



## UNDERSTANDING THE LIFE SAFETY CODE® SURVEY (Medicare Physical Environment)

### Critical Requirements & Frequently Encountered Issues

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## Financial Interest Disclosure

- The presenter provides Health Care Facility consulting services, related to assessment of regulatory compliance & facility design/planning/construction
- He is on retainer with the Accreditation Association for Ambulatory Health Care as their physical environment specialist
- He developed and maintains the Life Safety Code survey process and reference document for the AAAHC's Life Safety Code surveyor cadre



## Necessary background

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- CMS Conditions are formerly and legally adopted through a regulated process of proposal, public comment, reassessment, and adoption/abandonment
- CMS “maintains” (without review or comment) the State Operations Manual, Appendix L, as “guidance to surveyors” for the intent of the adopted Conditions
- The SOM is enforced as regulation.



## Necessary background

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- Adopting any particular edition of the NFPA 101<sup>®</sup> Life safety Code<sup>®</sup> brings with it all “contemporary editions” of every NFPA code and standard in any way referenced from the LSC. Such as the “CMS-current 2000 ed. of NFPA 101, is contemporary to the 1999 NFPA 99, the 1999 NFPA 70, the 1998 NFPA 25, etc. for dozens of others.



## Medicare Facility Compliance Title 42, Code of Federal Regulations

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- § 416.44 Conditions for Coverage (CfCs) - Environment.
  - ✓ The ASC must have a safe and sanitary environment, properly constructed, equipped, and maintained to protect the health and safety of patients.



## Medicare Facility Compliance

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- CMS 416.44 Mandates
  - ✓ ORs/Procedure rooms designed so procedures can be performed to protect lives and assure physical safety of everyone involved
  - ✓ Separate Waiting and Recovery areas
  - ✓ Comply with NFPA 101, 2000 edition
  - ✓ ABHR dispensers allowed under limited conditions.



## Medicare Facility Compliance

### The reality of CMS compliance

- ✓ Spatial & Operational clarifications as published in the CMS State Operations Manual appendix L (Rev. 99, 01-31-14)  
[www.cms.gov/Regulations-and-Guidance/manuals/downloads/som107ap1ambulatory.pdf](http://www.cms.gov/Regulations-and-Guidance/manuals/downloads/som107ap1ambulatory.pdf)
- ✓ Construction and Fire Safety issues per National Fire Protection Association documents . . . . starting with NFPA 101 "The Life Safety Code," and following through numerous other NFPA Standards as referenced therefrom



## Critical issues for "physical environment" compliance in ASCs

1. CMS Conditions – Appendix L of the State Operations Manual (SOM)
2. "Life Safety Code" Compliance . . . . .



## CMS ASC physical environment SOM complications

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- **Separate and Distinct Entity**
  - ✓ Exclusive use of all clinical areas in ASC for ASC
  - ✓ Wholly separate and clearly distinguishable from any other occupancy or use
  - ✓ Non-clinical areas may be physically common, but only if separated by hours of operation -- even with adjacent ASCs
  - ✓ All shared/common areas must fall within the fire wall, required by NFPA 101, between the ASC and any adjacent occupancy



## CMS ASC physical environment SOM complications


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- **Physical Environment minimums to achieve operational mandates**
  - ✓ Patient privacy and dignity
    - Public toilet access without invading ASC care areas
    - Patient toilet access without entering public areas
  - ✓ Monitor & maintain OR/Procedure room temperature, humidity, and "flow"
  - ✓ Business area protects ASC information at all times (separate records)



## Critical issues for “physical environment” compliance in ASCs

1. CMS Conditions – Appendix L of the State Operations Manual (SOM)
2. “Life Safety Code” Compliance . . . . .  
*& so much more.*



## CMS ASC physical environment NFPA 101 & etc. major complications

- Shell Building Fundamentals
  - ✓ Exiting from upper story
    - Fire Protected exit enclosures (stairs)
    - Minimum distance between 2 or more exits – proportional requirements:  $\frac{1}{2}$  ( $\frac{1}{3}$  if fully sprinklered)
  - ✓ Construction type &/or protection if multi-story
    - All structural members everywhere fire-proofed, -or- fire sprinkler system everywhere
  - ✓ Normal & emergency egress lighting extending to public way

## NFPA 101: number of stories

*Exhibit 20/21.2 Determining number of stories for application of minimum construction requirements.*

## Construction Type & Exit Separation

**EXAMPLE: Minimum Separation of required exits from a Suite &/or Building**

## CMS ASC physical environment NFPA 101 & etc. major complications

### ■ Shell Building Fundamentals

- ✓ Floors constitute smoke separations – NO unprotected vertical openings (stairs, atriums, etc) connected/open to required exit passages

- ✓ High-rise buildings:

- Rated Construction
- Fully sprinklered
- Communications room
- Etc.

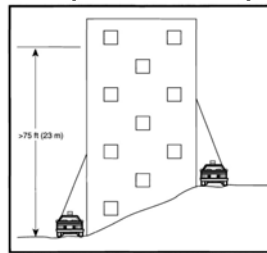


Exhibit 11.4 Determining if building is high-rise in accordance with the 75-ft (23-m) criterion.

## CMS ASC physical environment NFPA 101 & etc. major complications

### ■ ASC Fundamentals

- ✓ Exiting

- Min. proportional distance between 2 or more exits if ASC >2,500 SF:  $\frac{1}{2}$  ( $\frac{1}{3}$  if fully sprinklered)
- Maximum distance to nearest required exit, from any door to an occupiable room
  - 100 FT / 150 FT if building is fully sprinklered
- Maximum distance to nearest required exit from furthest point in occupiable room
  - 150 FT / 200 FT if building is fully sprinklered



## CMS ASC physical environment NFPA 101 & etc. major complications

### ■ ASC Fundamentals

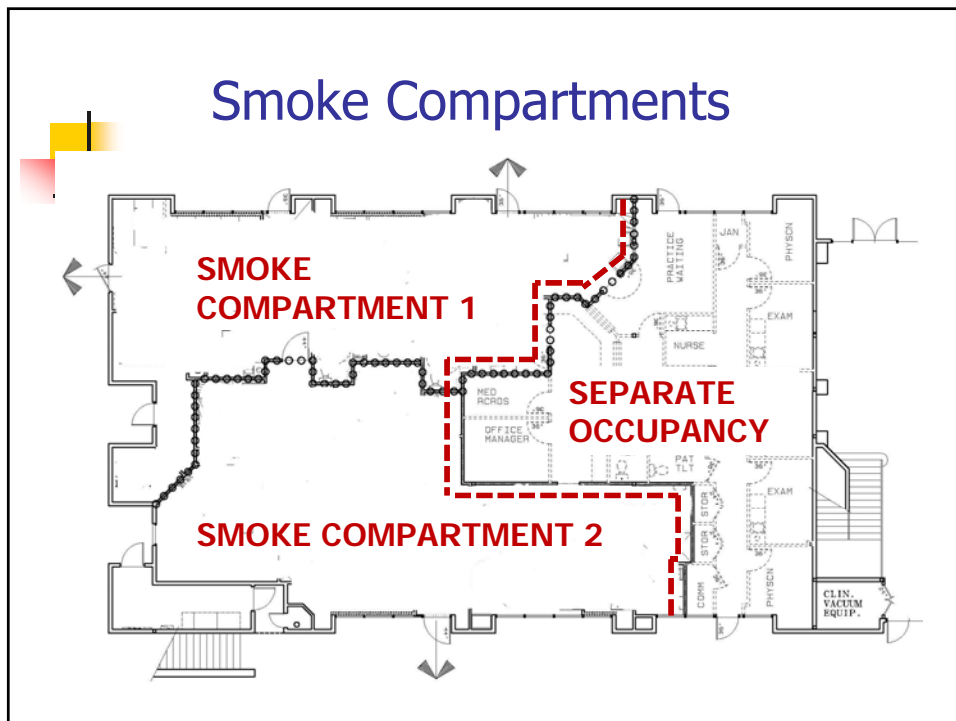
#### ✓ Occupancy Separation

- 1-hour rated (minimum) wall between ASC and any other entity (including practice space of same owner and even another ASC), extending from ASC floor to bottom of floor/roof deck above

#### ✓ Smoke Compartments

- Req'd in ASCs larger than 5,000 SF (10,000 SF if fully sprinklered).
- ASCs < 5,000 SF and not sprinklered are req'd to have "comprehensive" smoke detection system.

## Smoke Compartments



## CMS ASC physical environment NFPA 101 & etc. major complications

### ■ ASC Fundamentals

#### ✓ Fire Alarm Systems – Multi-tenant Shell Building

- Manual pull stations, ≤ 5 FT of EXIT doors
- 1 minimum manual pull
- Each floor is a separate zone

#### ✓ Fire Alarm Systems – ASC itself



- Manual pull station reqd at every EXIT or exit access door from ASC – to exterior, or exit access door to common egress passage
- ASC is a separate zone

## CMS ASC physical environment NFPA 101 & etc. major complications

### ■ ASC Fundamentals

#### ✓ Egress Lighting

- Illuminates exit passage ways from doors to occupiable spaces, to the common way – also in “complex” occupiable rooms (with obstacles to emergency navigation through)
- May not be switched off during hours of occupancy
- Normal source AND alternate source (emergency) power



## CMS ASC physical environment NFPA 101 & etc. major complications

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- ASC Fundamentals

- ✓ Hazardous area protection: 1-hr fire rated enclosure -or- sprinklers
  - Large high density storage
  - Gas-fired equipment (boilers, furnaces)
- ✓ High-hazard area protection: 1-hr fire rated enclosure and sprinklers
  - Contents likely to burn with extreme rapidity or potential/likelihood to explode



## CMS ASC physical environment NFPA 101 & etc. major complications

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- ASC Fundamentals

- ✓ Piped Medical Gas Systems, if provided
  - Manifold configuration & location/separation
  - Alarm system
- ✓ Essential Electrical Systems (EES)
  - Type 3 minimum, Type 1 for general anesthesia
  - Life Safety loads always required
  - Physically & electrically separate panels for Type 1 EES Critical power & Equipment power
  - Alternate source requirements – NFPA 110 / 111

## Piped Medical Gases



## EES Distribution



Type 3 panel



Type 1 panels



## CMS ASC physical environment NFPA 101 & etc. major complications

- ASC Fundamentals

- ✓ Inspection, Testing & Maintenance

- Staff awareness & proactive involvement
    - Initial approval/certification
      - Sprinkler system, if provided
      - Fire alarm system
      - Piped medical gas system, if provided
      - Alternate source of power to the EES
    - Ongoing ITM
      - All above, as applicable
      - Exit signs & egress lighting
      - Etc., anything that may fall out of compliance



## Medicare Facility Compliance

- Waiver parameters

- ✓ Literal compliance must be "impossible"
  - ✓ There can be no adverse effect on occupant safety
  - ✓ Valid until next survey (temporary)

- Existing Power and Piped Medical Gases

- ✓ May continue in use in ASCs continuously Certified by Medicare (new 855 ends it)
  - ✓ March 11, 2003 old/new design standards



## UNDERSTANDING THE LIFE SAFETY CODE® SURVEY (Medicare Physical Environment)

### Frequently Encountered Physical Environment Issues & Citations

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### Why LSC surveys can "*get ugly*"

- Inadequately informed:
  - Consultants
  - Architects
  - Engineers
  - Contractors
  - Building Department Officials
  - Health Department Officials
  - CMS Officials
  - Surveyors



## Why LSC surveys can "get ugly"

- The "grandfathering" myth/hoax
  - "*prior approvals made in error are null upon discovery*"[CMS]
- The *dirty little secret* about NFPA compliance
  - NFPA standards include requirements for maintenance of ongoing compliance
  - CMS holds ASCs solely responsible for assuring continuous compliance with all applicable NFPA & CMS standards



## Common Compliance Problems

### Design/Construction Issues

- ASC waiting room outside fire wall separating ASC from any non-ASC space
- Glass "Store-Front" at ASC entrance/ waiting room in multi-tenant buildings
  - NFPA 101 doesn't allow fire sprinkler equivalency with non-rated glass used in fire rated wall
- Labels (i.e., 45 minute -or- ¾ HR) missing from door &/or frame of fire rated door assemblies

## Common Compliance Problems

### Design/Construction Issues

- Fire/smoke separations not continuous from face of floor to roof deck above



## Common Compliance Problems

### Design/Construction Issues

- Vision panels missing in required smoke compartment doors
- Manual pull fire alarm devices not provided < 5FT from every EXIT & exit access door from ASC
- Constant-ON egress lighting (normal & emergency) not provided: ASC & Common Areas



## Common Compliance Problems

### Design/Construction Issues

- Battery System Alternate Source documentation, maintenance per manufacturer, ventilation, lighting, not permitted in storage locations
- Generator set's remote kill switch, remote annunciator, and/or emergency lighting not provided

## Generator Set Accessories



## Common Compliance Problems

### Design/Construction Issues

- Hydraulic name plate not provided at fire sprinkler riser
- Portable fire extinguishers more than 75 FT from any point in ASC
- Inadequate directional EXIT > signs

## Non-compliant EXIT signs





## Common Compliance Problems

### Design/Construction Issues

- Unenclosed vertical openings not separated from ASC egress path
- Hazardous areas in non-sprinklered buildings not enclosed in 1-hr fire rated construction
- "Combustible" Medical Gas Room interior surfaces (fire rating alone is not enough)
- Clinical vacuum pump missing actuator switch and gauge



## Common Compliance Problems

### Design/Construction Issues

- Medical gas piping not labeled at least once over every room it passes, at both sides of walls penetrated, and at 20 foot intervals in large spaces.
- Type 1 Essential Electrical System distribution doesn't properly separate Life Safety, Critical, and Equipment components at all points downstream of the transfer switch (physical & electrical)

## Type 1 Distribution



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## Common Compliance Problems

### Design/Construction Issues

- Type 1 Essential Electrical System distribution doesn't include all required loads . . . like FACP, elevator & other shared building systems, telephone system, sterilizer, etc.
- Smoke detectors < 36 inches from HVAC supply or return



## Common Compliance Problems

### Mostly Operational

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- ❑ Holes in fire and smoke separation walls
- ❑ Fire Emergency Plan
  - ✓ R.A.C.E. – like . . .  
but really R+CP.A.C.E.(e.)  
*"e" only if necessary to safely R, A, C or E*
  - ✓ Meaningful documentation of required quarterly drills
- ❑ Furnishings & Decorations
  - ✓ NFPA 701 for curtains & hanging fabrics
  - ✓ Upholstered furniture NFPA 261 & 266



## Common Compliance Problems

### Mostly Operational

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- ❑ Significant quantities of decorations are rendered flame retardant
- ❑ Trash & linen receptacles in **unsprinklered** buildings
  - ✓ 32-gallon maximum capacity
  - ✓ Total capacity in a room not enclosed in 1-hour construction is no greater than 1/2 gallon per SF of the room.



## Common Compliance Problems

### Inspection, Testing, & Maintenance

- ✓ Everything that can wear out, or be compromised by use and time, REQUIRES Inspection, Testing, & Maintenance (ITM)
- ✓ Documentation, documentation, documentation
- ✓ Emergency & normal lighting of egress path: bulbs and batteries as applicable
- ✓ Exit sign lighting bulbs and batteries as applicable
- ✓ Fire watch for sprinkler or fire alarm system malfunction of 4+ hours



## Frequently Encountered Issues

### Stuff often missing during a LSC survey

- ✓ Signed and dated record of the Installation Contractor's acceptance test for the sprinkler system, including material and test certificates.
- ✓ High frequency ITM (inspections, testing, & maintenance) documentation for Sprinkler system & Fire Alarm system.
- ✓ Initial approval of piped medical gas & vacuum systems, including Installer Performance Testing & System Verification
- ✓ Maintainable batteries for Level 1 (Type 1 EES) Generator Set



## Frequently Encountered Issues

### Stuff often missing during a LSC survey

- ✓ Documentation of 4-hour + gen set Installation Acceptance testing
- ✓ Documentation of 2-hour annual load test of gen set if monthly does not meet min load or exhaust temp
- ✓ Patient care appliances in critical care areas undergo biomedical testing every 6 months
- ✓ Smoke/fire damper testing and maintenance every 4 years
- ✓ Documentation of electrical receptacle testing
  - New Vs. Existing
  - Hospital Grade Vs. Standard grade



## Frequently Encountered Issues

### Stuff often missing during a LSC survey

- ✓ The "E" in R.A.C.E. does NOT stand for extinguish!!
- ✓ Safe evacuation is the real point of the fire emergency drill; not the cash box, or expensive medical equipment, or fighting the fire . . .
- ✓ "No smoking" signs where it is prohibited in the first place
- ✓ Tags on curtains (NFPA 701), upholstered furniture (NFPA 261 or 266), & mattresses (NFPA 267)



## Common Compliance Problems

### Inspection, Testing, & Maintenance

- **CONSULTATIVE ADVICE** (not requirement):

Any agreements with outside companies for inspection, testing, and/or maintenance of anything should include their responsibility to follow referenced NFPA standards, and to provide the ASC with **documentation** of any and all activity prior to leaving the site.



## Continuous NFPA Compliance

- “Life Safety Systems” inspection, testing, & maintenance.

- ✓ Fire Alarm System – NFPA 72
- ✓ Smoke Alarm System – NFPA 72
- ✓ Automatic Sprinkler System – NFPA 25
- ✓ & more . . . . .

- “Medical Systems” inspection, testing, & maintenance

- ✓ Essential Electrical System – NFPA 70/99/110/111
- ✓ Piped Medical Gas System – NFPA 99





## Medicare Facility Compliance NFPA Standards

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- Waiver parameters
  - ✓ Literal compliance must be “impossible”
  - ✓ There can be no adverse effect on occupant safety
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- Existing Power and Piped Medical Gases
  - ✓ May continue in use in ASCs continuously Certified by Medicare (new 855 ends it)
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## Resources

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**CMS:** *"CMS State Operations Manual Appendix L"*

*<search Internet for exact title>*

**NFPA documents and standards:**

- Start with 101 (2000 ed.) & 99 (1999 ed.)
- Get “Handbook” versions when available

NFPA.org (*free access, if you are v e r y patient*)

**WELdesigns.com** – resources ➡ *white papers*

