

Codes & Standards Update

Advocacy: 2007 Radar Screen

- NFPA 101, 2009 edition
- NFPA 25
- Re-Engineering NFPA 99
- International Code Council (IBC & IFC)
- FGI/AIA Guidelines
- ASHRAE 170P

NFPA 101, 2009 Edition

Locking of Egress Doors - Accepted

18/19.1.1.1.5 It shall be recognized that in buildings housing certain types of patients or having detention/security rooms or a detention/security section it might be necessary to lock doors and bar windows to confine and protect building inhabitants.

Appendix Language

A.18/19.1.1.1.5 There are many reasons why doors in the means of egress in health care occupancies might need to be locked for the protection of the patients or the public. For example, the clinical needs of a dementia or mental health patient or the security needs for infants or pediatric patients might require doors to be locked. Similarly, patients under court order to be detained might require medical treatment in a health care occupancy. In the rare case, it might be necessary to lock down a health care occupancy due to civil disorder or other public threats. Any time that doors in the means of egress are locked in a health care occupancy where occupants are present, staff needs to be present and capable to unlock the doors in case of an emergency.

Door Testing - Rejected

- Inspected and tested not less than annually
- Functional testing performed by individuals with knowledge and understanding
- Visually inspected from both sides
- Door closers adjusted

Locking of Room Doors - Accepted

- Door locking arrangements shall be permitted where detention needs of the patients require specialized security measures, provided staff can readily unlock doors at all times, complete smoke detection system, sprinklered facility, locks open on loss of power, smoke detector or waterflow device.

Examples of Detention

- psychiatric,
- mental retardation,
- dementia,
- and forensics

Locking of Room Doors - Accepted

- Door locking arrangements shall be permitted where clinical needs of the patients require specialized security measures, provided staff can readily unlock doors at all times.
 - Provisions for the rapid removal of occupants
 - Remote control of locks
 - Keying of all locks to keys carried by staff
 - Other such reliable means available to the staff

Locking of Doors - Rejected

- Door locks released by keypad activated codes shall not be permitted.
- Remote release of all electronic exit door locks from the nurses' station or other location acceptable to the authority having jurisdiction, shall be provided to allow entry and movement of emergency response personnel ...

Travel Distance in Non-Patient Care Suites - Accepted

- **18/19.2.5.6.4 Non-Patient Care Suites.**

The egress provisions for nonpatient care suites shall be in accordance with the primary use and occupancy of the space, except that in no case shall the maximum travel distance to an exit from within the suite exceed 200 ft

Suite Separation - Accepted

- 18/19.2.5.6.1.2* Suite Separation. Suites shall be separated from the remainder of the building, and from other suites, by walls and doors meeting the requirements of 18/19.3.6.2 through 18/19.3.6.5.
 - A.18/19.2.5.6.1.2 Two or more contiguous suites with aggregate area not exceeding the suite size limitation of 18.2.5.6.2.3 and 18.2.5.6.3.3 are permitted to be considered a single suite so as not to require separation from each other.

Hazardous Areas - Accepted

- New
 - Rooms with soiled linen in volume exceeding 64 gal -- 1 hour
 - Rooms with collected trash in volume exceeding 64 gal -- 1 hour
- Existing
 - Rooms with soiled linen in volume exceeding 64 gal

ABHR Clearance Dimension - Rejected

- Dispensers shall not be installed above or within 12 inches of an ignition source.

ABHR - Foam Products - Rejected

- (3) Where aerosol containers are used, the maximum capacity of the aerosol dispenser shall be 18 oz. (0.51 Kg) and shall be limited to Level 1 aerosols as defined in NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*.

Note: Will be accepted now that testing is complete.

Corridor Doors - Rejected

- Patient room doors shall be provided with multiple position, hold open devices, that release upon the activation of local smoke detection or the building fire alarm system.

Corridor Door Latching - Accepted

- **18/19.3.6.3.12** Corridor doors shall be self-latching.
- **Substantiation:** The appendix material associated with door latching clearly indicates that it is the Committee's intent that a nurse should be able to close a door and it will latch. Often facilities are using deadbolts that when engaged manually positive latch, but they are not "self latching."

Astragals - Accepted

- **18/19.3.7.12*** Rabbits, bevels, or astragals...
- **A.18/19.3.7.12** Split astragals (that is, astragals installed on both door leaves) are also considered astragals.
- **Substantiation:** This note is needed as some AHJs do not consider split astragals as a subset of astragals.

Outside Windows - Accepted

- Removed all references to the need for outside windows from Chapters 18 and 19.
- Substantiation: There is no “life safety under fire and similar emergency” need for the window. The SAF-HEA health care occupancies committee is aware that a window will be required for purposes other than life safety under fire and similar emergency.

Chute Discharge Rooms - Accepted

- **18.5.4.2*** Chute charging and discharge rooms shall not be required to have more than a 1-hr fire resistance-rated enclosure.
- **A.18.5.4.2** The maximum 1-hr fire resistance-rated enclosure permitted by 18.5.4.2 is a deviation from the provisions of NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*. NFPA 82 requires the charging room and the discharge room to have the same fire rating as required for the shaft enclosing the chute. In fully-sprinklered health care occupancies, the 1-hr rated enclosure required by 18.5.4.2 provides the needed protection.

Existing Dead End Corridors - Accepted

- **19.2.5.2* Dead-End Corridors.** Existing dead-end corridors not exceeding 30 ft (9140 mm) shall be permitted. Existing dead-end corridors exceeding 30 ft (9140 mm) shall be permitted to continue in use if it is impractical and unfeasible to alter them.
- **Substantiation:** An existing dead-end corridor, regardless of length, is permitted to remain in use if it is impractical and unfeasible to alter it.

Existing Hazardous Area Walls - Accepted

- **19.3.2.1.2*** Where the sprinkler option...
- **A.19.3.2.1.2** Penetrations of hazardous area walls located above ceilings that comply with Section 8.4 need not be sealed to comply with 19.3.2.1.2.
- **Substantiation:** Though 19.2.3.1.2 refers to Section 8.4, proposed annex text would make it clear that there is no need to seal penetrations above ceilings

Existing High Rise Buildings - Accept

- 19.4.2 High-Rise Buildings. (Reserved)
All high rise buildings containing health care occupancies shall be protected throughout by an approved, supervised automatic sprinkler system installed in accordance with Section 9.7 within 12 years of the adoption of this *Code*.

Trash Collection Receptacle - Accept

- **18.7.5.7(3)* 19.7.5.7(3)** Mobile soiled linen or trash collection receptacles with capacities greater than 32 gal (121 L) shall be located in a room protected as a hazardous area when not attended.

Trash Collection Receptacle - Accept

- **A.18.7.5.7(3)** It is not the intent to permit collection receptacles with capacity greater than 32 gal (121 L) to be positioned at or near a nurses station under the argument that such nurses station is constantly attended. The large collection receptacle itself needs to be actively attended by staff. Staff might leave the large receptacle in the corridor outside a patient room while entering the room to collect soiled linen or trash, but staff is expected to return to the receptacle, move on to the next room, and repeat the collection function. Where staff is not actively collecting material for placement in the receptacle, the receptacle is to be moved to a room protected as a hazardous area.

NFPA 25

Weekly Testing of Fire Pumps

- Proposal submitted in the last code cycle to change weekly testing requirement to monthly- rejected by the committee
- ASHE member Frank VanOvermeiren submitted a comment requesting that the proposal be accepted- asked ASHE if we could supply testing data

ASHE Responds

- Within 3 days - responses representing **61,000** tests received
- Within 2 weeks - responses representing over 100,000 tests received

Motion presented at NFPA

- Motion to accept the proposal to change weekly testing of fire pumps to monthly was rejected in a floor vote.

Next Steps

- ASHE will work with Frank to present a proposal in the next revision cycle
- We will need your assistance!!!

2010 FGI/AIA Guidelines

Schedule

- Brainstorming - Completed
- Proposal Period - Complete
- Shaded Text Available - June 15, 2008
- Comment Period - June 15 – Nov 15, 2008
- Final Meeting of the Committee – April 2009
- Document Release Date – February 2010

Public Proposal Facts

- All electronic submittals
- Processed over 1300 proposals
- Proposals ranged from:
 - Glossary terms
 - Editorial recommendations
 - Single element recommendations
 - Whole section inclusions
- All rejected proposals and those modified have documented substantiations

Focus Groups

- Bariatric accommodations
- Wayfinding
- Staff effectiveness/retention
- Sustainable design
- Functional program
- Patient movement
- Imaging
- Infection control
- Surfaces and furnishings
- Psychiatric facilities
- Nursing facilities
- Common elements
- Medical oncology
- Children's hospitals
- Emergency facilities
- Small hospitals
- Reorganization
- Engineering
- Information technology
- Planning, design and construction process

Major Topics of Discussion

- Glossary
 - Readily accessible
 - Adjacent
 - Clear floor area (improve existing)
 - Appendix
 - Linear surface, etc.
- Reorganization
 - Refining the work of the 2006 document
 - Headed by Skip Gregory from Florida

Major Topics of Discussion

If required by the functional program than you shall...

- This will be added to all sections of the document not common to ALL hospitals

Redefining the need for and use of the functional program in design and operations.

Looking to make the planning, design, and construction process more evident.

Major Topics of Discussion

Refining of the ICRA process

Patient movement

- New concept of Patient Handling and Movement Assessment (PHAMA)
 - risk assessment be conducted by the applicant
 - findings of the PHAMA become part of the Functional Program
 - developing a significant educational piece about patient handling, mechanical assists, and related considerations

Major Topics of Discussion

Patient Safety Risk Assessment (PSRA)

- During the functional programming phase
- Identify the specific hazards
- Likelihood of their occurrence based on historic data
- Degree of potential harm to patients

PSRA Panel

- Interdisciplinary panel, representatives from clinical departments
- Produce a report on features of design

Major Topics of Discussion

- Toilet rooms in CCU and other ICUs
- Refinement of Protective Environments
- Sink design and faucet designs
- Procedure vs. treatment vs. exam rooms
- ORs and Specialized procedure rooms should have sinks immediately outside, all other rooms can have sinks inside
- Fast Track section in the ER – when 50 sq. ft. exam room is warranted

Major Topics of Discussion

New sub-chapter on the planning, design and construction of a Bariatric Care Unit

New sub-chapter on medical oncology

NICUs

- Acoustics
- Accurate color rendering – lighting/finishes
- Looking at the need for single bassinet rooms

Rewriting the emergency department chapter

Add new subsection on cancer treatment center

Major Topics of Discussion

- New section on chest pain centers
- Placeholder material in imaging with the hope to get more input on the imaging section of the document
- New section on acoustics
- Discussions on what treatment units need to be considered restricted areas - Tie to general anesthesia
- Outpatient surgery center language – easier to understand room sizing

Major Topics of Discussion

- Rejected proposal to go to single bedded rooms for nursing homes
- Preparing a surfaces and furnishings checklist or matrix for every facility chapter
- Great acceptance for a series of recommendations on Nursing Homes based on research from the Univ. of MN

Major Topics of Discussion

- Natural ventilation/displacement ventilation
- Redundancy of boilers
- ASHRAE 170 – to include or not include
- Discussions on the use of through- the-wall-units
- Installation of bypass-isolation switches – reference back to NFPA 99
- Discussion on the use of wireless systems, such as nurse call, signal transmission from critical equipment

Next Steps

- Preparation of Shaded Text version of 2010 edition
- Remember – available by June 15, 2008
- Comments will only be considered valid if on the shaded text
- Many sections have placeholders making the entire section open for comment
- If you want to learn more about how to comment attend the AIA Codes and Standards Forum

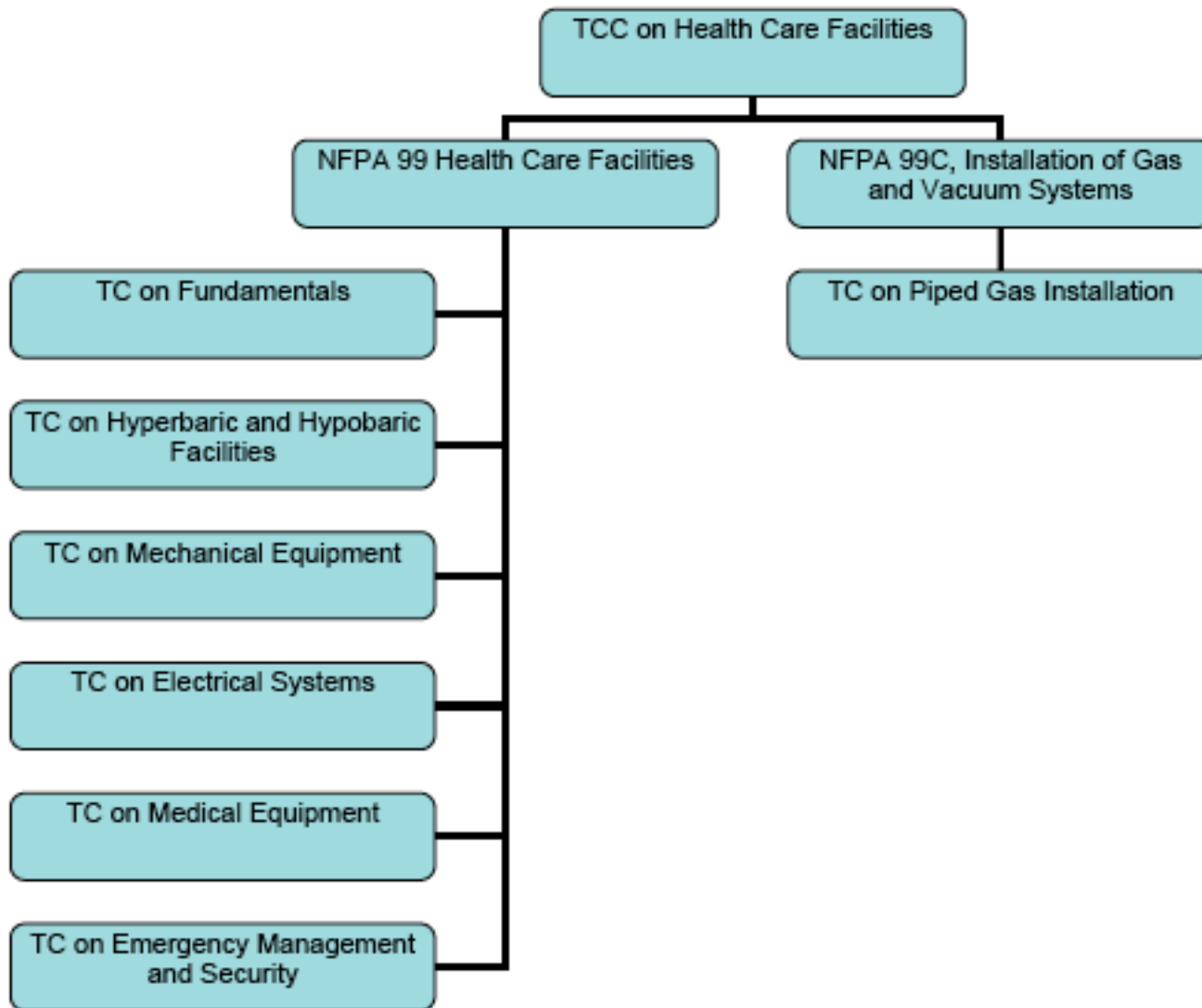
These are your Guidelines, please take
the opportunity to comment!!!

NFPA 99

An Opportunity for A Complete Overhaul

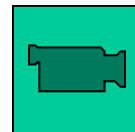
NFPA 99 Review Schedule

- Intent to Enter Cycle-July 2007
- Proposal closing date-November, 26 2007
- ROP published-June, 20 2008
- Comment closing date-September, 28 2008
- ROC published-February 20, 2009
- Association Meeting (adoption of NFPA 99)-
June 2009
- Council issuance-July/August 2009



International Code Council

- 2007 Supplement
 - Marking of smoke and fire barrier walls
 - Elevator lobby smoke doors
 - Approved foam alcohol-based hand-rubs in corridors



ASHRAE 170P

Purpose of Standard

- Define ventilation system design requirements:
 - Environmental control for comfort
 - Asepsis
 - Odor control

Scope of Standard

- Patient care and related staff support areas in:
 - Hospitals
 - Nursing facilities
 - Outpatient facilities
- Applies to:
 - New buildings
 - Additions to existing buildings
 - Alterations

Definition of Alteration

- A significant change either through rearrangement, replacement, or addition:
 - In the function or size of the space
 - In the use of the space's systems
 - In the use of the space's equipment

Existing Building Conformance

- Additions shall comply
- Alterations to mechanical systems - specific to the portion being altered
- Any newly installed mechanical equipment
 - Air handling unit design
 - Filtration
 - Humidification

Existing Building Conformance

- Space Alterations specific to the portion of the system being altered:
 - Critical spaces require an acceptance testing plan
 - Existing equipment validation for capacity and compliance
 - Infection control risk assessment
 - Documentation

Planning

- Owners/managers of health care facilities shall prepare a detailed program:
 - Clinical service expected in each space
 - Specific equipment expected in the space
 - Special clinical needs for temperature, humidity and pressure control

System and Equipment

- Are required to provide:
 - A comfortable environment
 - Ventilation to dilute and remove contaminants
 - Conditioned air
 - Assist in controlling the transmission of airborne infection

System and Equipment

- Emergency power shall be provided for the ventilation systems serving:
 - Airborne infection isolation rooms
 - Protective isolation rooms
 - Class B and C Operating rooms
 - Delivery (Caesarean) Rooms

Note: NFPA 99 requires more HVAC systems/equipment to be on emergency power.

System and Equipment

- Reserve heating and cooling
 - Sources and accessories in a number sufficient to:
 - Meet facilities needs when a system is out of service or down for maintenance
 - Sterilization and dietary purposes
 - Heating for OR, ER, ICU, Recovery, Nursery, and Patient Rooms
 - Cooling
 - Sufficient to meet the owner's operational plan when one unit is out of service or in need of maintenance

Unit Design

- Interior surfaces and components shall be:
 - Of a material which will not support microbial growth
 - Resistant to erosion
 - Accessible for routine maintenance and inspection

Filtration

- MERV 12 filters or greater shall have a permanently installed manometer or differential pressure measuring device
- Filter Bank #1 - upstream of heating and cooling coils
- Filter Bank #2
 - Downstream of all wet air conditioning coils and supply fan
 - Sealing interface surfaces

Humidification

- Humidification shall be provided if outdoor moisture sources are not sufficient.

Speakers note:

This subject needs to be researched as the clinical rationale for needing a defined humidity range is suspect.

Space Ventilation

- Ventilation requirements are minimum and because of the diversity of patient populations DO NOT provide assured protection from:
 - Discomfort
 - Airborne transmission of contagions
 - odors

OR Ventilation

- +0.01 inches of water column
- Unidirectional downward flow
- Type E diffuser with 25 to 35 cfm/ft²
- Primary diffuser 12” beyond surgical table footprint
- Two low level return/exhausts at opposite corners or as far a part as possible

Ventilation Table

- Second edition was very close to FGI/AIA Guidelines
- Third edition has made major changes to some room pressure relationships, humidity, and air changes

Planning, Construction and System Startup

- HVAC acceptance testing program for surgery and critical care spaces
- Access to equipment shall not be through surgical or critical care spaces
- Sufficient space for maintenance
- Sealed floors if above surgery and critical care spaces
- ICRA
- Evaluation of existing equipment

Duct Cleanliness

- Newly installed supply duct shall meet a Class B level as defined by SMACNA Duct Cleanliness for New Construction Guidelines

Informative Appendix A

- OR tested semi-annually for positive pressure
- Protective and Isolation rooms tested daily when occupied
- Filters visually inspected for pressure drop and bypass monthly
- Fan coil and heat pumps inspected monthly
- Drip pans cleaned monthly
- Fin tubes cleaned quarterly

How is ASHE Assisting?

- Continuing to Advocate on National Standards
- Providing Affiliated Chapters with Talking Points on Issues
- Putting Together Strategy for ICC Grass Roots Initiative
- Ask ASHE


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Topic: Carts in Corridor

Question: *I recently conducted a life safety assessment for a hospital and found medication carts parked in the corridor between patient rooms. There was a separate cart for about every four to six rooms. Nurses were not routinely using the meds carts. When I reported that the cart should not be stored in the corridor, the CEO insisted that the carts are allowed because they are wheeled carts and that JCAHO allows wheeled carts to be parked in the egress corridor. I mentioned that I had personally requested a ruling on this issue and that the Standards Interpretation Group had stated that three "attended" carts can be in egress corridors - housekeeping, food, and medication carts. They also stated that crash carts and infection control outside of a patient's room that requires masking and gowning as long as those carts are moved if the fire alarm sounds. The CEO stated that my reported finding was just my interpretation of what is allowed in egress corridors. I have witnessed JCAHO surveyors ignore equipment stored in egress corridors, but I have also had surveyors cite hospitals for allowing carts to be store in egress corridors. Has there been a change is what is allowable in egress corridors?*

Answer: JCAHO has consistently allowed crash carts and isolation carts in the egress hallway (provided that they are only placed there for the time period when isolation procedures are indicated - carts must be removed after the patient is discharged/moved or if isolation precautions are no longer in place) and that, in the event of a fire, the carts and other items in the egress corridor are removed to allow free passage in the corridor. This issue is addressed in the following two Q&A's from EC