NFPA 99 – 2012 Overview

Health Care Facilities Code

Learning objectives

• NFPA 99-2012 Major Changes
• Major Electrical Changes
• Major MedGas Changes
• ANSI-adopted HCF Code; can now be incorporated into law as stand-alone document.

• Navigating the NFPA 99-2012 Handbook
NFPA Disclaimer

- Although the speaker is Chairman of the NFPA Technical Committee on Emergency Power Supplies, which is responsible for NFPA 110 and 111, the views and opinions expressed in this presentation are purely those of the speaker and shall not be considered the official position of NFPA or any of its Technical Committees and shall not be considered to be, nor be relied upon as, a Formal Interpretation. Readers are encouraged to refer to the entire texts of all referenced documents.

- NFPA members can obtain staff interpretations of NFPA standards at www.nfpa.org.

www.nfpa.org/99 will always take you there
CMS and the 2012 editions

- CMS at NFPA Annual Conference: ~ 30 months to change the CoPs ... at least 2014.

- CMS said in its 2012 final regulation to revise CoPs “We appreciate commenters’ suggestions regarding the LSC regulations set out under our ‘Physical environment’ CoP at §482.41. Suggestions received were outside the scope of this final rule and will be considered through separate notice-and-comment rulemaking in a LSC omnibus rule, targeted for publication in the near future.”

- Some rumors say as early as August 2013.
- TJC, DNV expected to follow CMS shortly after adoption.

Be aware of changes in the newer referenced publications.

NFPA 101-2012

55 Referenced Publications, 1 of 2

(1) Documents referenced in this chapter, or portion of such documents, shall only be applicable to the extent called for within either a chapter of this Code.
(2) Where the requirements of a referenced code or standard differ from the requirements of this Code, the requirements of this Code shall govern.
(3) Existing buildings or installations that do not comply with the provisions of the codes or standards referenced in this chapter shall be permitted to be continued in service, provided that the lack of conformity with these documents does not present a serious hazard to the occupants as determined by the authority having jurisdiction.

NFPA Publications, National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

2.4 References for Extracts in NFPA 99-2012 Mandatory Sections

- NFPA 99-2012 references over 80 newer publications.
During a survey …
The details are going to get you

- NFPA 99-2012
- NFPA 110-2010
- NFPA 13-2010
- NFPA 72-2010
- NFPA 25-2011
- NFPA 80-2010
- NFPA 70-2011
- NFPA 45-2011
- NFPA 92-2012

**REMOVED from NFPA 99**

- All of the Occupancy Chapters
  - “Requirements are based on the impact to the patient, regardless of the type of occupancy.”
- Laboratory requirements (now refer to NFPA 45)
- Manufacturers' requirements on electrical equipment – now per IEC 60601-1, etc.
- Annexes B, D, & E were deleted. (They were technology no longer in use.)
  - *Annex B Nature of Hazards*
  - *Annex D Safe Use of High-Frequency Electricity …*
  - *Annex E Flammable Anesthetizing Locations*
NFPA 99-2012 Chapters – (No occupancy chapters)

1. Administration
2. Referenced Publications
3. Definitions
4. Fundamentals Extremely short
5. Gas and Vacuum Systems
6. Electrical Systems
7. Information Technology & Communications Systems
8. Plumbing: Added via TIA
9. Heating, Ventilation and Air Conditioning (HVAC): Added via TIA
10. Electrical Equipment
11. Gas Equipment
12. Emergency Management
13. Security Management
14. Hyperbaric Facilities
15. Features of Fire Protection

Layout of NFPA 99-2012 Handbook
You should have a copy.
## NFPA 99-2012 Chapter Contents

1. Administration  
   Scope, Purpose, Application, Equivalency, Units, Code Adoption Requirements
2. Referenced Publications  
   General, NFPA, Other, References for Extracts in Mandatory Sections
3. Definitions  
   General, NFPA Official Definitions, General Definitions, BICSI *(Building Industry Consulting Services International)* Definitions
4. Fundamentals *(less than ¼ Pg)*  
   Building System Categories, Risk Assessment, Application

## NFPA 99-2012 Chapter Contents

5. Gas and Vacuum Systems *(48 pgs)*  
   Category 1, Category 2, Category 3
6. Electrical Systems *(14 pgs)*  
   Applicability, Nature of Hazards, Electrical System, Type 1 EES, Type 2 EES, Type 3 EES
7. IT & Communications Systems for HCF *(4 pgs)*  
   Applicability, Category 1, Category 2, Category 3
8. Plumbing *(1 pg)*  
   Applicability, System Category Criteria, General Requirements
<table>
<thead>
<tr>
<th>NFPA 99-2012 Chapter Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>9. HVAC <em>(2 pgs)</em></td>
</tr>
<tr>
<td>Applicability, System Category Criteria, General</td>
</tr>
<tr>
<td>10. Electrical Equipment <em>(6 pgs)</em></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NFPA 99-2012 Chapter Contents</th>
</tr>
</thead>
<tbody>
<tr>
<td>11. Gas Equipment <em>(5 pgs)</em></td>
</tr>
<tr>
<td>Applicability, Cylinder and Container Storage, Cylinder and Container Storage Requirements, Performance Criteria and Testing, Administration, Operation and Management of Cylinders, Liquid Oxygen Entrapment</td>
</tr>
<tr>
<td>12. Emergency Management <em>(4 pgs)</em></td>
</tr>
<tr>
<td>Scope, Responsibilities, Matrix Categories, General, Category 1 and Category 2 Requirements</td>
</tr>
</tbody>
</table>
13. Security Management (2 pgs)

14. Hyperbaric Facilities (11 pgs)
- Scope, Construction and Equipment, Administration & Maintenance

15. Features of Fire Protection (3 pgs)
“The risk to the patient does not change for a given procedure. If the procedure is performed in a doctor’s office versus a hospital, the risk remains the same. Therefore NFPA 99 eliminated the occupancy chapters and has gone to a risk-based approach. New Chapter 4 outlines the parameters of this approach. The Code now reflects the risk to the patient in defined categories of risk.”

- From the NFPA 99-2012 introduction
Some of the major changes

- "Fundamentals" chapter - risk based on type of care provided
  - **Category 1**: equipment failure likely to cause major injury or death of patients or caregivers
  - **Category 2**: equipment failure likely to cause minor injury (not serious or at risk of life) to patients or caregivers
  - **Category 3**: equipment failure not likely to cause injury to patients or caregivers; can cause patient discomfort
  - **Category 4**: equipment failure would have no impact on patient care
  - Categories "determined by following and documenting a defined risk assessment procedure."
  - Select systems or processes that are required for that risk category.

**Major injury examples from the Ch.4 Annex (invokes Category 1)**

- Amputation
- Loss of sight of an eye (even temporary)
- Burn to eye or any penetrating injury to eye
- Electric shock / electric burns: unconsciousness requiring resuscitation or ≥ 24 hours hospitalization
- Hypothermia, heat induced illness: unconsciousness requiring resuscitation or ≥ 24 hours hospitalization
- Loss of consciousness caused by asphyxia or lack of oxygen or exposure to a biological agent or harmful substance
- Absorption of any substance by inhalation, skin, or ingestion causing loss of consciousness or acute illness requiring medical treatment
- Acute illness requiring medical treatment where there is reason to believe the exposure was to biological agents, its toxins, or infected materials
Some system/equip. examples from the NFPA 99 Chapter 4 Annex

- **Category 1**
  - OR EP, ICU MedGas, Ventilator-assisted procedure in medical office OR suite, Cardiac cath equipment

- **Category 2**
  - Pt room task or procedure lighting, Pt care area potable water

- **Category 3**
  - Heating in the south; humidity control in non-operating areas, dental drills, motorized bed adjustments, cooling tower makeup water in NW

- **Category 4**
  - Gray water lawn sprinklers, seasonal lighting, PA, P-tube, vacuum system in research lab

**Application**

- All HC facilities *that treat humans* other than home care
- Construction & equipment requirements for new only
- Only altered or renovated or modernized portion of building
- If above modifies performance of a system it must be modified
How NFPA 99-2012 will work

- Determine the worst case procedure
- Use a documented process to select risk category
  - SEMI S10-0307E: Safety Guideline for Risk Assessment and Risk Evaluation Process
  - Other formal process
- Select the systems or procedures prescribed by that level of risk
  - Except for Hyperbaric Facilities where Ch. 14 applies (Hyperbaric Facility requirements are not Risk-Based)
- Additional FP specialties in Ch. 15

Some electrical changes

- Overcurrent protective devices: accessible only to authorized personnel; not public access areas
- Minimum # of receptacles: 8 in general care (Cat 2); 14 in critical care (Cat 1); 36 in ORs
- Single or multiple feeder between EES grouped distribution [6.4.2.2.2 Feeders from Alt. Source]
- 1 generator’s fuel transfer pumps, recepts, vent fans, louvers, controls, cooling system, other needed gen accessories added to LS or gen output terminals with OCPDs [6.4.2.2.3.4]
- Selective coordination – added text to permit a 0.1 second delay
Some electrical changes

- MedGas alarms may be on CB or LS
- Generator testing – 10 sec not required during monthly testing – annual confirmation
  - 6.4.4.1.1.2 The 10-second criterion shall not apply during the monthly testing of an essential electrical system. If the 10-second criterion is not met during the monthly test, a process shall be provided to annually confirm the capability of the life safety and critical branches to comply with 6.4.3.1.
  - 6.4.4.1.1.3 Maintenance shall be performed in accordance with NFPA 110, Standard for Emergency and Standby Power Systems, Chapter 8. [2010 Edition]

Changes to Essential Electrical System Branches

“Previous editions of NFPA 99, as well as NFPA 70, defined the essential electrical system as a set of subsystems and branches. This distinction led to some confusion, particularly with respect to the number and arrangement of transfer switches. This edition eliminates the confusion by replacing the definition of the essential distribution systems with three simple branches.”
- NFPA 99-2012 Handbook p.311
ORs are Wet Procedure Locations unless OR Risk Assessments state otherwise

NFPA 99: How to Conduct Operating Room Risk Assessments

The National Fire Protection Association recently made an important code change that classifies operating rooms as wet procedure locations unless a risk assessment determines otherwise. Because wet procedure locations must be provided with special protection against electric shock, operating rooms defined as wet locations must be protected by either isolated power or ground-faultinterrupters.

Previously, operating rooms were not considered wet locations by default (read more about the history of this issue and the recent code change at the end of this article). ASHE does not agree with the concept that all operating rooms should automatically be classified as wet locations unless risk assessments determine otherwise. However, the key to achieving compliance with this new requirement, and protecting scarce resources of time and money, is to perform a risk assessment to determine whether your operating rooms are wet locations.

How to Conduct an Operating Room Risk Assessment

Wet Procedure Location OR?

O.R.’s of the Future?

David Stymiest, PE CHFM FASHE
504.232.1113, DStymiest@ssr-inc.com
ASHE: How to Conduct OR Risk Assessments

1. Form a risk assessment group to develop a process for evaluating ORs

2. The risk assessment group should gather information to help determine which surgical procedures, if any, qualify as wet procedures.*

   *The 2012 edition of NFPA 99: Health Care Facilities Code defines wet procedure locations in 3.3.184:
   “The area in a patient care room where a procedure is performed that is normally subject to wet conditions while patients are present, including standing fluids on the floor or drenching of the work area, either of which condition is intimate to the patient or staff.”

3. When a more in-depth risk assessment is needed to determine if an operating room should be classified as a wet procedure location, evaluate the condition of the room during surgical procedures.

4. If the risk assessment group determines the facility has wet procedure locations, protect any wet procedure operating rooms with either isolated power or ground-fault interrupters.
5. If the facility has wet procedure locations, assess whether staff would be in danger of electrical shock from standing in a pool of water or other liquid and touching a faulty medical device.

6. Review the risk assessment annually to confirm the validity of the process and that conditions (e.g., different surgical procedures or new surgeons) have not changed for any operating room.

**ASHE Believes Operating Rooms Should Not Be Considered Wet Locations by Default**

New IT & Communication Chapter 7

- Covers IT rooms, fire protection, nurse call, emergency call and staff emergency assistance.
- *Entrance Facility* (EF): At least 2 separate rooms; Can be located with the TER; Away from EMI & flooding; If remote data center, need onsite storage capacity for all input records; EPower = CB
- *Telecom Equipment Room* (TER): Separate space; Main network equip; Servers & data storage; Temp/Humid control; Positive pressure, other rules
- *Telecom Room* (TR): At least 1/floor; within 292 ft of data outlet; serves <20,000 sf
2012 ASHE Monograph on Medical Gas Cylinder and Bulk Tank Storage

BETED ON NFPA 99-2012
1. Definitions
2. General Storage Requirements
3. Cylinder storage < 300 CF
4. Cylinder storage 300 – 3,000 CF
5. Cylinder storage > 3,000 CF
6. Signage requirements
7. Requirements for transfilling liquid O2
8. Outdoor bulk tank storage

New NFPA Medical Gas and Vacuum Systems Installation Handbook

- NFPA will release a new Medical Gas and Vacuum Systems Installation Handbook in October 2012 to provide a comprehensive all-in-one resource to help users clearly understand the medical gas and vacuum systems requirements covered in NFPA 99-2012.
- Will combine all relevant information on gas and vacuum systems found in Chapters 1-5 of NFPA 99-2012, with additional full-color photos, illustrations and commentary, written by industry experts, to provide further explanation and clarity on the intent behind the requirements.
- In addition, 3 supplements will cover qualifications for personnel and general brazing procedures, cleaning for oxygen service and preparing joints for brazing, and installation testing and documentation.
Testing of Articulating Medical Booms

- 18 month (or as determined by risk assessment) testing of articulating medical booms in OR
  - Details are in “5.1.14.2.3.2 Manufactured Assemblies Employing Flexible Connection(s) Between the User Terminal and the Piping System.”
  - Changes reflect “concerns over reports of fires in articulating booms, which appear to be correlated to leaks in the gas lines. Since these units employ hoses internally, and the hoses can wear against the sides, the bearing housings, and one another, they need to be inspected frequently and replaced whenever wear is evident.” – from 99 Handbook
- I suggest you consider this now – not 2014.

Some other changes

- Prohibits use of plug-in connections to piped oxygen systems
  - Such as ozone sterilizers
- 5.1.3.5.12* Bulk Cryogenic Liquid Systems.
  - Most text removed, refers to NFPA 55 instead
- Testing for Cryogenic Systems
  - Tested for proper function; purity; alarm sensors; operation of control sensors
- 5.1.3.3.2* Outdoor central supply systems locations
  - Fencing to have 2 entry/exits
5.1.14.2 Maintenance of Medical Gas, Vacuum, WAGD, and Medical Support Gas Systems. **[CAT.1]**

“5.1.14.2.2.5 Qualifications.** Persons maintaining these systems shall be qualified to perform these operations. Appropriate qualification shall be demonstrated by any of the following:**

1. Training and certification through the health care facility by which such persons are employed to work with specific equipment as installed in that facility

2. Credentialing to the requirements of ASSE 6040, *Professional Qualification Standard for Medical Gas Maintenance Personnel*

3. Credentialing to the requirements of ASSE 6030, *Professional Qualification Standard for Medical Gas Systems Verifiers*

---

**MedGas maintenance**

- Facility shall develop and document PM
- Program shall include an inventory of:
  - All source subsystems, control valves, alarms, manufactured assemblies, and outlets
- Inspection schedule established through a risk assessment
- Inspection procedure established by Org
- PM schedule established through a risk assessment
- “Mandatory” MedGas testing frequencies
**Medical gas testing frequencies – partial examples from 5.1.14** Category 1 O&M

- **5.1.14.2.2.2 Inspection Schedules.** Scheduled inspections for equipment and procedures shall be established through the risk assessment of the facility and developed with consideration of the original equipment manufacturer recommendations and other recommendations as required by the authority having jurisdiction.

- **5.1.14.2.2.2 A** In addition to the minimum inspection and testing in 5.1.14, facilities should consider annually inspecting equipment and procedures and correcting any deficiencies.

- **5.1.14.2.4 Maintenance Schedules.** Scheduled maintenance for equipment and procedures shall be established through the risk assessment of the facility and developed with consideration of the original equipment manufacturer recommendations and other recommendations as required by the authority having jurisdiction.

- **B.5.2 Retesting and Maintenance of Nonflammable Medical Piped Gas Systems (Level 1 Systems).**
  - **B.5.2.1[5.1.3.5.10]** These systems should be checked daily to ensure that proper pressure is maintained and that the changeover signal has not malfunctioned. Periodic retesting of the routine changeover signal is not necessary, as it will normally be activated on a regular basis.

- **B.5.2.2[5.1.3.5.12]** These systems should be checked daily to ensure that proper pressure is maintained and that the changeover signal has not malfunctioned. Periodic retesting of the routine changeover signal is not required. **Annual** retesting of the operation of the reserve and activation of the reserve-in-use signal should be performed.

- **B.5.2.3[5.1.3.5.12]** If the system has an actuating switch and signal to monitor the contents of the reserve, it should be retested annually.

---

**Medical gas testing frequencies – partial examples from 5.1.14** Category 1 O&M

5.1.14.4.4 Central supply systems for nonflammable medical gases shall conform to the following:

1. They shall be inspected annually.

5.1.14.4.5 A periodic testing procedure for nonflammable medical gas and vacuum and related alarm systems shall be implemented.

5.1.14.4.7 Procedures, as specified, shall be established for the following:

(1) Maintenance program for the medical air compressor supply system in accordance with the manufacturer’s recommendations

(2) Facility testing and calibration procedure that ensures carbon monoxide monitors are calibrated at least annually or more often if recommended by the manufacturer

5.1.15* Category 1 Maintenance. Facilities shall have a routine maintenance program for their piped medical gas and vacuum systems.

**A.5.1.15** Medical gas and vacuum systems should be surveyed at least annually for the items that follow and deficient items corrected. Survey of medical air and instrument air sources should include, but not be limited to, the following:
Ch. 8 Annex: SAMPLE Approach to Plumbing Category Designations

<table>
<thead>
<tr>
<th>Function</th>
<th>Potable</th>
<th>Nonpotable</th>
<th>Special Use</th>
<th>Water Conditioning</th>
<th>Water Heating</th>
<th>Process Air</th>
<th>Fuel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airborne infection isolation room</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Burn patient care rooms</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Business offices/administration</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Central sterile room</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Class A surgical procedures</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Class B surgical procedures</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Class C surgical procedures</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Critical care rooms (Category 1 room)</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Emergency department trauma room</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Hemodialysis</td>
<td>2</td>
<td>NA</td>
<td>2</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Intensive care</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Medical records</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>-1</td>
<td>4</td>
</tr>
<tr>
<td>Morgue</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>PACU</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Patient education</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>-4</td>
<td>4</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Protective environment room</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Radiology</td>
<td>2</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Speech therapy</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>-4</td>
<td>4</td>
</tr>
<tr>
<td>Waiting rooms</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>-4</td>
<td>4</td>
</tr>
</tbody>
</table>

NA: Not applicable
Note: This is a sample table. The numbers represented in this table might not be consistent with the health care facility scenarios.

Ch. 9 Annex: SAMPLE Approach to HVAC Category Designations

<table>
<thead>
<tr>
<th>Function</th>
<th>Heating</th>
<th>Cooling</th>
<th>Ventilating</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airborne infection isolation room</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Ambulatory care</td>
<td>NA</td>
<td>NA</td>
<td>3</td>
<td>NA</td>
</tr>
<tr>
<td>Biomedical waste holding</td>
<td>2</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Bone marrow transplant</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>NA</td>
</tr>
<tr>
<td>Burn patient care rooms</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Business offices/administration</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Central sterile room</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Class A surgical procedures</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Class B surgical procedures</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Class C surgical procedures</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Critical care rooms (Category 1 room)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Emergency department trauma room</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Intensive care</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Medical-gas storage room</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Medical records</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Morgue</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Occupation therapy</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Oxygen transfusing</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>PACU</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Patient education</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Physical therapy</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Protective environment room</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>NA</td>
</tr>
<tr>
<td>Radiology</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Speech therapy</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Waiting rooms</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
</tbody>
</table>

NA: Not applicable
Note: This is a sample table. The numbers represented in this table might not be consistent with the health care facility scenarios.
## Partial example of significant changes listed in Handbook Supplement 5

<table>
<thead>
<tr>
<th>Section or Paragraph Number</th>
<th>Notes on Code Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1.14.2 Maintenance of Medical Gas, Vacuum, WAGD, and Medical Support Gas Systems.</td>
<td>A new section on maintenance was added. All the maintenance, inspection, and testing requirements are now found in one section.</td>
</tr>
<tr>
<td>5.1.14.2.1* General.</td>
<td></td>
</tr>
<tr>
<td>5.1.14.2.2 Maintenance Programs.</td>
<td></td>
</tr>
<tr>
<td>5.1.14.2.3 Inspection and Testing Operations.</td>
<td></td>
</tr>
<tr>
<td>5.1.14.4 Medical Gas and Vacuum Systems Maintenance and Record Keeping.</td>
<td>A new section on maintenance was added. All the maintenance, inspection, and testing requirements are now found in one section.</td>
</tr>
<tr>
<td>5.1.15* Category 1 Maintenance.</td>
<td>A new section on maintenance was added. All the maintenance, inspection, and testing requirements are now found in one section.</td>
</tr>
<tr>
<td>5.2.1.1 Section 5.2 through 5.2.12 shall apply to new health care facilities or facilities making changes that alter the piping. 5.2.1.2 Subsection 5.2.13 through 5.2.14 shall apply to existing health care facilities. 5.2.1.3 Subsection 5.2.11 through 5.2.12 shall apply to new and existing health care facilities.</td>
<td>A new section on maintenance was added. All the maintenance, inspection, and testing requirements are now found in one section.</td>
</tr>
</tbody>
</table>

## Partial example of significant changes listed in Handbook Supplement 5

<table>
<thead>
<tr>
<th>Section or Paragraph Number</th>
<th>Notes on Code Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4.2.2.3.2(3)* Hospital communications systems, where used for issuing instruction during emergency conditions</td>
<td>Alarms were modified and generalized to be broader.</td>
</tr>
<tr>
<td>6.4.2.2.3.2(6) Electrically powered doors used for building Egress</td>
<td>This section was revised. Electrically powered doors can include the motion sensor and pressure switch type. The AHJ determines what is acceptable for activation of the electrically powered door.</td>
</tr>
<tr>
<td>6.4.2.2.3.3 Alarm and alerting systems (other than fire alarm systems) shall be connected to the life safety branch or critical branch.</td>
<td>Medical gas alarms are allowed to be on the life safety branch. This section was changed to allow that change.</td>
</tr>
<tr>
<td>6.4.2.2.3.4 Loads dedicated to a specific generator, including the fuel transfer pump(s), ventilation fans, electrically operated louvers, controls, cooling system, and other generator accessories essential for generator operation, shall be connected to the life safety branch or the output terminals of the generator with overcurrent protective devices.</td>
<td>Generator accessories were added.</td>
</tr>
<tr>
<td>6.4.2.2.3.3 Alarm and alerting systems (other than fire alarm systems) shall be connected to the life safety branch or critical branch.</td>
<td>Medical gas alarms are allowed to be on the life safety branch. This section was changed to allow that change.</td>
</tr>
</tbody>
</table>
Applicability to existing systems?

Ch. 5: Piped Gas and Vacuum Systems

5.1.1.4 An existing system that is not in strict compliance with the provisions of this code shall be permitted to be continued in use as long as the authority having jurisdiction has determined that such use does not constitute a distinct hazard to life.

5.1.1.5 Subsection 5.1.2 through 5.1.12.3.14.5 and 5.1.14.4.2 shall apply to new health care facilities or facilities making changes that alter the piping.

5.1.1.6 Paragraph 5.1.14.4.3 through 5.1.14.4.9 and 5.1.13 through 5.1.15 shall apply to existing health care facilities.

5.1.1.7 Paragraph 5.1.14.3 and 5.1.14.4.1 shall apply to new and existing health care facilities.

Applicability to existing systems?

Ch. 6: Electrical Systems

6.1.1 This chapter shall apply to new health care facilities as specified in Section 1.3.

6.1.2 The following paragraphs of this chapter shall apply to new and existing health care facilities:

(1) 6.3.2.2.4.2;
(2) 6.3.2.2.6.1
(3) 6.3.2.2.6.2(F)
(4) 6.3.2.2.8.5(B)(2), (3), and (4)
(5) 6.3.2.2.8.7
(6) 6.3.4
(7) 6.4.1.1.17.5
(8) 6.4.2.2.6.2(C)
(9) 6.4.2.2.6.3
(10) 6.4.4
(11) 6.5.4
(12) 6.6.2.2.3.2
(13) 6.6.3.1
(14) 6.6.4

6.1.3 Paragraph 6.3.2.2.2.3 shall apply only to existing facilities.
Applicability to existing systems?  
Ch. 7: IT & Communications

7.1* Applicability
This chapter shall apply to information technology and communications systems in all health care facilities that provide services to human beings.

Applicability to existing systems?  
Ch. 8: Plumbing

8.1 Applicability
8.1.1 This chapter shall apply to construction of new health care facilities, except as noted in 8.1.2 and 8.1.3.
8.1.2 This chapter shall also apply to the altered, renovated, or modernized portions of existing systems or individual components.
8.1.3 Existing construction or equipment shall be permitted to be continued in use when such use does not constitute a distinct hazard to life.
Applicability to existing systems?
Ch. 9: HVAC

9.1 Applicability
9.1.1 This chapter shall apply to construction of new health care facilities, except as noted in 9.1.2 and 9.1.3.
9.1.2 This chapter shall also apply to the altered, renovated, or modernized portions of existing systems or individual components.
9.1.3 Existing construction or equipment shall be permitted to be continued in use when such use does not constitute a distinct hazard to life.

Thank You!

David Stymiest, CHFM FASHE
Senior Consultant
Smith Seckman Reid, Inc.
DStymiest@ssr-inc.com
www.ssr-inc.com
(504) 232-1113