Special Occupancies & Operations

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Special Occupancies & Operations
Chapters 20 - 36

Special Operations & Hazards
• Chapter 20 – Aviation Facilities
• Chapter 21 – Dry Cleaning
• Chapter 22 – Combustible Dust-Producing Operations
• Chapter 23 – Motor Fuel-Dispensing Facilities and Repair Garages
• Chapter 24 – Flammable Finishes
Special Operations & Hazards

- Chapter 25 – Fruit & Crop Ripening
- Chapter 26 – Fumigation and Insecticidal Fogging
- Chapter 27 – Semiconductor Fabrication
- Chapter 28 – Lumber Yards/Woodworking Facilities
- Chapter 29 – Manufacture of Organic Coatings

Special Operations & Hazards

- Chapter 30 – Industrial Ovens
- Chapter 31 – Tents and Membrane Structures
- Chapter 32 – High-Piled Combustible Storage
- Chapter 33 – Fire Safety During Construction and Demolition

Special Operations & Hazards

- Chapter 34 – Tire Rebuilding & Storage
- Chapter 35 – Welding and Hot Work
- Chapter 36 – Marinas
- Chapters 37-49: Reserved
- Operational permits all but 33 & 36
  - Fire safety demo/construction, marinas
- Construction permits for 24, 30 & 31
  - Flammable finishes, ovens, tents
Aviation Facilities Ch 20

MSP PV System

Dry Cleaning Ch 21

Combustible Dust-Producing Operations Ch 22
Motor Fuel-Dispensing Facilities Ch 23

Motor Fuel-dispensing Facilities

• Regulation based on fuel type

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Applicable IFC Requirements</th>
<th>Applicable NFPA Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline, Diesel Fuel, Gasoline/Ethanol mixtures</td>
<td>§2306; Ch 57</td>
<td>NFPA 30; NFPA 30A</td>
</tr>
<tr>
<td>Compressed Natural Gas</td>
<td>§2306; Ch 53; IFGC</td>
<td>NFPA 52</td>
</tr>
<tr>
<td>Liquefied Natural Gas</td>
<td>Ch 58</td>
<td>NFPA 55; NFPA 57; NFPA 58A</td>
</tr>
<tr>
<td>Liquefied Petroleum Gas</td>
<td>§2307; Ch 53; Ch 81</td>
<td>NFPA 58</td>
</tr>
<tr>
<td>Compressed Hydrogen</td>
<td>§2309; Ch 53; §5303</td>
<td>NFPA 55</td>
</tr>
<tr>
<td>Liquefied Hydrogen</td>
<td>§2309; §5303</td>
<td>NFPA 55</td>
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</tbody>
</table>
Motor Fuel-Dispensing Facilities

- Section 2301 – General
- Section 2302 – Definitions in Chapter 2
- Section 2303 – Location of Dispensing Devices
- Section 2304 – Dispensing Operations
- Section 2305 – Operational Requirements
- Section 2306 – Flammable/Combustible Liquid Dispensing into Motor Vehicles

Motor Fuel-Dispensing Facilities

- Section 2307 – LPG Dispensing into Motor Vehicles
- Section 2308 – CNG Dispensing into Motor Vehicles
- Section 2309 – Hydrogen Dispensing into Motor Vehicles
- Section 2310 – Marine Motor Fuel Dispensing

Section 2311 – Repair Garages

- Gas Detection system listed & labeled
Motor Fuel-Dispensing Facilities

- Emergency Disconnect Switch
  - An emergency disconnect shall be provided in an approved location acceptable to the AHJ.
  - Disconnect switch shall be provided within 100 feet, but not less than 20 feet from dispenser.
  - Labeled: “EMERGENCY FUEL SHUTOFF”

Wood Storage at Pumps

- Review Section 2305.7

Would you cite this per Section 2305.7?

A. Yes
B. No
Flammable Finishes Ch 24

- Scoping section amended - reworded

Flammable Finishes

- Spraying options:
  - Spray room
    - 2404.3.1
  - Spray booth
    - 2404.3.2
  - Spray space
    - 2404.3.3

Flammable Finishes

- Section 2404.2 Location of operation
  - Defines what type of spray operation per occupancy classification
- Section 2404.9 Limited spraying space
  - Allowed per Section 2404.2 exception 2
    - Limited to 9 sf of surface area
    - Not continuous and ventilation required
- Amended Section 2404.2 exception 2
  - Removed schools to allow a limited spraying space in shops or art rooms
Fruit and Crop Ripening Ch 25
Involves Ethylene Gas

Fumigation/Insecticidal Fogging Ch 26
- A few changes
- Review if permitting
- Check definitions
- Fumigant product examples
  - Methyl bromide
  - Ethylene dibromide
  - Hydrogen cyanide
  - Carbon disulfide
  - Sulfuryl fluoride

Semiconductor Fabrication Ch 27
Lumber Yards/Woodworking Ch 28

Manufacture of Organic Coatings Ch 29

Industrial Ovens Ch 30
- 4 Classes of furnaces
Tents and Membrane Structures Ch 31

Tents and Membrane Structures

• Approval required for tents and membrane structures larger than 400 sq. ft.
  – Shall not be up longer than 180 days within a 12 month period.

Tent Formerly Known As Canopy

• Canopy language removed
  – Has a new definition in building code
• Review approval language on tents open on all sides
• See 3103.2
  – Exceptions
High-Piled Combustible Storage

• Chapter 32

High Pile Rack Storage

• Review Section 3208.3.1
  – Flue space protection
  – When required by code official
  – Not for every case
  – Business with history of poor flue space maintenance
  – Review the fire code commentary for more information
Flue Space Protection

Fire Safety During Construction/Demolition

• Chapter 33
Tire Rebuilding & Storage
• Chapter 34

Welding and Hot Work
• Chapter 35

Marinas
• Chapter 36
Marina Fires

- First appeared in 2009 IFC Chapter 45
  - Why it is not new language in our code – no bars.
- Based on fire loss data from 2003 to 2006
  - 272 boats and houseboats lost totaling $67 million dollars.
- Challenges to firefighting
  - Boats constructed of rigid thermoplastics and wood
  - Fires not shielded as with motor vehicles.
- Flammable and combustible liquids in varying amounts on board

Quincy MA Oct 8, 2015 7:30 am

Video From News Chopper
Chapter 36 Requirements

- Definitions in Chapter 2
  - Group U occupancy classification
  - Float – floating structure
  - Marina
  - Pier – structure on water supported
  - Vessel – motorized watercraft
    • Includes houseboats / boathouses
  - Wharf – on shore
    • Anchor to or connect piers and floats

Chapter 36 New vs Existing

- New is new and comply with code
  - Distinct hazard for existing
- Existing – Review MSFC 102.2
  - Administrative
  - Operational
  - Maintenance

General Precautions

- New and existing Marinas
  - Combustible debris
  - Rubbish containers with lids
  - Open flame devices approved
  - Electrical
    • MSFC 605 & NFPA 303 Chapter 5
  - Slip identification / address
  - Spills of flammable liquids
    • Reported to AHJ
Fire Protection Requirements

- Construction requirements for new
  - Standpipes per NFPA 303
  - FD access and water supply
  - Telephone communications
  - Staging area for float systems
  - Fire extinguishers

Fire Protection Requirements

- Distinct hazard for existing marinas
  - MSFC 102.1 item 3
  - Need to show justification
  - Defensible in court of law
  - Great expense for owner to comply
  - Seek legal counsel
  - Fire extinguishers could be a challenge

Hazardous Materials Ch 50 - 67
**Hazardous Materials**

- Chapter 51 – Aerosols
- Chapter 52 – Combustible Fibers
- Chapter 53 – Compressed Gases
- Chapter 54 – Corrosive Materials
- Chapter 55 – Cryogenic Fluids

**Special Operations & Hazards**

- Chapter 56 – Explosives & Fireworks
- Chapter 57 – Flammable & Combustible Liquids
- Chapter 58 – Flammable Gases
- Chapter 59 – Flammable Solids
- Chapter 60 – Highly Toxic & Toxic Materials
- Chapter 61 – Liquefied Petroleum Gas

**Special Operations & Hazards**

- Chapter 62 – Organic Peroxides
- Chapter 63 – Oxidizers, Oxidizing Gases, & Oxidizing Cryogenic Fluids
- Chapter 64 – Pyrophoric Materials
- Chapter 65 – Pyroxylin (Cellulose Nitrate) Plastics
- Chapter 66 – Unstable (Reactive) Materials
- Chapter 67 – Water-Reactive Solids & Liquids
Operational & Construction Permits

• Operational
  – All but fireworks
  – See Statute 624.22 on fireworks
• Construction
  – Chapters 50, 57 and 61

Chapter 50

• Addresses general provisions of hazmat
• Many of Chapters 51 to 67 reference Ch 50
  – Especially involving MAQ
  – Number of exceptions to this chapter
• Material with multiple hazards, address all of them
• Specific requirements in other chapters shall apply per that chapter

Control Areas – 5003.8.3

• Control area is a space where the quantity of hazardous materials stored, used, handled or dispensed does not exceed the MAQ
• Indoor and Outdoor Control Areas
• Constructed as fire barriers
  – Includes walls, floors and ceilings
**Control Areas - Table 5003.8.3.2**

- Number of control areas based on floor level
- Modified MAQ as the floor level moves away from grade
- Fire-resistance-rating based on floor level

<table>
<thead>
<tr>
<th>Floor Level</th>
<th>Percentage of the Maximum Allowable Quantity Per Control Area</th>
<th>Number of Control Areas Per Floor</th>
<th>Fire-Resistance Rating for Fire Barriers in Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Above grade plane</td>
<td>Higher than 5 75</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>6</td>
<td>125</td>
<td>2</td>
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<tr>
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<td></td>
<td>1</td>
<td>100</td>
<td>3</td>
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<tr>
<td>Below grade plane</td>
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<td>100</td>
<td>4</td>
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<tr>
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<td>1</td>
<td>75</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Lower than 2</td>
<td>Not Allowed</td>
<td>Not Allowed</td>
</tr>
</tbody>
</table>

**2nd Floor Control Areas**

Up to 3 control areas (rooms) at 75% of the MAQ

**Questions on Control Areas**
Referenced Standards

Chapter 80
MSFC version is correct
IFC has an errata

Chapter 81
• Minnesota amendment
  – Adult Day Care Centers
  – Residential Hospice Facilities
  – Supervised Living Facilities
• Provides info on occupancy classification

Appendices
• Appendix A – L
• Appendices are not enforceable unless legally adopted
  – Would require adoption by your city council or township board
  – Should be reviewed for applicability before adopting
### Appendix A-G

- Same as before
  - A, Appeals Board
  - B, Fire flow for buildings
  - C, Fire hydrant locations
  - D, FD access roads
  - E, Hazard categories
  - F, Hazard rankings
  - G, Cryogenic fluids

### Appendix H - J

- Appendix H
  - HMMP & HMIS Instructions
- Appendix I
  - Fire Protection Systems - Noncompliant conditions
- Appendix J
  - Building Information Sign

### Appendix J

- New construction
  - Except Group U
  - One or two family homes
- Existing
  - After annual inspection
  - Change in use or occupancy
- Sign location, design, size & lettering
Building Info Sign

Would you adopt this?
A. Yes
B. No

Appendix K

• Prohibition of BBQ grills on decks and balconies of any structure containing 3 or more dwelling units
Appendix L

• Emergency responder radio coverage.
  – Establishes criteria for radio coverage in new and existing buildings.

Questions