter 10 – Means of Egress

Table 1004.1.2 Maximum floor area allowance per occupant – Group M changed from 30 sq.ft. gross to 60 sq.ft. gross.

Old Group M

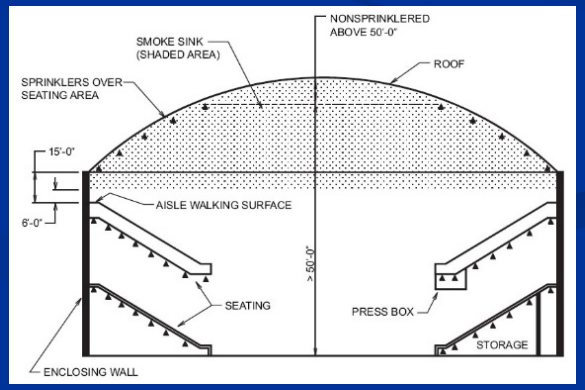


New Group M

1005.3.1 Stairways

1005.3.2 Other egress components

- Adds the new exceptions for interior or exterior smoke protected assembly seating (section 1029)



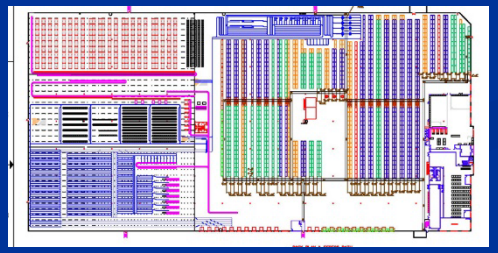
Chapter 10 – Means of Egress

New 1006 Numbers of exits and exit access doorways – consolidates the requirements: number of exits for rooms, spaces and stories into one section. CHECK ERRATA!

New 1007 Exit and exit access doorway configurations – consolidates: exit arrangement and separations requirements for rooms, spaces and stories into one section.

Because of the new sections the entire chapter has been renumbered and many sections are revised to clarify requirements with consistent terminology.

1017.2.2 Group F-1 and Group S-1 – travel distance of 200ft. Had previously been increased to 250ft. in a sprinkled building – now when the 2 additional requirements are met it may be increased to 400ft.



Chapter 11 – Construction Requirements for Existing Buildings

1103.1.1 Historic Buildings – Will be required to develop a fire protection plan in accordance with NFPA 914 as well as complying with the maintenance and availability provisions of IFC 404.3 and 404.4.

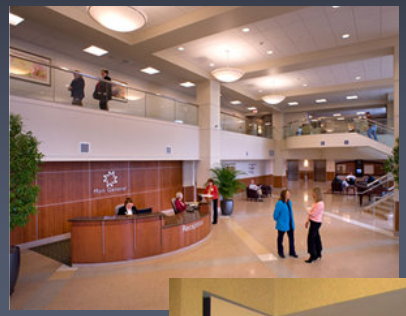
1103.3 Existing Elevators

1103.3.1 Elevators, escalators and moving walks – these are required to comply with ASME A17.3 for I-2 Condition 2 occupancies.

1103.3.2 Elevator emergency operation – this was the original 1103.3, but now includes exceptions.

Another sentence was added that elimination of previously installed Phase I recall or Phase II emergency systems is not permitted.

Chapter 11 – Construction Requirements for Existing Buildings



1103.4.1 Group I-2 and I-3 occupancies – Requires 1-hour fire separation in existing hospitals and jails to protect openings connecting 2 or more stories.

1103.4.3 More than five stories – (TAG WAC) vertical protection has been clarified that not only fire rated separation is required, but smoke as well (State Amendment).

1103.5.1 Group A-2 – requires sprinklers in A2 occupancies with occupant load of 300 or more. – *REMOVED BY ERRATA!*

Chapter 11 – Construction Requirements for Existing Buildings

1103.7.6 Group R-2 – added an exception to retroactive installation of manual fire alarm systems when the following are met:

- does not exceed 3 stories in height
- Dwelling units not served by interior corridors
- Each dwelling unit separated by fire barriers of at least ¾ hour rating
- Interconnected smoke alarms provided meeting new construction requirements.

1103.10 Medical gases – Stored and transferring in health-care-related facilities shall meet IFC Chapter 53.

1105 Construction Requirements for Existing Group I-2 – This has been provided so that existing I-2 IFC requirements align with the Center for Medicaid and Medicare Services (CMS).

Chapter 31 – Tents and other Membrane Structures

3103.1 General – Added that other temporary structures erected for 180 days or less will comply with the IBC.

3105 Temporary Stage Canopies – Permit is required for construction requiring construction documents, designation of responsible party, and an operations plan.

Chapter 33 – Fire Safety During Construction and Demolition

3304.2 Combustible debris, rubbish and waste – now specifically denotes that materials shall not accumulate, be removed at the end of each shift, have specific containers, and requires materials susceptible to spontaneous ignition to be in listed containers.

Chapter 38 – Marijuana Processing or Extraction Facilities

(WAC Proposal) New Chapter addressing the requirements for potential hazardous processes or environments for this industry.

- Extraction – using flammable gases or liquids, high pressures
- CO_2 padding for growing facilities

Requirements include:

- specific reports and analysis for equipment that is not listed
- Gas detection
- Construction and separation

Chapter 50 – Hazardous Materials

5001.1 Exception 1 – Industrial products was removed.

Table 5003.1.1.(1) – Maximum Allowable Quantity per Control Area

- Errata – Combustible Fiber footnote should be q.
- Added Inert Cryogenic – Gave separate entry from Inert Gas.
- Unstable (reactive) – Raised Class 2 gas MAQ from 250cu.ft. to 750cu.ft. – provides consistency with the referenced standard NFPA 55 Compressed Gases and Cryogenic Fluids Code.
- Footnote e – Added use of gas rooms as a way to increase MAQ by 100%.
- Footnote p Item 5 – Alcohol-based hand rubs classified as Class I or II liquids in dispensers that are installed in accordance with Sections 5705.5 and 5705.5.1. The location of the alcohol-based hand rubs dispensers shall be provided in the construction documents.

Chapter 50 – Hazardous Materials

5003.2.1 Design and Construction of Containers, Cylinders and Tanks – Clarifies that pressure vessels that do not meet DOTn shall meet ASME Boiler and Pressure Vessel Code.

5003.8.4 – Gas Rooms – Clarifies that these provisions apply under two scenarios – Requirements of Chapter 60 or used to increase MAQ – Note: if used to increase MAQ would not be an H-occupancy.

5003.11.3.11 Storage Plan – A storage plan showing the intended storage arrangement, including location and dimensions of aisles and storage racks shall be provided.

Chapter 51 – Aerosols

5101.4 Containers – Metal aerosol containers shall be limited to a maximum size of 33.8 fluid ounces. Plastic aerosol containers shall be limited to a maximum of 4 fluid ounces, except and provided in Section 5104.1.1. Glass aerosol containers shall be limited to a maximum of 4 fluid ounces.

5104.1.1 Plastic Containers – Aerosol products in plastic containers larger than 4 fluid ounces, but not to exceed 33.8 fluid ounces. Shall only be allowed in accordance with this section. The commodity classification shall be Class III as defined in NFPA 13 where any of the following are met:

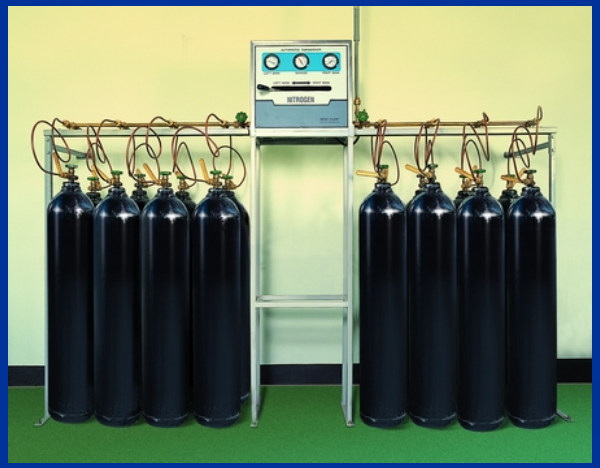
1. Base product has no fire point and non-flammable propellant.
2. Base product has not sustained combustion and non-flammable propellant.
3. Base product contains up to 20% of ethanol and/or isopropyl alcohol in aqueous mix, and non-flammable propellant.
4. Base product contains 4% or less emulsified flammable liquefied gas propellant within an aqueous base.

Chapter 53 – Compressed Gases

5306.2.1 One-hour Exterior Rooms – Clarification: To have at least 2 non-closeable vents, each with a minimum free open area of 24 sq.in. for each 1,000 cu.ft. and shall be not less than 72 sq.in in aggregate free opening area.

5306.4 Transfilling – areas and operations, including ventilation and separation, shall be comply with NFPA 99.

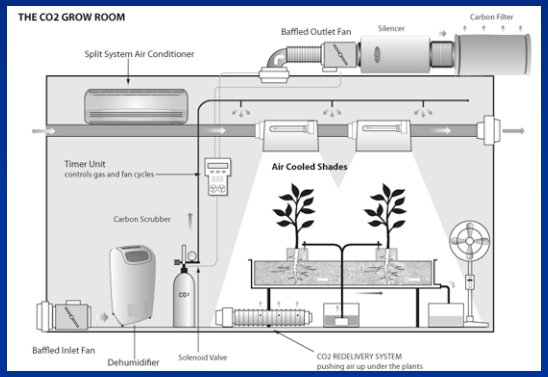
5306.5 Medical Gas System – (renumbered) Existing systems shall be maintained per NFPA 99 inspection and maintenance provisions.



Chapter 53 – Compressed Gases

5307 Carbon Dioxide Systems (WAC) (revised to cover all system)

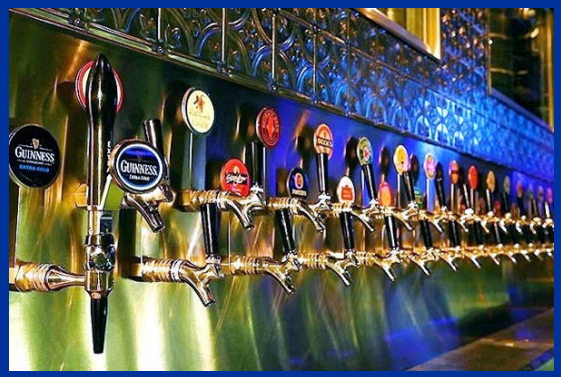
5307.1 General – Systems with more than 100lbs shall comply with this section.



5307.2 Permits – Section 105.6.

5307.3 Equipment – The storage, use and handling of liquid CO2 shall be per Chapter 53 and NFPA 55 Chapter 13.

5307.4 Protection From Damage – Shall be installed so the storage tanks, cylinders, piping and fittings are protected.



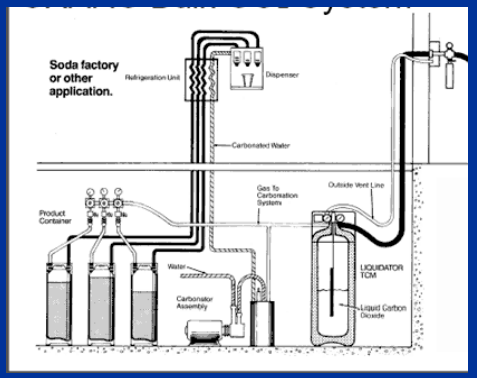
Chapter 53 – Compressed Gases

5307.5 Required Protection – Where CO_2 storage tanks, cylinders, piping and equipment are located in rooms or areas indoors where leakage can collect either ventilation per Section 5307.5.1 or an emergency alarm system per Section 5307.5.2 shall be provided.

5307.5.1 Ventilation – Mechanical ventilation with all the following:

1. Ventilation rate shall be not less than 1 cfm/sq.ft.
2. Exhaust shall be taken from within 12-in of the floor.
3. Shall be designed to operate at negative pressure in relation to the surrounding area.

5307.5.2 Emergency Alarm System – Shall comply with the following:



1. Continuous gas detection in areas where CO_2 can accumulate.
2. Alarm activation threshold shall not exceed 5,000ppm.
3. Shall initiate a local alarm in room or area where installed.

Chapter 57 – Flammable and Combustible Liquids

5701.2 Nonapplicability – The requirements of this code do not apply to the following:

2. Industrial products has been removed.

11. Commercial cooking oil tanks located within a building when designed and installed per Section 610 and NFPA 30.

5704.2.5 Explosion Control – Clarification: applies to indoor tanks.

5704.2.7.1 Materials Used in Tank Construction – Shall be compatible with liquids to be stored.

5704.2.7.6 Repair, Alteration or Reconstruction of Tanks and Piping – Hot work on such tanks shall be conducted per Section 3510.

Table 5704.3.6.3(7) Footnote d – Revised to provide connection only.

Table 5704.3.7.5.1 Footnote c - Revised to provide connection only.

Chapter 57 – Flammable and Combustible Liquids

5705.5 Alcohol-based Hand Rubs Classified as Class I or II Liquids

3. Add that dispensers shall not be installed closer than 1-in . . . The wall space between the dispenser and the floor or intervening counter top shall be free of electrical receptacles, switches, appliances, devices or other ignition sources.

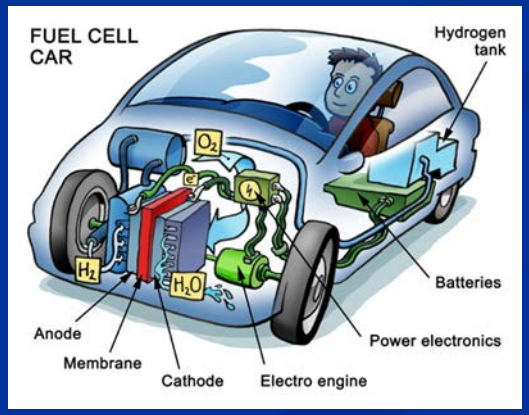
5705.5.1 Corridor Installations – Clarifies that these are in addition to Section 5705.5.

Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids

5801.1 Scope – Has added NFPA 2 to system design requirements.

5803.1.1 Special Limitations for Indoor Storage and Use –

Exception 3. Hydrogen gas systems located in a hydrogen fuel gas room constructed in accordance with IBC Section 421.



Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids

Section 5808 – Hydrogen Fuel Gas Rooms – New requirements added for these that provide correlation with industry standards.

5808.2 Location – Shall not be located below grade.

5808.3 Design and Construction – Rooms exceeding the maximum allowable quantity per control area per Table 5003.1.1(1) shall be separated per IBC Section 509.1.

5803.3.1 Pressure Control – Shall be proved with a ventilation system designed to maintain the room at negative pressure to surrounding areas.

5803.3.2 Windows – Operable windows in interior walls shall not be permitted. Fixed windows shall be permitted per IBC Section 716.

5808.4 Exhaust Ventilation – Shall be provided with mechanical exhaust per Section 2311.7.1.1.

Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids

5808.5 Gas Detection System – Shall be provided with an approved system per Section 5808.5.1 through 5808.5.4.

5808.5.1 System Design – Shall be listed for use with hydrogen and other flammable gases. Shall be designed to activate when level exceeds 25% of LFL.

5808.5.2 Gas Detection System Components – Shall be listed and labeled: Control units per UL 864 or UL 2017 and detectors per UL 2075.

5808.5.3 Operation – Activation shall result in the following:

1. Initiation of distinct audible and visual alarm signals both inside and outside the room.
2. Activation of the mechanical exhaust ventilation system.

5808.5.4 Failure of Gas Detection System – Shall result in activation of mechanical exhaust system, cessation of hydrogen generation and sounding of a trouble signal in an approved location.

Chapter 58 – Flammable Gases and Flammable Cryogenic Fluids

5808.6 Explosion Control – Shall be provided where required by Section 911.

5808.7 Standby Power - Mechanical ventilation and gas detection systems shall be connected by standby power per Section 604.

Appendix B – Fire-Flow Requirements for Buildings

New Table B105.1(1) Required Fire-flow for One- and Two-Family Dwellings, Group R-3 and Group R-4 Buildings and Townhomes – places fire-flow requirements and allowed reductions in an easy to read table. Includes new sprinkler system reductions for NFPA 13D.

New Table B105.2 Required Fire-flow for Buildings Other Than One- and Two-Family Dwellings, Group R-3 and Group R-4 Buildings and Townhomes – places reduced fire flow and required duration in an easy to read table. New reductions give more credit for sprinkler systems and clarifies reductions for NFPA13 vs NFPA 13R system.

New B105.3 Water Supply for Buildings Equipped with an Automatic Sprinkler system – Clarifies site water requirements as the greater of either sprinkler + hose demand OR required fire flow (not cumulative).

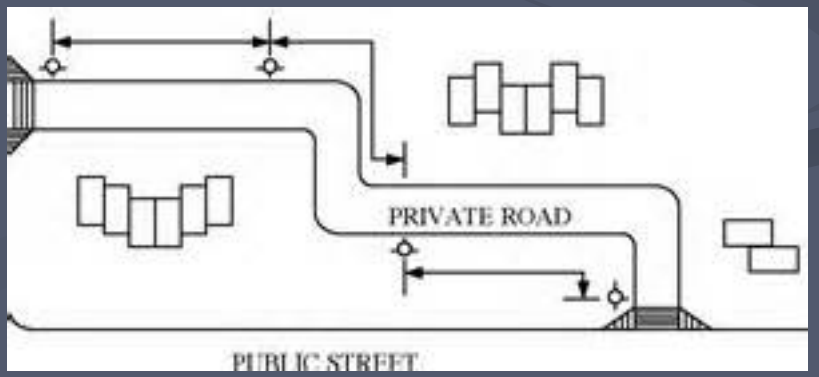
Appendix C – Fire Hydrant Locations and Distribution

C101.1 Scope – specifies that this section applies in addition to 507.5.1.

C102 (old section Location replaced) New Number of Fire Hydrants – direct reference to Table C102.1.

Section C103 Fire Hydrant Spacing – exception is changed to permit increase in spacing of up to 10% without approval of the Fire Chief in reference to existing hydrants (location already established and cannot be relocated)

C104.1 Existing Fire Hydrants – lays out guidelines for use of existing yard hydrants for a different structure.



Appendix K – Construction Requirements for Existing Ambulatory Care Facilities

These provisions are provided in addition to the requirements in Chapter 11 and include:

- Fire barrier separation
- Smoke compartments less than 10,000 SF
- Installation of fire sprinklers under Type IIB, IIIB, or VB based on number of recipients

Appendix L – Requirements for Fire Fighter Air Replenishment Systems

This Appendix does not require Fire Fighter Air Replenishment systems (FARS), but provides the criteria for the installation and maintenance of these systems.

Basically this is a “standpipe system for air”. The Appendix addresses:

- Availability and survivability of system in an event
- Quality of air
- Time required for refill

Appendix M – High-Rise Buildings – Retroactive Automatic Sprinkler Requirement

-Retroactively requires fire sprinklers in all high-rises

- Exemptions:

  -Air Traffic Control Towers

  -Open Parking Structures

  -Group U occupancies (really??)

  -Occupancies in Group F2

-Compliance Schedule – Requires building owner to file a compliance schedule within 365 days of the effective date of this code. Compliance schedule shall not exceed 12 years.

Appendix N – Wildland Urban Interface Code (WUI)

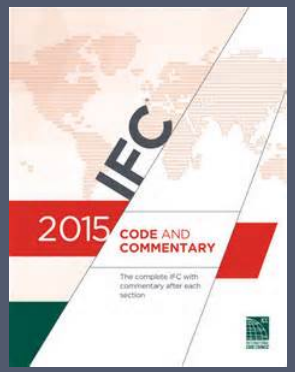
-With the new Appendices added to the Fire Code, the WUI Code will become Appendix N, so that local jurisdictions can adopt it.

-Was there a proposal to adopt this code in the main body as a new Chapter? Yes, but there was a request to withdraw it by the Fire Chiefs who feel that this code should be under local control.

-Next Steps

Introduction to the 2015 Fire Code.

Want more information?



2015 ICC Code Public Access:

http://codes.iccsafe.org/I-Codes.html#all

“Before They Happen. . .”

The National Board of Fire Underwriters created a video about Fire Prevention in 1954. Let’s see how much has changed and how much has not in the last 61 years . . .

Introduction to the 2015 Fire Code.

Questions?

2015 ICC Code Free Public Access:

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