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AI IMPACT 2024  
40<sup>th</sup> Annual FPC Seminar + Expo  
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# Major Changes to NFPA 99 and NFPA 101 2024 Edition

**Course Number:** AHCA 13

**Credit Designation:** 1 LU/HSW

**AIA CES Provider Number:** E240

September 30, 2024



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# Agenda

- Status of NFPA 99 and NFPA 101
- NFPA 101 Core Chapter Changes
- NFPA 101 Changes Impacting Health Care
- NFPA 99 Medical Gases and Electrical Systems
- Other Relevant NFPA 99 Changes
- When and Where to Use These New Versions
- Future Adoption

1

OBJECTIVE

Assess the NFPA 99 & 101 2024 Edition Major updates

2

OBJECTIVE

Describe the major changes impacting health care facilities by Adopting the 2024 edition of NFPA 99 & 101.

3

OBJECTIVE

Explain the major changes to NFPA 99 and 101 and their impact on new and existing health care facilities.

4

OBJECTIVE

Prepare the audience to advocate for the adoption and discuss potential modifications.

# NFPA 101 and NFPA 99 Dates

- Three-year update process
- NFPA Standards Council completed the process and issued August 25, 2023
- Effective date is September 14, 2023



# Effective Date

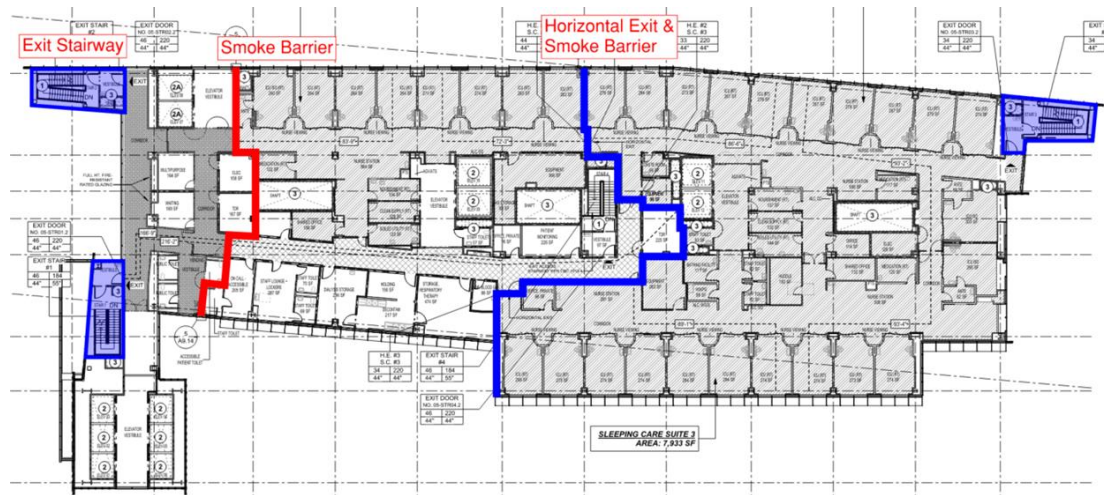
- AHJs can adopt and use these editions on or after September 14, 2023
- A formal legislative action to adopt the Code is required to update





# NFPA 101 Chapter 3 Definitions

- All extracted definitions updated
- 3.3.15 Alcohol-Based Hand-Rub (ABHR)
  - Extracted from NFPA 30
- 3.3.16 Alternate Care Site (ACS)
  - Related requirements in Chs. 18/19 and new Annex D



# NFPA 101 Chapter 3

## Definitions

- **3.3.128 Fuel-Burning Appliance**
  - Term used in CO detection requirements
- **3.3.163 Inflatable Amusement Device**
  - Related requirements in Sec. 10.6
- **3.3.195 Modular Room & 3.3.269 Sleep Pod**
  - Related requirements in Sec. 10.7





# NFPA 101 Chapter 4

- 4.5.8: Added “inspection & testing” to requirement for maintenance of required life safety features/systems



# NFPA 101 Chapter 4

- 4.8.2.1: Added security features and voice evac/mass notification criteria to emergency action plans





# Exit Discharge Change

- 7.7.2(1) Up to 75% of the number of exits and required width of egress can discharge through the grade level lobbies.



# Special Locking Hardware

- 7.2.1.6.3.1(6)

Door electromechanical or electromagnetic locking hardware for new installations is listed in accordance with UL 294, *Access Control System Units*, or UL 1034, *Burglary-Resistant Electric Locking Mechanisms*.



# NFPA 101 Chapter 8 – Features of Fire Protection

- 8.7.3.3: Revised ABHR requirements
  - Personal use container exemption
  - Dispenser capacity
  - Increased quantity limits
  - Spill containment
  - **NOT APPLICABLE TO HEALTH CARE OR AMBULATORY HEALTH CARE OCCUPANCIES – maintaining their own requirements**





# NFPA 101 Ch. 10 – Interior Finish, Contents, and Furnishings



- Sec. 10.6 – Inflatable Amusement Devices
- Sec. 10.7 – Modular Rooms and Sleep Pods

# NFPA 101 Ch. 11 – Special Structures and High-Rise Buildings

- 11.8.2.3: High-rise building vertical exit smokeproof enclosure are not required in sprinkler protected buildings







# NFPA 101 Ch. 12/13 – Assembly Occupancies

- 12/13.3.5.7 – Portable Fire Extinguishers are now required in the assembly occupancy in Health Care.

# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18/19.1.1.1.10 & Annex D – Alternate Care Sites (ACSs)
- Allows the use of temporary sites to provide health care services





# Annex D is guidelines for ACS

- An ACS includes spaces such as, but not limited to, hotels, arenas, barracks and dorms, tents, closed hospitals, and modular units
- Annex D addresses:
  - Design and Planning
  - Construction
  - Operation and Maintenance
  - Facility Decommissioning



# Guidelines for ACS Design and Planning

- In the event of a public health emergency, the rapid establishment of ACSs is critical
- Assess the potential sites.
- Use the Goals and Objectives of Chapter 4 to evaluate the safety.

# Guidelines for ACS Design and Planning

- Considerations should include but not limited to include:
  - the number and type of patients
  - the proximity to nearby hospitals
  - personnel staffing requirements
  - utility requirements
  - air filtration
  - handling capacities
  - safety features for emergency response
  - egress
  - staging of ambulances
  - parking availability

# Guidelines for ACS Construction

- Construction process considerations:
  - Stake holders are involved
  - Compliance with Chapter 18 is reviewed
  - Alternate methods of compliance are documents
  - Interim Life Safety measures are evaluated and implemented as needed
  - Local AHJ approve occupancy

# Guidelines for ACS Operations and Maintenance

- The user of the ACS should ensure compliance with all recognized codes, standards, and recognized practices to the extent possible
- Consider a fire watch depending on the Planning and Construction agreements
- Inspection, testing, and maintenance of fire protection systems is required per reference Codes and Standards
- Building Services and Operating Features must comply with Chapter 18 or 19. ( 18/19.5 and 18/19.7)

# Guidelines for ACS Facility Decommissioning

- Upon completion as an ACS, the facility should be returned to its original existing occupancy classification as appropriate.
- Utilities required to support ACS operations should be removed in accordance with 4.6.12 upon permanent deactivation of the ACS.



# ACS Summary

- Compliance with NFPA 101 is still a requirement. Change of occupancy is not required. Interim Life Safety may be required

**NFPA**  
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# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18/19.2.2.2.5: Revised door locking requirements – patient special needs (New and Existing)
  - The smoke compartment containing the locked area, all adjacent smoke compartments on the floor, and all smoke compartments leading to the required exits from the locked area are protected throughout by an approved, supervised automatic sprinkler system.



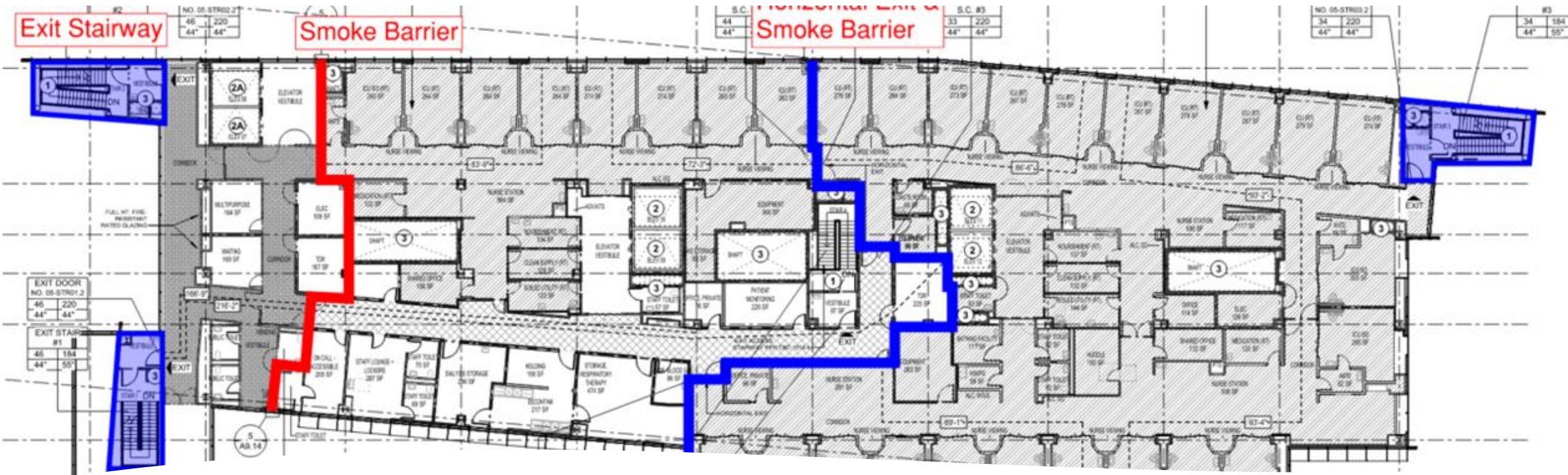
# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18.2.2.2.11: Manual fire alarm box activation not required to unlock stair doors for re-entry





# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies



- 18/19.2.2.5.2: Horizontal exits revised for consistency with Ch. 7. All sprinkler protected building allow 2/3 of the occupant width and number to be horizontal exits

# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18.3.2.1.3/19.3.2.1.5(9):  
Added sterile core exemption from hazardous area requirements





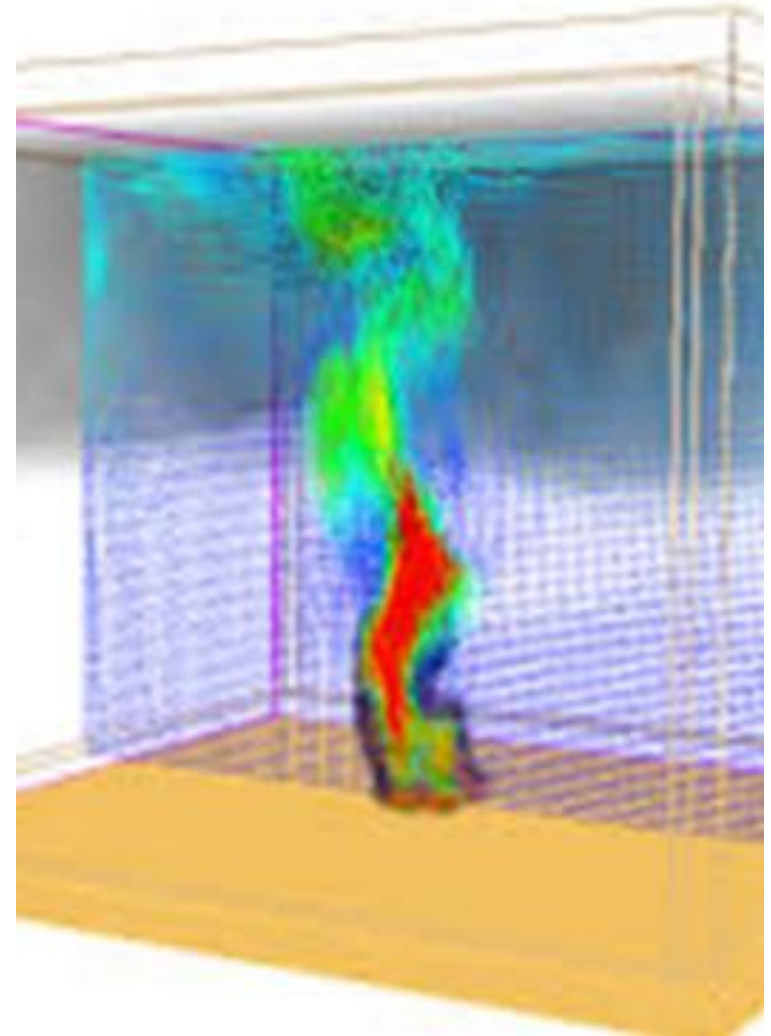
# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18.3.2.5.3, 18.3.4.6, 20.3.4.5:  
Added CO detection requirements  
for NEW ONLY



# NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 18/19.7.9: Replaced construction area separation requirements with NFPA 241 reference





## NFPA 101 Chapters 18-21 Health Care/Ambulatory HC Occupancies

- 19.4.3: Clarified existing high-rise sprinkler requirement
- CMS Still requires installation by **July 2028**

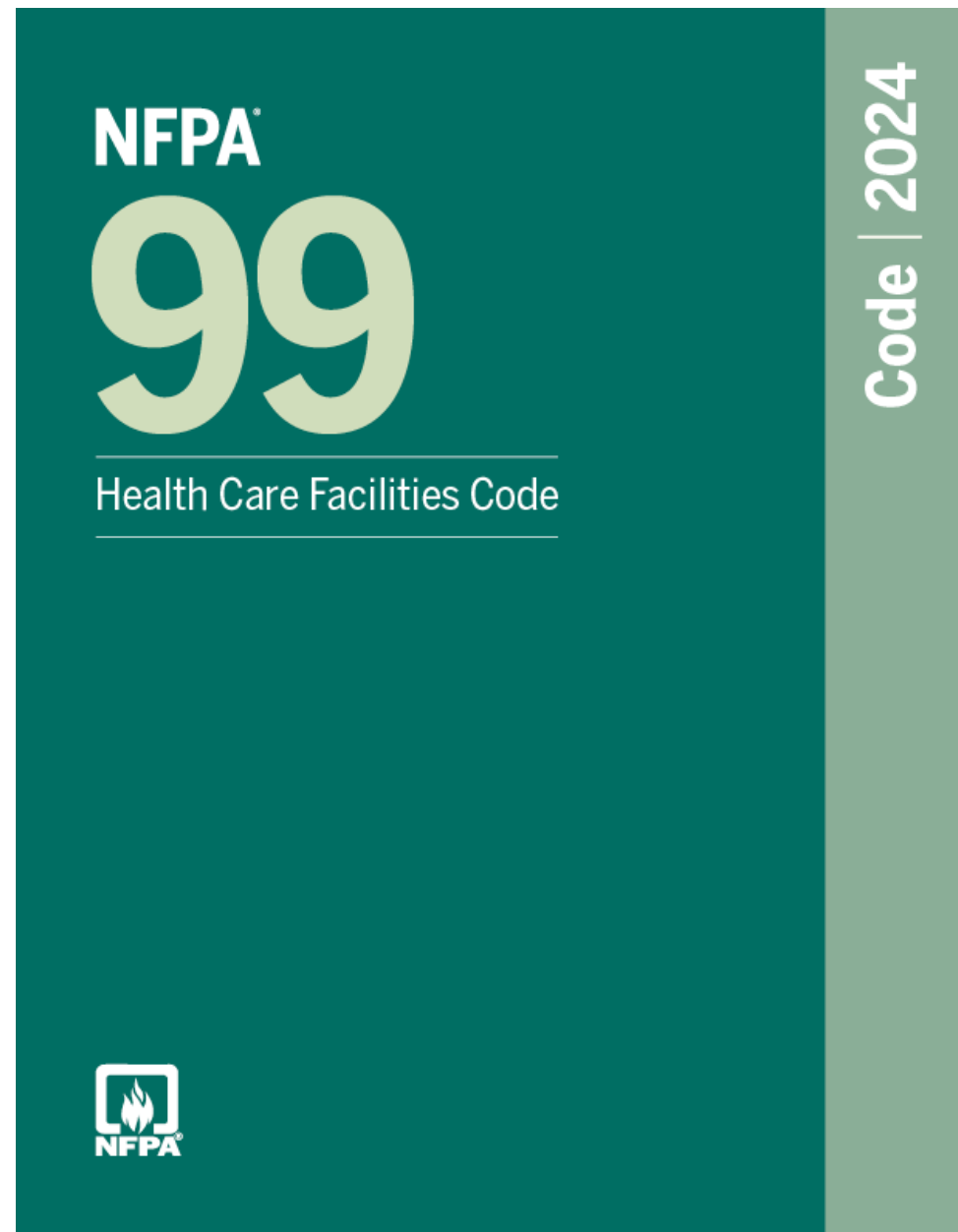


# NFPA 101 Chapters 40-42 Industrial & Storage Occupancies

- 42.8.2.5.1: Parking structure common path of travel increased from 50 ft (15 m) to 75 ft (23 m)
- 42.8.3.5: Added sprinkler requirement for all new parking structures



# NFPA 99 Update



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# NFPA 99 Chapters 1 & 2

- 1.3.2.3 Continued use of an existing system that is noncompliant with the requirements of this code shall be permitted unless the AHJ determined that such use poses a distinct hazard to life
- 1.3.4.2 Health care facility's governing body shall designate ALL anesthetizing locations
- Chapter 2 updated references and added ISO reference for metric

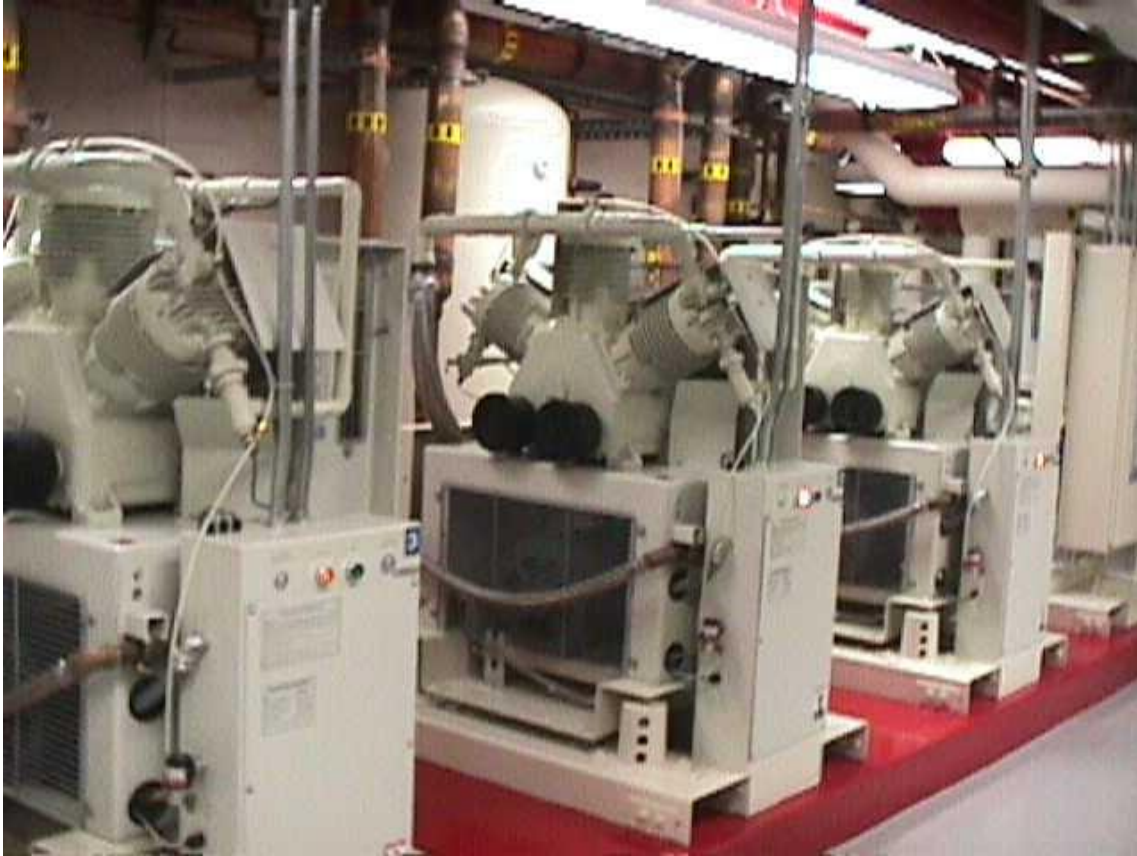




# NFPA 99 Chapter 3 Definitions

- 3.3.7 Anesthetizing Location: Any location where moderate sedation, deep sedation or general anesthesia is intended to be administered
- New Emergency Planning Definitions:
  - Debrief – Feed back after an exercise
  - Exercise – An instrument to train, assess, and practice
  - Incident – An occurrence or event that causes an emergency response
  - Planned Event – A planned nonemergency assembly for an activity

# NFPA 99 Chapter 3 Definitions



- FGI Guidelines definition and reference are the responsibility of the Fundamentals TC.
- 3.3.108 Manufactured Rough-In Assembly – New definition to address factory assembled product containing the secondary valve only.
- 3.3.178 Sleep lab - A center where sleep studies are administered, monitored and evaluated.

# NFPA 99 Chapter 5 Medical Gas and Vacuum

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5.1.3.1.10 In nonsmoking facilities signage is not required to reference “No Smoking”

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# NFPA 99 Chapter 5 Medical Gas and Vacuum



- Maximum Allowable Quantities (MAQ) has been set in 5.1.3.3.2.1 and 5.1.3.3.2.5
- 5.1.3.3.2.5\*
- The total quantity of medical gases connected to or in storage for central supply systems shall comply with Table 5.1.3.3.2.5 for each enclosure or room.



# NFPA 99 Chapter 5 Medical Gas and Vacuum

\*Table 5.1.3.3.2.5 Storage Quantities for Medical Gas and Cryogenic Fluid Central Supply Systems in Health Care Facilities

<u>Gas</u>	<u>Maximum Allowable Quantity, Connected and in Storage</u>		
	<u>Outdoor Enclosures<sup>a</sup></u>	<u>Indoor Nonsprinklered<sup>b</sup></u>	<u>Indoor Sprinklered<sup>c</sup></u>
Oxygen and nitrous oxide <sup>d</sup>	No limit	283 m <sup>3</sup> (10,000 ft <sup>3</sup> )	566 m <sup>3</sup> (20,000 ft <sup>3</sup> )
Carbon dioxide, helium, medical air, and nitrogen	No limit		

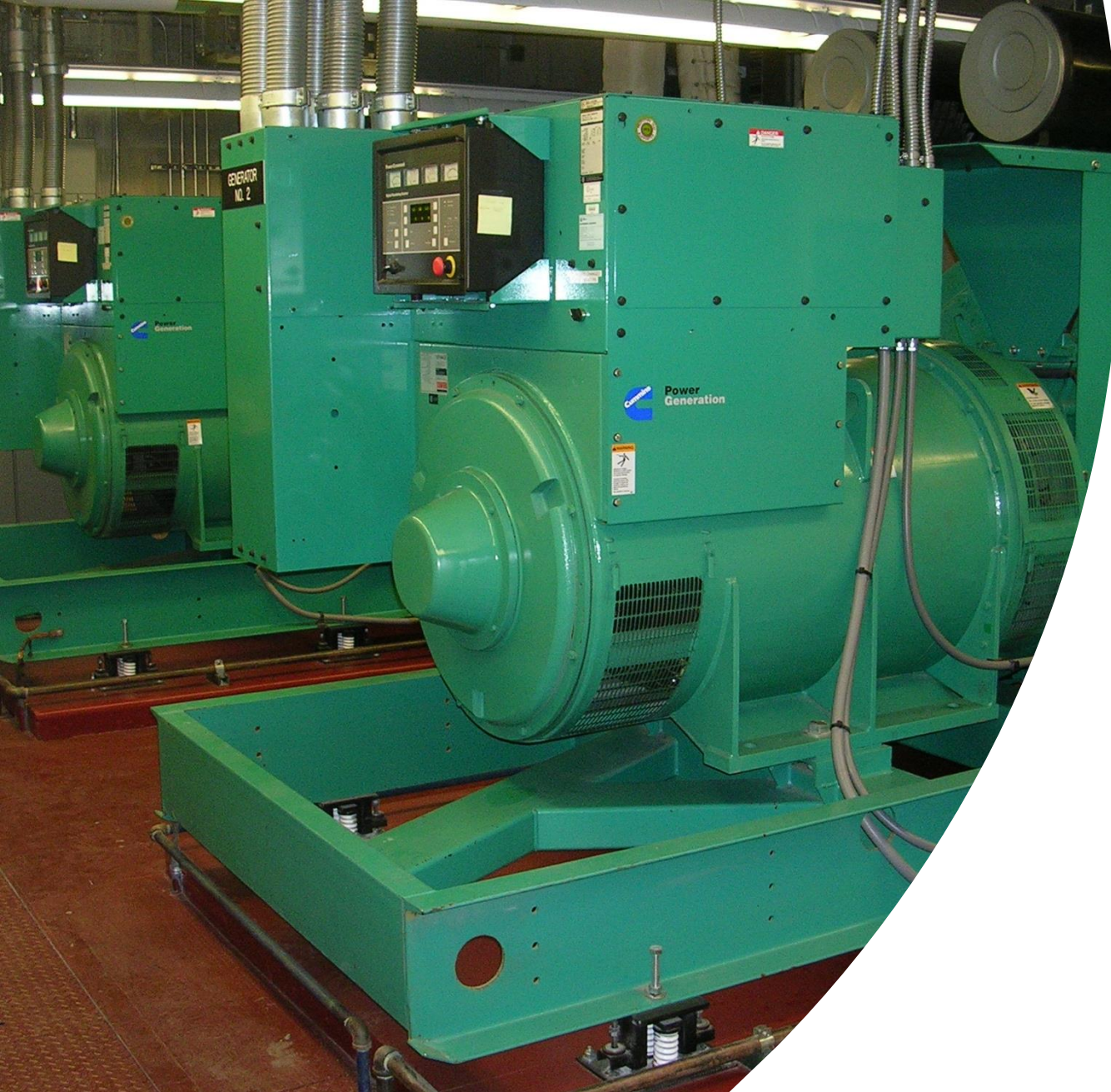
<sup>a</sup>Outdoor enclosure constructed and ventilated in accordance with this code and NFPA 55.

<sup>b</sup>Indoor structure constructed in accordance with 5.1.3.3.2 and ventilated in accordance with 9.3.6.

<sup>c</sup>Indoor structure constructed in accordance with 5.1.3.3.2, ventilated in accordance with 9.3.6, and provided with an approved, automatic sprinkler system in accordance with NFPA 13.

<sup>d</sup>Sum of all oxidizing gases within a room.

Table 5.1.3.3.2.5 Storage Quantities for Medical Gas and Cryogenic Fluid Central Supply Systems in Health Care Facilities



# Chapter 6 Electrical Systems

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# Chapter 6 Electrical Systems

- 6.7.1.2.2.4 Electrical Preventive Maintenance(EPM) is changed to “Electrical Maintenance Program” (EMP) to correlate to NFPA 70B
- Essential Electrical Systems is the terminology is updated to reflect the use of other energy systems



# Chapter 6 Electrical Systems

- 6.7.3.4 Control conductors between the transfer switch and the emergency generator shall be independent of all other wiring. References to NEC are removed.
- 6.7.5.1.2.8 This is a correlation with Life Safety Branch of the EES. Life Safety Lighting Dimmer and Relays are allowed.



# NFPA 99 Chapter 12



Removed NFPA 1600 and updated to NFPA 1660

New terms added to Chapter 3

- Incident
- Exercise
- Planned event
- Debrief

# NFPA 99 Chapter 14 Hyperbaric



- New Section 14.2.2.1 – Pressure release devices are required
  - Primary at the design pressure and
  - Secondary at 200% of design pressure
- 14.2.6.1.1 New terminology for Class A fire protection systems
  - Primary is a deluge system or equivalent
  - Secondary is a hose line or equivalent
  - Criteria for both added 14.2.6.2 & 14.2.6.3

# CMS Status

1. Federal Register announcing a rule change
2. Draft rules
3. Public Comment
4. Comment response and adoption

Not act of Congress is needed.

Time frame in the pass has been 3 to 5 years. 2012 Codes were developed in 2010 to 2012 time frame. Much has happened.



# QUESTIONS



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**Thank you for your attention!**

