“Lunch & Learn”
2014 Webinar Series

Hosted by Bill Lauzon, PE

Lauzon Life Safety Consulting, LLC
262–945–4567
Lauzon.LSC@gmail.com
“Lunch & Learn”
2014 Webinar Series
WHEA WEBINAR SERIES

Introducing WHEA’s 2014 Monthly Webinar Series “Lunch & Learn”
Every 2nd Thursday of the month
11:30 am to 1:00 pm
Available by yearly subscription only.

The Wisconsin Healthcare Engineering Association’s Educational and Professional Development Committee is offering 12 webinars for the 2014 calendar year for a one-time, low price per computer connection.

$349.00 Regular Registration ($25 per webinar)
$300.00 WHEA Member Discount ($22 per webinar)

NO LODGING • NO OVERTIME • ONE TIME PAYMENT

This is a one-off opportunity to stay up to date on current trends with current and future facilities. You will receive comprehensive audio information and training materials. 3 credits available each webinar.

Registration is open now at www.whea.com. Follow the easy, online order to secure your slot.

REGISTRATION DEADLINE: Thursday, March 27, 2014

Lunch & Learn Kicked Off Schedule

1/23 - “Occupational & Environmental Health” Presented by Augusta Health, Augusta, GA

Additional webinars to be presented:

• NFPA 99: Health Care Facilities Code
• ASHRAE 170: Environmental Safety in Health Care Facilities

Mark your calendar and register today!

www.whea.com
Lunch & Learn Kick Off Schedule

1/9  - “Life Safety Code Intro -NFPA 101” (code layout, AHJ’s, new/existing) Bill Lauzon
2/13 - “Occupancy & Construction Type-LSC 18/19.1” (healthcare, business ambulatory) Bill Lauzon
3/13 - “Means of Egress-LSC 18/19.2” (exits, locking, travel distance) Bill Lauzon

**Additional webinars to be presented...**

- “Protective Features - LSC 18/19.3” (vertical openings, haz rms, corridors, suites, smoke compact)
- “Building Services-LSC 18/19.5” (sprinkler, ventilation, electrical, med gas, elevator)

...with 6 more being developed.
# Unofficial Schedule

<table>
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<th>Month &amp; Date</th>
<th>Subject</th>
<th>LSC Chapter</th>
<th>Presenter</th>
<th>Topics Covered</th>
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<tr>
<td>01/09/14</td>
<td>LSC Intro</td>
<td>NFPA 101 (LSC)</td>
<td>Bill Lauzon, PE</td>
<td>Code layout, AHJs, New/Existing</td>
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<td>02/13/14</td>
<td>Occupancy &amp; Construction Type</td>
<td>LSC 18/19.1</td>
<td>Bill Lauzon, PE</td>
<td>Health care, Business, Ambulatory</td>
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<td>03/13/14</td>
<td>Means of Egress</td>
<td>LSC 18/19.2</td>
<td>Bill Lauzon, PE</td>
<td>Exits, Locking, Travel Distance</td>
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<td>04/10/14</td>
<td>Fire Doors</td>
<td>LSC 7.2.1, NFPA 80</td>
<td>TBD</td>
<td>Fire Door Codes, Installation, Inspection</td>
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<td>05/08/14</td>
<td>Protective Features</td>
<td>LSC 18/19.3</td>
<td>Bill Lauzon, PE</td>
<td>Vertical Openings, Haz Rms, Corridors, Suites, Smoke Compartment.</td>
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<tr>
<td>06/12/14</td>
<td>Fire Stopping</td>
<td>LSC 8.2.3.2.4</td>
<td>TBD</td>
<td>Fire Stop Methods &amp; Inspection</td>
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<tr>
<td>07/10/14</td>
<td>Building Services</td>
<td>LSC 18/19.5</td>
<td>Bill Lauzon, PE</td>
<td>Sprinkler, Ventilation, Electrical, Med Gas, Elevator</td>
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<tr>
<td>08/14/14</td>
<td>Ventilation</td>
<td>NFPA 90A, IMC, FGI</td>
<td>TBD</td>
<td>Healthcare Ventilation Basics</td>
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<td>09/11/14</td>
<td>Electrical</td>
<td>NFPA 99, Chap 3</td>
<td>TBD</td>
<td>Essential Electrical Sys, Generator Install &amp; Testing</td>
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<td>10/09/14</td>
<td>Med Gas</td>
<td>NFPA 99, Chap 4</td>
<td>TBD</td>
<td>Med Gas Install &amp; Maintenance</td>
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<td>11/13/14</td>
<td>Operating Features</td>
<td>LSC 18/19.7</td>
<td>TBD</td>
<td>Drills, Policies, Furnishings, Misc</td>
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</tbody>
</table>

Subject to revision
“Lunch & Learn”
2014 Webinar Series

VERY
BASIC!
“Lunch & Learn”
2014 Webinar Series

Audience:

1. Those with Limited knowledge of LSC
2. Those who want to confirm their understanding of the LSC
“Lunch & Learn”

For those who want to understand the “puzzle” of the code
“Lunch & Learn”
2014 Webinar Series

Audience:
Maintenance Staff
Administrators
Contractors
“Lunch & Learn”
2014 Webinar Series

NOT for the Intermediate or Advanced in Code Understanding
Have Questions?

During the Live Webinar:
Click on “chat” in the Lower RH corner
(Bill gets disappointed if people don’t ask questions)

During viewing the posted Webinar:
Call Bill Lauzon (262–945–4567) or
E–Mail at Lauzon.LSC@gmail.com
“Lunch & Learn”
2014 Webinar Series

JANUARY, 2014
INTRODUCTION
TO THE LIFE
SAFETY CODE
Lunch & Learn Webinar
Jan 9  Agenda

1. AHJ’s
2. NFPA
3. Life Safety Code Overview
4. Chapter 1 – Administration
5. Chapter 2 – Referenced Codes
6. Chapter 3 – Definitions
7. Chapter 4 – General Rules
8. Chapter 5 – Performance Design
9. Chapter 6 – Hazard of Contents
AHJ
(Authorities Having Jurisdiction)

Who ARE They?
To Understand Codes you must Understand About Authorities
Anyone that establishes conditions that you are

• legally required to follow, or
• agree to follow

is an Authority

In other words, you’ve consciously agreed to follow their rules to get what they provide
Typical Health Care Authorities
Authorities

Usually have complete ability to determine if the conditions of the law/agreement are being followed.

They are the Authorities Having Jurisdiction (AHJ).

“Almighty Health Judge”
No AHJ
Can OVER-RULE any other AHJ.

Each set of rules stand on their own.

Example:
The State cannot overrule the Fire Dept

Locals can adopt more stringent rules, not less stringent
You NEED to follow the MOST RESTRICTIVE of all of the rules

Example: “Is an exit sign needed in a particular location?”

Final Answer: “Yes”

You can’t shop around for the most favorable ruling!
BIG 5 AHJ’s (in Health Care)

1. Centers for Medicare & Medicaid (CMS)

2. The Joint Commission on Accreditation (TJC)


4. The Dept of Safety & Professional Services (DSPS)

5. Local Fire Departments
Authorities Having Jurisdiction

CMS
DQA
TJC

DSPS
FD

(AHJ)
Big 3 AHJ’s
How are they Related?
CMS - DQA Relationships

Federal Funding AHJ

Hire to do CMS Inspections

Wis Licensing AHJ

"Deem" a LSC Inspection

Accreditation AHJ (Optional)
The Biggest 3 AHJ’s have adopted NFPA 101 “THE LIFE SAFETY CODE” (2000 edition)

They use it to evaluate if a facility is safe
From licensure, accreditation & federal reimbursement perspectives there is One Uniform Building Survey Rule.
HOWEVER, From a construction perspective there is a Different Building Construction Code
AND, From a fire prevention perspective each local jurisdiction can choose a **Different Fire prevention Code**
- Multiple AHJ’s
- Use Different Codes
- Don’t Need to Listen to Each Other
The 3 largest AHJ’s have adopted NFPA 101 “THE LIFE SAFETY CODE” (2000 edition)
Adoption of the Life Safety Code (LSC)

First, CMS Adopts it …

Then … DQA & TJC Adopt it
Adoption of the Life Safety Code (LSC)

CMS Adoption Process
(Congressionally mandated)

- Publish Intent to Adopt in Federal Register
- Hearings
- Public Comment Period

Typically: Takes 3 Years

- Response to Public Comments
- Congressional Action
DATE: May 8, 2003

FROM: Director
Survey and Certification Group

SUBJECT: Adoption of New Fire Safety Requirements for Religious Non-medical Health Care Institutions (RNHCIs), Ambulatory Surgical Centers (ASCs), Hospice, Programs of All-Inclusive Care for the Elderly (PACE), Hospitals, Long Term Care, Intermediate Care Facilities for the Mentally Retarded (ICFs/MR), and Critical Access Hospitals (CAHs)

TO: Survey and Certification Regional Office Management (G-5)
State Survey Agency Directors/State Fire Authorities

The purpose of this memorandum is to notify states and regional offices (ROs) of the publication on January 10, 2003, in the Federal Register (68 FR 1374), of a final rule entitled “Medicare and Medicaid Programs; Fire Safety Requirements for Certain Health Care Facilities.” A copy of the regulation is attached.

This regulation requires the adoption of the 2000 edition of the Life Safety Code (LSC) of the National Fire Protection Association (NFPA) for RNHCIs, ASCs, Hospice, PACE, Hospitals, Long Term Care, ICFs/MR, and CAHs. This regulation adopting the 2000 edition of the LSC eliminates references to all earlier editions of the LSC such as the 1967, 1973, 1981, and 1985 found in current regulations. The adoption of the 2000 edition of the LSC will also, where required, update reference documents to more current editions and provide more state-of-the-art fire protection features for healthcare facilities.

All RNHCIs, ASCs, Hospice, PACE, Hospitals, Long Term Care, and CAH facilities are required to comply with the requirements of the 2000 edition of the LSC. This edition of the LSC code has been expanded to include a chapter for existing board and care facilities and a completely new chapter for facilities that want to use a performance based design option in designing their facilities, rather than using the prescriptive code requirements. This performance based option outlines a process that can be used to determine whether the building design satisfies the fire safety goals and objectives specified in the LSC. The performance based design option provides the engineer with design flexibility. We are also continuing to allow facilities to use the Fire Safety Evaluation System (FSES) (2001 edition) to comply with fire safety requirements. The authority to grant waivers of specific requirements of the LSC is maintained with one change; waiver approval for ICFs/MR will now be at the RO level rather than the state level.
Get Copies by: Googling “DQA Construction”

S&C Letters
(Standards & Certification)
Get Copies by: Googling “DQA Construction”
This website provides instructions on how to submit plan reviews to the Department of Health Services (DHS), Division of Quality Assurance (DQA) for construction and remodeling of:

- Hospitals
- Nursing homes
- Facilities for the Developmentally Disabled (FDD)
- Community based residential facilities (CBRF)
- Adult Family Homes (AFH)
- Residential Care Apartment Complexes (RCAC)
- Hospice inpatient facilities
- Business occupancies physically attached to a hospital, nursing home, CBRF, or hospice inpatient facility
- Ambulatory Surgical Centers/End Stage Renal Dialysis Facilities (Courtesy Review)

The authority for DHS plan review specifically relates to the building, heating ventilation and air conditioning (HVAC) systems, and fire protection for construction projects for the above listed health care facilities.

"Preliminary" reviews are mandated for hospital and nursing home projects to ensure compliance with the appropriate codes, familiarize the department with construction projects, and establish communication links. Regulations requiring this "preliminary" review for hospitals can be located...
A "courtesy" plan review may be submitted to DHS for review of construction plans for ambulatory surgical centers and end stage renal dialy.

owner intends to become certified in the Medicare (CMS) program.

DHS has the authority to grant a "permission to start" for only two conditions as long as an application is received and an additional fee is paid.

- demolition work prior to remodeling
- footings and foundation work

NOTE: Unique systems not reviewed by DHS for the providers listed above include plumbing systems, private onsite waste treatment, elevators, and mechanical refrigeration systems. These systems are under the jurisdiction of the Department of Safety and Professional Services for review. For more information, their plan submittal process is available at: [http://dps.wi.gov/Plan-Review](http://dps.wi.gov/Plan-Review)

Follow these links, in the order listed, to begin the plan review process:

1. [Rules, Regulations & Guidelines](#)
2. [Forms](#) (applications, permit to start, fee calculator)
3. [Business Flow Charts](#) (Authority Having Jurisdiction)
4. [DQA Plan Intake Staff and Inspectors](#) (names and contact information)
5. [Construction Inspections](#) (Compliance Statement & Inspection Checklists)
6. [Code Interpretations](#)
7. [Informational Memorandums](#) (Centers for Medicare/Medicaid, DQA)
8. [DQA Plan Application Status Report](#) (Status of DQA Review)

PDF: The free Acrobat Reader® software is needed to view and print portable document format (PDF) files. [Learn more](#).
Division of Quality Assurance Construction/Remodeling for Health Care Facilities

Information Memos

The following memorandums are provided to assist plan review and construction related activities. Two separate lists are provided: Medicaid Services (CMS) and the Department of Health Services, Division of Quality Assurance.

- **DQA Numbered Memos** - Common memorandums related to the health care physical environment.

For additional memorandums not specifically identified on these lists, contact [http://www.cms.hhs.gov/SurveyCertificationGenInfo/Pages/searchmemos.aspx](http://www.cms.hhs.gov/SurveyCertificationGenInfo/Pages/searchmemos.aspx) respectively.

Last Updated: October 03, 2013

Info Memos (Fed & State)
### Memos

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<th>Pages</th>
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<td>Interior Finish Documentation Requirements for Multiple Providers</td>
<td>2</td>
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Life Safety Code

NFPA 101
Life Safety Code®

National Fire Protection Association
An International Codes and Standards Organization
NFPA
(National Fire Protection Association)

- Nonprofit
- Established in 1896
- Purpose: Reduce hazards on the quality of life
- Consensus codes & standards (Over 300)
- Research, Training & Education
- NFPA Membership: Over > 70,000 individuals
NFPA
(National Fire Protection Association)

Anyone Can Join

Safety codes and standards available online for Members FREE

Members Vote on Code Revisions

1 Batterymarch Park
Quincy, Massachusetts
USA 02169-7471
1-617-770-3000
NFPA
(National Fire Protection Association)

CONSENSUS CODES

Members of NFPA make Proposals & Vote to revise codes
Proposal Forms are available at the back of Code Books with Instructions.
NFPA
(National Fire Protection Association)

CONSENSUS CODES

Hundreds of Technical Committees of members study proposals

- HealthCare
- Fire Protection
- Flammable Liquids
- Fire Doors
- (TC for just about any topic)
NFPA
(National Fire Protection Association)

CONSENSUS CODES

Members vote at the annual national meeting on recommended code revisions
Annual National NFPA Conference
NFPA
(National Fire Protection Association)

NFPA CODES FREQUENTLY USED IN HEALTH CARE

1 – Fire Prevention
10 – Fire Extinguishers
13 – Sprinkler Sys
15 – Standpipes & Hoses
25 – Maintenance of Water Sys
30 – Flammable Liquids code
37 – Stationary Combustion Engines
45 – Laboratories Using Chemicals
NFPA
(National Fire Protection Association)

NFPA CODES FREQUENTLY USED IN HEALTH CARE

50–Bulk Oxygen Systems
54–National Fuel Gas Code
70–National Electrical Code
72–National Fire Alarm Code
80–Fire Doors
82–Waste & Linen Handling Systems
90A–HVAC Standard
92–Smoke Control Systems
NFPA
(National Fire Protection Association)

NFPA CODES FREQUENTLY USED IN HEALTH CARE

96–Commercial Cooking Operations
99–Health Care Facilities Code
101–Life Safety Code
101A–Alternative Approaches to LS
105–Smoke Door Assemblies
110–Emergency Generators
241–Construction Safeguards
(and many more)
The Best Known NATIONALLY RECOGNIZED CODES

Electrical  Fire  Sprinkler  Prevention  Life Safety

Codes are typically updated every 3 years
Codes are typically updated every 3 years.

For Example, Editions of LSC


(under way)
Codes are typically updated every 3 years.

To HAVE any EFFECT a Code MUST BE ADOPTED BY AN AUTHORITY HAVING JURISDICTION.

Editions of LSC:
(under way)
## Adoption of the Life Safety Code (LSC)

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Life Safety Code
Origin and Development of NFPA 101

The *Life Safety Code* had its origin in the work of the Committee on Safety to Life of the National Fire Protection Association, which was appointed in 1913. In 1912 a pamphlet titled *Exit Drills in Factories, Schools, Department Stores and Theaters* was published following its presentation by the late Committee member R. H. Newhall at the 1911 Annual Meeting of the Association. Although the pamphlet’s publication antedated the organization of the Committee, it was considered a Committee publication.

For the first few years of its existence, the Committee on Safety to Life devoted its attention to a study of the notable fires involving loss of life and to analyzing the causes of this loss of life. This work led to the preparation of standards for the construction of stairways, fire escapes, etc., for fire drills in various occupancies, and for the construction and arrangement of exit facilities for factories, schools, and other occupancies. These reports were adopted by the National Fire Protection Association and published in pamphlet form as *Outside Stairs for Fire Exits* (1916) and *Safeguarding Factory Workers from Fire* (1918). These pamphlets served as a groundwork for the present *Code*. These pamphlets were widely circulated and put into general use.

In 1921 the Committee on Safety to Life was enlarged to include representatives of certain interested groups not previously participating in the standard’s development. The Committee then began to further develop and integrate previous Committee publications to provide a comprehensive guide to exits and related features of life safety from fire in all classes of occupancy. Known as the *Building Exits Code*, various drafts were published, circulated, and discussed over a period of years, and the first edition of the *Building Exits Code* was published by the National Fire Protection Association in 1927. Thereafter, the Committee continued its deliberations, adding new material on features not originally covered and revising various details in the light of fire experience and practical experience in the use of the *Code*. New editions were published in 1929, 1934, 1936, 1938, 1939, 1942, and 1946 to incorporate the amendments adopted by the National Fire Protection Association.

National attention was focused on the importance of adequate exits and related fire safety features after the Cocoanut Grove Night Club fire in Boston in 1942 in which 492 lives were lost. Public attention to exit matters was further stimulated by the series of hotel fires in 1946 (LaSalle, Chicago — 61 dead; Canfield, Dubuque — 19 dead; and the Winecoff, Atlanta — 119 dead). The *Building Exits Code*, thereafter, was used to an increasing extent for regulatory purposes. However, the *Code* was not written in language suitable for adoption into law, as it had been drafted as a reference document and contained advisory provisions that were useful to building designers but inappropriate for legal use. This led to a decision by the Committee to re-edit the entire *Code*, limiting the body of the text to requirements suitable for mandatory application and placing advisory and explanatory material in notes. The re-editing expanded *Code* provisions to cover additional occupancies and building features to produce a complete document. The *Code* expansion was carried on concurrently with development of the 1948, 1949, 1951, and 1952 editions. The results were incorporated in the 1956 edition and further refined in subsequent editions dated 1957, 1958, 1959, 1960, 1961, and 1963.

In 1955, NFPA 101B, on nursing homes and NFPA 101C, on interior finish, were published. NFPA 101C was revised in 1956. These publications have since been withdrawn.

In 1963 the Committee on Safety to Life was restructured to represent all interested factions and to include only those members with broad knowledge of fire matters. The Committee served as a review and correlating committee for seven sectional committees whose
LSC developed slowly over the years in response to many deaths from fires
1929 – Cleveland Clinic (125 deaths)
1942 – Cocoanut Grove (492 deaths)
Most Nightclub Deaths
71 DEAD IN NURSING HOME FIRE; LICENSE FOR PLACE HAD BEEN HELD UP BY STATE

Raging Fire Draws On-Lookers to Scene

WIRING, 2 OTHER FACTORS CITED IN INSPECTION AT WARRENTON

“Competent Electrician” Had Not Examined System, Report Shows — Home Was Allowed to Operate.

By RAY WEBSTER JR.
A Staff Correspondent of the Post-Digal hitch.

WARRENTON, Mo., Feb. 18
—At least 71 persons died here yesterday in a fire in a nursing home, whose license renewal had been held up by the state as a result of a recent inspection. It was the worst fire in Missouri's history.

One of three reasons for holding up the license renewal was

1957 – Warrenton Nsg Home (71 deaths)
1977 – Station Nightclub (100 deaths)
2003 – Hartford Nursing Home
Evolution of the Life Safety Code (LSC)

1912 ..... Exit Drills pamphlet
1927 ..... Building Exits Code
1967 ..... Code for Safety to Life
Evolution of the LSC

CHANGING DESIGN PHILOSOPHY

1. Compartmentation (Passive Protection) 
   ’67 – ’70 – ‘73

2. Detection & Notification (Active Protection) 
   ’76 – ’81 – ‘85

3. Extinguishment (Active Protection) 
   ’91 & later
NO ONE has died in over 100 years in a FULLY sprinkled (and fully maintained) building

Applicable to: (if receiving Fed $)

- Hospitals
- Nursing Homes
- Hospices
- Ambulatory Surgery Clinics
- Dialysis Clinics
- Medical Clinics
ORGANIZATION OF THE LSC

• Introductory Chapters 1–6
• Core Chapters 7–11
• Occupancy Chapters 12–42
• Annex
2014 Lunch & Learn

- Introductory Chapters 1–6
- Core Chapters 7–11
- Occupancy Chapters 12–42
- Annex
ANNEX

1. Contains Explanatory Information
2. Non–binding – not part of the code

Located at the END of the Code
You DON’T need to memorize the Codes ...

You just need to know where to look

- **Occupancy Chapters**
  - Assembly .................. Chapters 12/13
  - Health Care .......... Chapters 18/19
  - Ambulatory Care .... Chapters 20/21
  - Residential B & C .... Chapters 32/33
  - Business ................. Chapters 38/39
  - Storage .................. Chapter 42

- **Occupancy Chapters**
  - Assembly .................. Chapters 12/13
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  - Storage .................. Chapter 42

1. Explains **WHEN** requirements are needed
2. **NEW** verses **EXISTING**

- **NEW** (even # chapters) = constructed/remodeled after Mar 2003

- **EXISTING** (even # chapters) = constructed/remodeled before Mar 2003

• **Occupancy Chapters**
  - Assembly..................Chapters 12/13
  - Health Care .......... Chapters 18/19
  - Ambulatory Care....Chapters 20/21
  - Residential B & C....Chapters 32/33
  - Business.................Chapters 38/39
  - Storage..................Chapter 42

• **Core Chapters**
  - Means of Egress......Chapter 7
  - Construction.........Chapter 8
  - Bldg Svc Equip.......Chapter 9
  - Finishes/Contents....Chapter 10

Explains **HOW** to comply

• **Core Chapters**
  - Means of Egress…….Chapter 7
  - Construction..........Chapter 8
  - Bldg Svc Equip........Chapter 9
  - Finishes/Contents....Chapter 10

• Occupancy Chapters
  - Assembly ………….Chapters 12/13
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• Core Chapters
  - Means of Egress…..Chapter 7
  - Construction……….Chapter 8
  - Bldg Svc Equip……….Chapter 9
  - Finishes/Contents….Chapter 10

TYPES OF REQUIREMENTS

1. “If Permitted”
2. “If Required”
3. Required Everywhere
Vertical Line = Revisions from Prior Code
14.2.5.5 Horizontal Exits. Horizontal exits complying with 7.2.4 shall be permitted.
14.2.5.6 Ramps. Ramps complying with 7.2.5 shall be permitted.
14.2.5.7 Exit Passageways. Exit passageways complying with 7.2.6 shall be permitted.
14.2.5.8 Fire Escape Ladders. Fire escape ladders complying with 7.2.9 shall be permitted.
14.2.5.9 Alternating Tread Devices. Alternating tread devices complying with 7.2.11 shall be permitted.
14.2.5.10 Areas of Refuge. Areas of refuge complying with 7.12 shall be permitted.

14.2.6 Capacity of Means of Egress.

14.2.6.1 Capacity of means of egress shall be in accordance with Section 7.5.

14.2.6.2 Minimum Corridor Width. Exit access corridors shall have a clear width of not less than 3 ft. (0.9 m).

14.2.6.3 Number of Exits. Not less than two separate exits shall be provided:

(1) On every story
(2) Accessible from every part of every story and mezzanine

14.2.6.4 Arrangement of Means of Egress. Arrangement of means of egress shall be in accordance with Section 7.6.

14.2.6.5 Areas of egress shall be arranged in accordance with Section 7.6.

14.2.6.6 No dead-end corridor shall exceed 20 ft. (0.1 m), other than in buildings protected throughout by an approved automatic sprinkler system in accordance with Section 9.7, in which case dead-end corridors shall not exceed 50 ft. (15 m).

14.2.6.7 No common path of travel shall exceed 75 ft (23 m), other than for the first 100 ft (30 m) in a building protected throughout by an approved automatic sprinkler system in accordance with Section 9.7.

14.2.6.8 Every room that is normally subject to student occupancy shall have an exit access door leading directly to an exit access corridor or exit.

Exception No. 1: This requirement shall not apply where an exit door opens directly in the outside to an exterior balcony or corridor as defined in 14.2.6.7.

Exception No. 2: One room shall be permitted to intervene between any occupant and an exit access corridor, provided that all of the following criteria are met:

(a) The travel from a room served by an intervening room in the corridor or exit shall not exceed 27 ft. (23 m).
(b) Lighting, personal effects, or other materials deemed hazardous by the authority having jurisdiction shall be stored in metal lockers, provided that they do not obstruct the exit access, or the intervening room shall be sprinklered in accordance with Section 9.7.
(c) One of the following means of protection shall be provided:

(1) The intervening rooms shall have approved fire detection that activates the building alarms.
(2) The building shall be protected by an approved automatic sprinkler system in accordance with Section 9.7.

14.2.5.5 Doors that swing into an exit access corridor shall be arranged to prevent interference with corridor travel. (See also 7.2.4.6.)

14.2.5.6 Aisles. Aisles shall be not less than 30 in. (91 cm) wide. The space between parallel rows of seats shall not be subject to the minimum aisle width, provided that the number of seats that intervene between any seat and an aisle do not exceed six.

14.2.5.7a Exterior Corridors or Balconies. Exterior exit access shall comply with 7.5.2.

14.2.6 Travel Distance to Exits. Travel distance to an exit shall not exceed 150 ft (45 m) from any point in a building. (See also Section 5.6.7.)

Exception: Travel distance shall not exceed 200 ft (60 m) in educational occupancies protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

14.2.7 Discharge from Exits. Discharge from exits shall be arranged in accordance with Section 7.7.

14.2.8 Illumination of Means of Egress. Means of egress shall be illuminated in accordance with Section 7.8.

14.2.9 Emergency Lighting. Emergency lighting shall be provided in accordance with Section 7.9 in the following areas:

(1) Interior stairs and corridors
(2) Assembly use spaces
(3) Fixed and open plan buildings
(4) Interior or windowless portions of buildings
(5) Shops and laboratories

14.2.10 Marking of Means of Egress. Means of egress shall have signs in accordance with Section 7.10.

14.2.11 Special Means of Egress Features.

14.2.11.1 Windows for Rescue. Every room or space greater than 250 ft² (23.2 m²) used for classrooms or other educational purposes or normally subject to student occupancy shall have not less than one outside window for emergency rescue that complies with the following:

(1) Such windows shall be operable from the inside without the use of tools and shall provide a clear opening of not less than 30 in. (76 cm) in width, 36 in. (91 cm) in height, and 5.7 ft² (0.55 m²) in area.
(2) The bottom of the opening shall be not more than 44 in. (112 cm) above the floor, and any latching device shall be capable of being operated from not more than 51 in. (130 cm) above the finished floor.
(3) The clear opening shall allow a rectangular solid, with a width and height that provides not less than the required 5.7 ft² (0.55 m²) opening, and a depth of not less than 20 in. (51 cm), to pass fully through the opening.
(4) Such windows shall be accessible by the fire department and shall open into an area having access to a public way.

Exception No. 1: This requirement shall not apply in buildings protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

Exception No. 2: This requirement shall not apply where the room or space has a door leading directly to the outside of the building.

Exception No. 3: This requirement shall not apply to rooms located higher than three stories above grade.
LSC  Convention #2

[*] = Explanation in Annex

SECTION 1.5 EQUIVALENCY

1.5.1* Nothing in this Code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this Code. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5.2* Equivalent Compliance. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this Code.
A.1.5.2 An equivalent method of protection provides an equal or greater level of safety. It is not a waiver or deletion of a Code requirement.

The prescriptive provisions of this Code provide specific requirements for broad classifications of buildings and structures. These requirements are stated in terms of fixed values, such as maximum travel distance, minimum fire resistance ratings, and minimum features of required systems, such as, detection, alarm, suppression, and ventilation, and not in terms of overall building or system performance.

However, the equivalency clause in 1.5.2 permits the use of alternative systems, methods, or devices to meet the intent of the prescribed code provisions where approved as being equivalent. Equivalency provides an opportunity for a performance-based design approach. Through the rigor of a performance-based design, it can be demonstrated whether or not a building design is satisfactory and complies with the implicit or explicit intent of the applicable code requirement.

When employing the equivalency clause, it is important to clearly identify the prescriptive-based code provision being addressed (scope), to provide an interpretation of the intent of the provision (goals and objectives), to provide an alternative approach (proposed design), and to provide appropriate support for the suggested alternative (evaluation of proposed designs).

Performance resulting from proposed designs can be compared to the performance of the design features required by this Code. Using prescribed features as a baseline for comparison, it can then be demonstrated in the evaluation whether a proposed design offers the intended level of performance. A comparison of safety provided can be used as the basis for establishing equivalency.
14.2.3 Capacity of Means of Egress.
14.2.3.1 Capacity of means of egress shall be in accordance with Section 7.3.
14.2.3.2 Minimum Corridor Width. Exit access corridors shall have not less than 6 ft (1.8 m) of clear width.

14. Not less than two separate exits shall be as follows:
(1) Provided on every story
(2) Accessible from every part of every story and mezzanine

14.2.5 Arrangement of Means of Egress. (See also Section 7.5.)
14.2.5.1 Means of egress shall be arranged in accordance with Section 7.5.
14.2.5.2 No dead-end corridor, other than in buildings more than 5 stories in height by an approved, supervised automatic sprinkler system in accordance with Section 9.7, in which case dead-end corridors shall not exceed 50 ft (15 m).
14.2.3 Capacity of Means of Egress.

14.2.3.1 Capacity of means of egress shall be in accordance with Section 7.3.

14.2.3.2 Minimum Corridor Width. Exit access corridors shall have not less than 6 ft (1.8 m) of clear width.

14.2.4 Number of Exits. Not less than two separate exits shall be as follows:

(1) Provided on every story
(2) Accessible from every part of every floor

14.2.5 Arrangement of Means of Egress.

14.2.5.1 Means of egress shall be arranged in accordance with Section 7.5.

14.2.5.2 No dead-end corridors shall exceed 20 ft (6.1 m), other than in buildings equipped with a sprinkler system in accordance with Section 9.7, in which case dead-end corridors shall not exceed 50 ft (15 m).
Chapter 3 DEFINITIONS

SECTION 3.1 GENERAL

3.1.1 The following terms, for the purposes of this Code, shall have the meanings given in this chapter, if not otherwise modified for a specific occupancy.

3.1.2 Words used in the present tense shall include the future; words used in the masculine gender shall include the feminine and neuter; the singular number shall include the plural, and the plural number shall include the singular.

3.1.3 Where terms are not defined in this chapter or within an occupancy chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. Webster’s Third New International Dictionary of the English Language, Unabridged, shall be a source for ordinarily accepted meaning.

SECTION 3.2 OFFICIAL NFPA DEFINITIONS

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction. The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3 Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall. Indicates a mandatory requirement.

3.2.7 Should. Indicates a recommendation or that which is advised but not required.

SECTION 3.3 GENERAL DEFINITIONS

3.3.1 Accessible Area of Refuge. See 3.3.14.1, Area of Refuge, Accessible.

3.3.2 Accessible Means of Egress. See 3.3.12.1.1, Means of Egress, Accessible.

3.3.3 Addition. An extension or increase in the floor area or height of a building or structure.

3.3.4 Air-Inflated Structure. See 3.3.197.1, Structure, Air-Inflated.

3.3.5 Air-Supported Structure. See 3.3.197.2, Structure, Air-Supported.

3.3.6* Aisle Accessway. The initial portion of an exit access that leads to an aisle.

3.3.7 Alternative Calculation Procedure. A calculation procedure that differs from the procedure originally employed by the design team but that provides predictions for the same variables of interest.

3.3.8 Ambulatory Health Care Occupancy. See 3.3.154.1, Occupancy, Ambulatory Health Care.

3.3.9 Analysis, Sensitivity. An analysis performed to determine the degree to which a predicted output will vary given a specified change in an input parameter, usually in relation to models.

3.3.10 Analysis, Uncertainty. An analysis performed to determine the degree to which a predicted value will vary.

3.3.11 Anchor Store. A department store or major merchandising center that has direct access to the covered mall but in which all required means of egress is independent of the covered mall.

3.3.12 Apartment Building. See 3.3.25.1, Building, Apartment.

3.3.13 Area. See 3.3.81, Floor Area, Gross and 3.3.82, Floor Area, Net.

3.3.13.1 Area, Gross Leasable. The total floor area designated for tenant occupancy and exclusive use, expressed in square feet (square meters), measured from the centerlines of adjoining partitions and exteriors of outside walls.

3.3.13.2 Area, Hazardous. An area of a structure or building that poses a degree of hazard greater than that normal to the general occupancy of the building or structure, such as areas used for the storage or use of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.

3.3.13.3 Area, Living. Any normally occupiable space in a residential occupancy, other than sleeping rooms or rooms that are intended for combination sleeping/living, bathrooms, toilet compartments, kitchens, closets, halls, storage or utility spaces, and similar areas.

3.3.14* Area of Refuge. An area that is either (1) a story in a building where the building is protected throughout by an approved, supervised automatic sprinkler system and has not less than two accessible rooms or spaces separated from each other by smoke-resisting partitions; or (2) a space located in a path of travel leading to a public way that is protected from the effects of fire, either by means of separation from other spaces in the same building or by virtue of location, thereby permitting a delay in egress travel from any level.

3.3.14.1 Area of Refuge, Accessible. An area of refuge that complies with the accessible route requirements of CABO/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities.

3.3.15 Assembly Occupancy. See 3.3.154.2, Occupancy, Assembly.

3.3.16 Atmosphere, Common. The atmosphere that exists between rooms, spaces, or areas within a building that are not separated by an approved smoke barrier.
Assigned a Number to Key Elements in the LSC (for ease of citation reference)

“K TAG”
“K TAG”

Published in Form 2786
## BUILDING CONSTRUCTION

### PART I - LSC REQUIREMENTS - Items in italics relate to the FSES

**K11** If the building has a common wall with a nonconforming building, the common wall is a fire barrier having at least a two hour fire resistance rating constructed of materials as required for the addition. Communicating openings occur only in corridors and shall be protected by approved self-closing fire doors with at least 1½ hour fire resistance rating. 18.1.1.4.1, 18.1.1.4.2, 18.2.3.2, 19.1.1.4.1, 19.1.1.4.2

### Building construction type and height meets one of the following:

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<thead>
<tr>
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<tr>
<td>1</td>
<td>I (443), I (332), II (222)</td>
<td>Any Height</td>
</tr>
<tr>
<td>2</td>
<td>II (111)</td>
<td>One story only (non-sprinklered).</td>
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<tr>
<td>3</td>
<td>II (111)</td>
<td>Not over three stories with complete automatic sprinkler system.</td>
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<td>4</td>
<td>III (211)</td>
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<td>5</td>
<td>V (111)</td>
<td>Not over two stories with complete automatic sprinkler system.</td>
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<td>6</td>
<td>IV (2H-I)</td>
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<td>7</td>
<td>II (000)</td>
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<td>8</td>
<td>III (200)</td>
<td>Not over one story with complete automatic sprinkler system.</td>
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<tr>
<td>9</td>
<td>V (000)</td>
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☐ Building contains fire treated wood.

*Give a brief description, in REMARKS, of the construction, the number of stories, including basements, floors on which patients are located, location of smoke or fire barriers and dates of approval. Complete sketch or attach small floor plan of the building as appropriate.*
If the building has a common wall with a nonconforming building, the common wall is a fire barrier having at least a two hour fire resistance rating constructed of materials as required for the addition. Communicating openings occur only in corridors and shall be protected by approved self-closing fire doors with at least 1 ½ hour fire resistance rating.

Code # References

Used as “Regulatory Reference” in federal Statement of Deficiencies (SOD)
<table>
<thead>
<tr>
<th>ID PREFIX</th>
<th>2000 NEW</th>
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<tr>
<td>Width of aisles or corridors (clear and unobstructed) serving as exit access in hospitals and nursing homes shall be at least 8 feet. In limited care facility and psychiatric hospitals, width of aisles or corridors shall be at least 6 feet. 18.2.3.3. 18.2.3.4</td>
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<tr>
<th>ID PREFIX</th>
<th>2000 EXISTING</th>
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<tr>
<td>Exit access doors and exit doors used by health care occupants are of the swinging type and are at least 32 inches in clear width. An exception is provided for existing 34-inch doors in existing occupancies. 19.2.3.5</td>
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<tr>
<th>ID PREFIX</th>
<th>2000 NEW</th>
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</thead>
<tbody>
<tr>
<td>Exit access doors and exit doors used by health care occupants are of the swinging type and are at least 41.5 inches in clear width. Doors in exit stairway enclosures shall be no less than 32 inches in clear width. In psychiatric hospitals or limited care facilities (e.g., ICF/MD providing medical treatment) doors are at least 32 inches wide. 18.2.3.5</td>
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<thead>
<tr>
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<tr>
<td>All sleeping rooms have a door leading to a corridor providing access to an exit or have a door leading directly to grade. One room may intervene in accordance with 18.2.5.1, 19.2.5.1 If doors lead directly to grade from each room, check this box.</td>
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<tr>
<td>Any patient sleeping room or suite of rooms of more than 1,000 sq. ft. has at least 2 exit access doors remote from each other. 18.2.5.2, 19.2.5.2</td>
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<tr>
<td>Patient room doors are arranged such that the patients can open the door from inside without using a key. Special door locking arrangements are permitted in facilities. 18.2.2.2.4, 18.2.2.2.5, 19.2.2.2.4, 19.2.2.2.5</td>
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<tr>
<td>Horizontal exits, if used, are in accordance with 7.2.4. 18.2.2.5, 19.2.2.5</td>
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<td>Exit and directional signs are displayed in accordance with 7.10 with continuous illumination also served by the emergency lighting system. 18.2.10.1, 19.2.10.1 (Indicate N/A in one story existing occupancies with less than 30 occupants where the line of exit travel is obvious.)</td>
<td></td>
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</table>
Built Prior to Adoption

2000 EXISTING
Exit access doors and exit doors used by health care occupants are of the swinging type and are at least 32 inches in clear width. An exception is provided for existing 34-inch doors in existing occupancies. 19.2.3.5

Built After Adoption

2000 NEW
Exit access doors and exit doors used by health care occupants are of the swinging type and are at least 41.5 inches in clear width. Doors in exit stairway enclosures shall be no less than 32 inches in clear width. In psychiatric hospitals or limited care facilities (e.g., ICF/MD providing medical treatment) doors are at least 32 inches wide. 18.2.3.5
Full Set Available at CMS.gov

Search: “Form 2786”

2786_(Suffix)
R = Hospital & Nursing Home
U = Dialysis & Ambulatory Surgery Center
V,W = Intermediate Care Facility for Disabled

T,S = Fire Safety Evaluation System (FSES)
The Life Safety Code

Let’s OPEN it Up
TABLE OF CONTENTS
ALWAYS make sure you are using the correct “adopted” edition
Also giving page # would make the Index easier to use
NFPA 101®

Code for
Safety to Life from Fire in Buildings and Structures

2000 Edition

NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

Information on referenced publications can be found in Chapter 2 and Annex B.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

Chapter 1 ADMINISTRATION

SECTION 1.1 TITLE

1.1.1 Code Title. NFPA 101®, Code for Safety to Life from Fire in Buildings and Structures, shall be known as the Life Safety Code®, is cited as such, and shall be referred to herein as the Code or “the Code.”

SECTION 1.2* SCOPE

1.2.1* Danger to Life from Fire. The Code addresses those construction, protection, and occupancy features necessary to minimize danger to life from fire, including smoke, fumes, or panic.

1.2.2 Egress Facilities. The Code establishes minimum criteria for the design of egress facilities so as to permit prompt escape of occupants from buildings or, where desirable, into safe areas within buildings.

1.2.3 Other Considerations. The Code addresses other considerations that are essential to life safety in recognition of the fact that life safety is more than a matter of egress. The Code also addresses protective features and systems, building services, operating features, maintenance activities, and other provisions in recognition of the fact that achieving an acceptable degree of life safety depends on additional safeguards to provide adequate egress time or protection for people exposed to fire.

1.2.4 Areas Not Addressed. The Code does not address the following:

(1) *General fire prevention or building construction features that are normally a function of fire prevention codes and building codes

(2) Prevention of personal injuries incurred by an individual’s own negligence

(3) Preservation of property from loss by fire

SECTION 1.3* PURPOSE

1.3.1* Code Purpose. The purpose of this Code is to provide minimum requirements, with due regard to function, for the design, operation, and maintenance of buildings and structures for safety to life from fire. Its provisions will also aid life safety in similar emergencies.

SECTION 1.4* APPLICATION

1.4.1* New and Existing Buildings and Structures. The Code shall apply to both new construction and existing buildings and structures.

1.4.2 Vehicles and Vessels. The Code shall apply to vehicles, vessels, or other similar conveyances, as defined in Section 11.6, in which case such vehicles and vessels shall be treated as buildings.

SECTION 1.5 EQUIVALENCY

1.5.1* Nothing in this Code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this Code. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5.2* Equivalent Compliance. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this Code.

SECTION 1.6 UNITS AND FORMULAS

1.6.1 SI Units. Metric units of measurement in this Code are in accordance with the modernized metric system known as the International System of Units (SI).

1.6.2 Primary and Equivalent Values. If a value for a measurement as given in this Code is followed by an equivalent value in other units, the first stated value shall be regarded as the requirement. A given equivalent value might be approximate.

1.6.3 Conversion Procedure. SI units have been converted by multiplying the quantity by the conversion factor and then rounding the result to the appropriate number of significant digits.

SECTION 1.7* ENFORCEMENT

1.7.1 Administration and Enforcement. This Code shall be administered and enforced by the authority having jurisdiction designated by the governing authority.
Recommended Code Evaluation Procedures

1. Occupancy Class?
2. New/Existing?
3. Occupant Load?
4. Content Hazard?
5–9. Apply Occupancy Requirements

A.1.2 The following is a suggested procedure for determining the Code requirements for a building or structure:

1. Determine the occupancy classification by referring to the occupancy definitions in Chapter 6 and the occupancy chapters 12 through 42 (see 6.1.14 for buildings with more than one use).
2. Determine if the building or structure is new or existing (see the definitions in Chapter 3).
3. Determine the occupant load (see 7.3.1).
4. Determine the hazard of contents (see Section 6.2).
5. Refer to the applicable occupancy chapter of the Code (Chapters 12 through 42) (see Chapters 1 through 4 and 6 through 11, as needed, for general information (such as definitions) or as directed by the occupancy chapter).
6. Determine the occupancy subclassification or special use condition, if any, by referring to Chapters 18 and 19, health care occupancies; Chapters 22 and 23, detention and correctional occupancies; Chapters 28 and 29, hotels and dormitories; Chapters 32 and 33, residential board and care occupancies; and Chapters 36 and 37, mercantile occupancies, which contain subclassifications or special use definitions.
7. Proceed through the applicable occupancy chapter to verify compliance with each referenced section, subsection, paragraph, subparagraph, and referenced codes, standards, and other documents.
8. Where two or more requirements apply, the occupancy chapter generally takes precedence over the base Chapters 1 through 4 and 6 through 11.
9. Where two or more occupancy chapters apply, such as in a mixed occupancy (see 6.1.14), the most restrictive requirements apply.
SECTION 1.5 EQUIVALENCY

1.5.1* Nothing in this Code is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety over those prescribed by this Code. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.5.2* Equivalent Compliance. Alternative systems, methods, or devices approved as equivalent by the authority having jurisdiction shall be recognized as being in compliance with this Code.

Example Alternative: FSES  Fire Safety Evaluation System
“use as a last resort”

Only Valid until:

1. Next inspection
2. Any change of staffing
3. Any change of patient beds
4. Any remodeling
5. Any deficiency
6. Any AHJ who refuses to honor
SECTION 1.7 ENFORCEMENT

1.7.1 Administration and Enforcement. This Code shall be administered and enforced by the authority having jurisdiction designated by the governing authority.
CHAPTER 2

MANDATORY REFERENCED CODES

(2 PAGES)
The Life Safety Code
Is a PRIMARY CODE

It references other Codes & Standards
2.1 The following documents or portions thereof are referenced within this Code as mandatory requirements and shall be considered part of the requirements of this Code. The edition indicated for each referenced mandatory document is the current edition as of the date of the NFPA issuance of this Code. Some of these mandatory documents might also be referenced in this Code for specific informational purposes and, therefore, are also listed in Annex B.

The numbers in parentheses represent the paragraph numbers from chapters of this Code that reference the given publication in a mandatory way.
ONLY the 1999 Edition of NFPA 99 has been adopted by CMS, DQA, The Joint Commission
CHAPTER 2
MANDATORY REFERENCED CODES

LIST OF CODE EDITIONS
ONLY BUY THESE
Common Construction Standards:

NFPA 80 – Fire Doors (1999 edition)
NFPA 82 – Chutes (1999 edition)
NFPA 10 – Extinguishers (1998 ed)
NFPA 220 – Construction Types (1999 edition)
NFPA 221 – Fire Walls/Barriers (1999 edition)
Common Utility Standards:

NFPA 13–Sprinkler Installation (1999 edition)
NFPA 92– Smoke Control (1999 edition)
NFPA 110–Generators (1999 edition)

NFPA 90A–Ventilation (1999 edition)
Best to Have These

- Installation of Sprinkler Systems
- NFPA 99 Health Care Facilities 1999 Edition
The LSC points to STANDARDS that describe HOW to install/maintain systems.
CHAPTER 2  
MANDATORY REFERENCED CODES  

1 – NOTE THE SPECIFIC EDITION  
2 – APPLIES ONLY TO PARAGRAPHS LISTED 

The numbers in parentheses represent the paragraph numbers from chapters of this Code that reference the given publication in a mandatory way.
EXAMPLE:

NFPA 99 is mandatory in existing health care in 3 situations:

19.3.2.2 = Laboratories with haz amounts of chemical  
19.3.2.3 = Anesthetizing locations  
19.3.2.4 = Medical gas storage
AHJ has the power to accept existing installations

“The Committee on Safety to Life recognizes that it is sometimes impractical to continually upgrade existing buildings or installations to comply with all the requirements of the following referenced publications. Existing buildings or installations that do not comply with the provisions of the following referenced publications shall be permitted to be continued in service, provided the lack of conformity with these standards does not present a serious hazard to the occupants as determined by the authority having jurisdiction.”

“Grand–Fathering”
You DON’T need to memorize the Codes …

You just need to know where to look
CHAPTER 3 DEFINITIONS

SECTION 3.1 GENERAL

3.1.1 The following terms, for the purposes of this Code, shall have the meanings given in this chapter, if not otherwise modified for a specific occupancy.

3.1.2 Words used in the present tense shall include the future when its use in the masculine gender shall include both male and neuter; the singular number shall include the plural, and the plural number shall include the singular.

3.1.3 Where terms are not defined in this chapter or in an occupancy chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. Webster’s Third New International Dictionary of the English Language, Unabridged, shall be a source for ordinarily accepted meaning.

SECTION 3.2 OFFICIAL NFPA DEFINITIONS

3.2.1 Approved. Acceptable to the authority having jurisdiction.

3.2.2 Authority Having Jurisdiction. The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3 Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.5 Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.6 Shall. Indicates a mandatory requirement.

3.2.7 Should. Indicates a recommendation or that which is advised but not required.

SECTION 3.3 GENERAL DEFINITIONS

3.3.1 Accessible Area of Refuge. See 3.3.14.1, Area of Refuge, Accessible.

3.3.2 Accessible Means of Egress. See 3.3.121.1, Means of Egress, Accessible.

3.3.3 Addition. An extension or increase in the floor area or height of a building or structure.

3.3.4 Air-Inflated Structure. See 3.3.197.1, Structure, Air-Inflated.

3.3.5 Air-Supported Structure. See 3.3.197.2, Structure, Air-Supported.

3.3.6* Aisle Accessway. The initial portion of an exit access that leads to an aisle.

3.3.7 Alternative Calculation Procedure. A calculation procedure that differs from the procedure originally employed by the design team but that provides predictions for the same variables of interest.

3.3.8 Ambulatory Health Care Occupancy. See 3.3.184.1, Occupancy, Ambulatory Health Care.

3.3.9 Analysis, Sensitivity. An analysis performed to determine the degree to which a predicted output will vary given a specified change in an input parameter, usually in relation to models.

3.3.10 Analysis, Uncertainty. An analysis performed to determine the degree to which a predicted value will vary.

3.3.11 Anchor Store. A department store or major merchandising center that has direct access to the covered mall but in which all required means of egress is independent of the covered mall.

3.3.12 Apartment Building. See 3.3.25.1, Building, Apartment.

3.3.13 Area. See 3.3.81, Floor Area, Gross and 3.3.82, Floor Area, Net.

3.3.13.1 Area, Gross Leasable. The total floor area designated for tenant occupancy and exclusive use, expressed in square feet (square meters), measured from the interior finish of partitions and exteriors of outside walls.

3.3.13.2 Area, Hazardous. An area of a structure having a hazard that poses a degree of hazard greater than that normal to the general occupancy of the building or structure, such as areas used for the storage or use of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.

3.3.13.3 Area, Living. Any normally occupiable space in a residential occupancy, other than sleeping rooms or rooms that are intended for combination sleeping/living, bathrooms, toilet compartments, kitchens, closets, halls, storage or utility spaces, and similar areas.

3.3.14* Area of Refuge. An area that is either (1) a story in a building where the building is protected throughout by an approved, supervised automatic sprinkler system and has not less than two accessible rooms or spaces separated from each other by smoke-resisting partitions; or (2) a space located in a path of travel leading to a public way that is protected from the effects of fire, either by means of separation from other spaces in the same building or by virtue of location, thereby permitting a delay in egress travel from any level.

3.3.14.1 Area of Refuge, Accessible. An area of refuge that complies with the accessible route requirements of CABO/ANSI A117.1, American National Standard for Accessible and Usable Buildings and Facilities.

3.3.15 Assembly Occupancy. See 3.3.134.2, Occupancy, Assembly.

3.3.16 Atmosphere, Common. The atmosphere that exists between rooms, spaces, or areas within a building that are not separated by an approved smoke barrier.
3.1.3 Where terms are not defined in this chapter or within an occupancy chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Webster’s Third New International Dictionary of the English Language, Unabridged*, shall be a source for ordinarily accepted meaning.
If not defined in chapter 3, use the dictionary:

**abandonment**

Etymology: French *abandonnement*, from *abandonner* to abandon (from Old French *abandoner*) + -ment -- more at abandon

1a) the act of abandoning: relinquishment, renunciation <such freedom meant the ~ of many long-cherished phrases -- I.M.Price>
b) (1) : desertion of a spouse with the intention of creating a permanent separation (2) : desertion of a child by its parents
EXAMPLE DEFINITIONS:

3.2.2* Authority Having Jurisdiction. The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.3.13.2 Area, Hazardous. An area of a structure or building that poses a degree of hazard greater than that normal to the general occupancy of the building or structure, such as areas used for the storage or use of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.

3.3.104 Hospital. A building or portion thereof used on a 24-hour basis for the medical, psychiatric, obstetrical, or surgical care of four or more inpatients.
EXAMPLE DEFINITIONS:

3.2.2* Authority Having Jurisdiction. The organization, office, or individual responsible for approving, inspecting, materials, an installation, or a process.

3.3.13.2 Area, Hazardous. A structure or building that poses a degree of risk to the general occupancy of the building or structure, such as areas used for storage of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.

CMS (the AHJ) uses the rule that ONE inpatient makes it a hospital!

3.3.104 Hospital. A building or portion thereof used on a 24-hour basis for the medical, psychiatric, obstetrical, or surgical care of four or more inpatients.
EXAMPLE DEFINITIONS:

NEW = After Mar, 2003
EXISTING = Before Mar, 2003

CMS officially adopted 2000 LSC on March 11, 2003
CHAPTER 4 GENERAL

SECTION 4.1* GOALS

4.1.1* Fire and Similar Emergency. The goal of this Code is to provide an environment for the occupants that is reasonably safe from fire and similar emergencies by the following means:
(1) Protection of occupants not intimate with the initial fire development
(2) Improvement of the survivability of occupants with the initial fire development

4.1.2* Crowd Movement. An additional goal is to provide reasonably safe emergency crowd movement and, where required, reasonably safe nonemergency crowd movement.

SECTION 4.2 OBJECTIVES

4.2.1 Occupant Protection. A structure shall be designed, constructed, and maintained to protect occupants who are not intimate with the initial fire development for the time needed to evacuate, relocate, or defend in place.

4.2.2 Structural Integrity. Structural integrity shall be maintained for the time needed to evacuate, relocate, or defend in place occupants who are not intimate with the initial fire development.

4.2.3 Systems Effectiveness. Systems utilized to achieve the goals of Section 4.1 shall be effective in mitigating the hazard or condition for which they are being used, shall be reliable, shall be maintained to the level at which they were designed to operate, and shall remain operational.

SECTION 4.3 ASSUMPTION

4.3.1* Single Fire Source. The protection methods of this Code assume a single fire source.

SECTION 4.4 LIFE SAFETY COMPLIANCE OPTIONS

4.4.1 Options. Life safety meeting the goals and objectives of Sections 4.1 and 4.2 shall be provided in accordance with either of the following:
(1) The prescriptive-based provisions per 4.4.2
(2) The performance-based provisions per 4.4.5

4.4.2 Prescriptive-Based Option. A prescriptive-based life safety design shall be in accordance with Chapters 1 through 4, Chapters 6 through 9, and Chapters 11 through 14.

4.4.2.2 Where specific requirements contained in Chapters 11 through 14 differ from general requirements contained in Chapters 1 through 4, and Chapters 6 through 10, the requirements of Chapters 11 through 14 shall govern.

4.4.3 Performance-Based Option. A performance-based life safety design shall be in accordance with Chapters 1, 2, and 3, Sections 4.1 through 4.4.6.9.2, and Chapter 5 of this Code.

SECTION 4.5 FUNDAMENTAL REQUIREMENTS

4.5.1 Multiple Safeguards. The design of every building or structure intended for human occupancy shall be such that reliance for safety to life does not depend solely on any single safeguard. An additional safeguard(s) shall be provided for life safety in case any single safeguard is ineffective due to inappropriate human actions or system failure.

4.5.2 Appropriateness of Safeguards. Every building or structure shall be provided with means of egress and other safeguards of the kinds, numbers, locations, and capacities appropriate to the individual building or structure, with due regard to the following:
(1) Character of the occupancy
(2) Capabilities of the occupants
(3) Number of persons exposed
(4) Fire protection available
(5) Height and type of construction of the building or structure
(6) Other factors necessary to provide occupants with a reasonable degree of safety

4.5.3 Means of Egress. Every building or structure shall be provided with means of egress and other safeguards of the kinds, numbers, locations, and capacities appropriate to the individual building or structure, with due regard to the following:
(1) Character of the occupancy
(2) Capabilities of the occupants
(3) Number of persons exposed
(4) Fire protection available

4.5.4 Unobstructed Egress. Every building or structure shall be provided with means of egress and other safeguards of the kinds, numbers, locations, and capacities appropriate to the individual building or structure, with due regard to the following:
(1) Character of the occupancy
(2) Capabilities of the occupants
(3) Number of persons exposed
(4) Fire protection available

4.5.5 Awareness of Egress System. Every exit shall be clearly visible, or the route to reach every exit shall be conspicuously indicated. Each means of egress, in its entirety, shall be arranged or marked so that the way to a place of safety is indicated in a clear manner.

4.5.6 Lighting. Where artificial illumination is needed in a building or structure, egress facilities shall be included in the lighting design.

4.5.7 Occupant Notification. In every building or structure of such size, arrangement, or occupancy that a fire itself might not provide adequate occupant warning, fire alarm facilities shall be provided where necessary to warn occupants of the existence of fire.

4.5.8 Vertical Openings. Every vertical opening between the floors of a building shall be suitably enclosed or protected, as necessary, to afford reasonable safety to occupants while using the means of egress and to prevent spread of fire, smoke, or flames through vertical openings from floor to floor before occupants have entered exits.

4.5.9 System Design/Installation. Any fire protection system, device, equipment, feature of protection, or safeguard provided for life safety shall be designed, installed, and approved in accordance with applicable NFPA standards.

4.5.10 Maintenance. Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of this Code, such device, equipment, system, condition, arrangement, level of protection, or other feature shall thereafter be maintained unless the Code exempts such maintenance.
## 4.6 General Requirements

### 4.6.1 Authority Having Jurisdiction

The authority having jurisdiction shall determine whether the provisions of this Code are met.

### 4.6.2 Historic Buildings

The provisions of this Code shall be permitted to be modified by the authority having jurisdiction for buildings or structures identified and classified as historic buildings or structures where it is evident that a reasonable degree of safety is provided.

### 4.6.3 Modification of Requirements for Existing Buildings

Where it is evident that a reasonable degree of safety is provided, the requirements for existing buildings shall be permitted to be modified if their application would be impractical in the judgment of the authority having jurisdiction.

### 4.6.4 Time Allowed for Compliance

A limited but reasonable time, commensurate with the magnitude of expenditure, disruption of services, and degree of hazard, shall be allowed for compliance with any part of this Code for existing buildings.

### 4.6.5 Referenced Publications

Existing buildings or installations that do not comply with the provisions of the referenced standards contained in this document (see Chapter 2) shall be permitted to be continued in service, provided that the lack of conformity with these standards does not present a serious hazard to the occupants as determined by the authority having jurisdiction.

### 4.6.6 Additions

Additions shall conform to the provisions of this Code for new construction.

### 4.6.7 Modernization or Renovation

Any alteration or renovation shall meet, as applicable, the requirements for new construction. Only the altered, renovated, or modernized portion of an existing building, system, or individual component shall be required to meet the provisions of this Code that are applicable to new construction.

If the alteration, renovation, or modernization adversely impacts required life safety features, additional upgrading shall be required. Existing life safety features that do not meet the requirements for new buildings, but that exceed the requirements for existing buildings, shall not be further diminished. In no case shall the resulting life safety features be less than those required for existing buildings.

### 4.6.8 Provisions in Excess of Code Requirements

Nothing in this Code shall be construed to prohibit a better type of building construction, an additional means of egress, or any other feature or feature that is required for compliance with the provisions of this Code, such device, equipment, system, condition, arrangement, level of protection, or other feature shall be required by the authority having jurisdiction.

### 4.6.9 Conditions for Occupancy

4.6.9.1 No new construction or existing building shall be occupied in whole or in part in violation of the provisions of this Code unless the following conditions exist:

1. A plan of correction has been approved.
2. The occupancy classification remains the same.
3. No serious life safety hazard exists as judged by the authority having jurisdiction.

4.6.9.2 Where compliance with this Code is affected by means of a performance-based design, the owner shall annually certify compliance with the conditions and limitations of the design by submitting a warrant of fitness acceptable to the authority having jurisdiction. The warrant of fitness shall attest that the building features, systems, and use have been inspected and confirmed to remain consistent with design specifications outlined in the documentation required by Section 5.8 and that they continue to satisfy the goals and objectives specified by Sections 4.1 and 4.2 (see Chapter 5).
CHAPTER 4
GENERAL

4.6.12.4 Maintenance and testing shall be under the supervision of a responsible person who shall ensure that testing and maintenance are made at specified intervals in accordance with applicable NFPA standards or as directed by the authority having jurisdiction.

SECTION 4.7* FIRE DRILLS

4.7.1 Where Required. Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapters 11 through 42, or by appropriate action of the authority having jurisdiction. Drills shall be designed in cooperation with the local authorities.

4.7.2* Drill Frequency. Emergency egress and relocation drills, where required by Chapters 11 through 42 or the authority having jurisdiction, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine.

4.7.3 Competency. Responsibility for the planning and conduct of drills shall be assigned only to competent persons qualified to exercise leadership.

4.7.4 Orderly Evacuation. In the conduct of drills, emphasis shall be placed on orderly evacuating rather than on speed.

4.7.5* Simulated Conditions. Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.

4.7.6 Relocation Area. Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.
SECTION 4.1* GOALS

4.1.1* Fire and Similar Emergency. The goal of this Code is to provide an environment for the occupants that is reasonably safe from fire and similar emergencies by the following means:

(1) Protection of occupants not intimate with the initial fire development
(2) Improvement of the survivability of occupants intimate with the initial fire development

Protect People that are
- AWAY from the fire
- NEAR the fire
Follow “Occupancy” requirements OVER “Core” requirements
The 10 Fundamental LS Requirements
1. Multiple Safeguards
2. Appropriateness of Safeguards
3. Number of Means of Egress
4. Unobstructed Egress
5. Awareness of Egress System
6. Lighting
7. Occupant Notification
8. Vertical Openings
9. System Design/Installation
10. Maintenance
10 Fundamentals

1. Multiple Safeguards

- Exits + Enclosure + Sprinkling
This EXIT sign may not be appropriate in the USA
10 Fundamentals

3–Number of Means of Egress

Multiple Remote Exits

Find at least TWO exits out of a building
10 Fundamentals

4– Unobstructed Egress

Don’t Block/Lock Exits
10 Fundamentals

5 – Awareness of Egress System

Staff Trained & Drilled on Smoke Compartment + Building Exiting
10 Fundamentals

6– Lighting

Min 1 foot candle

Internal & External Pathways on Emergency Power
10 Fundamentals

7 – Occupant Notification

Automatic Alarms
10 Fundamentals

8– Vertical Openings

Enclosed & Rated Shafts
10 Fundamentals

9 – System Design/Installation
10 Fundamentals

10 – Maintenance

Mandatory Inspections
Typically used when an inspector doesn’t know what/if a code that applies

“General Duty Clause”
4.6.7* Modernization or Renovation. Any alteration or any installation of new equipment shall meet, as nearly as practicable, the requirements for new construction. Only the altered, renovated, or modernized portion of an existing building, system, or individual component shall be required to meet the provisions of this Code that are applicable to new construction. If the alteration, renovation, or modernization adversely impacts required life safety features, additional upgrading shall be required. Existing life safety features that do not meet the requirements for new buildings, but that exceed the requirements for existing buildings, shall not be further diminished. In no case shall the resulting life safety features be less than those required for existing buildings.
CONSTRUCTION

4.6.10.1* Buildings or portions of buildings shall be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures acceptable to the authority having jurisdiction are in place.
4.6.10.2* In buildings under construction, adequate escape facilities shall be maintained at all times for the use of construction workers. Escape facilities shall consist of doors, walkways, stairs, ramps, fire escapes, ladders, or other approved means or devices arranged in accordance with the general principles of the Code insofar as they can reasonably be applied to buildings under construction.
4.6.12.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance with the provisions of this Code, such device, equipment, system, condition, arrangement, level of protection, or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or as directed by the authority having jurisdiction.
4.6.12.2* Existing life safety features obvious to the public, if not required by the Code, shall be either maintained or removed.
4.6.12.3 Equipment requiring periodic testing or operation to ensure its maintenance shall be tested or operated as specified elsewhere in this Code or as directed by the authority having jurisdiction.
4.7.3 Competency. Responsibility for the planning and conduct of drills shall be assigned only to competent persons qualified to exercise leadership.

4.7.4 Orderly Evacuation. In the conduct of drills, emphasis shall be placed on orderly evacuation rather than on speed.

4.7.5* Simulated Conditions. Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency.

4.7.6 Relocation Area. Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given.
Chapter 5  PERFORMANCE-BASED OPTION

SECTION 5.1 GENERAL REQUIREMENTS

5.1.1* Application. The requirements of this chapter shall apply to life safety systems designed to the performance-based option permitted by 4.4.3.

5.1.2 Goals and Objectives. The performance-based design shall meet the goals and objectives of this Code in accordance with Sections 4.1 and 4.2.

5.1.3* Approved Qualifications. The performance-based design shall be prepared by a person with qualifications acceptable to the authority having jurisdiction. (See also 5.8.12.)

5.1.4* Indirect Qualifications shall be met by a third party evaluation of the design.

5.1.5 Source documents shall be met using worst conservatism assumptions. Justification of design shall be provided.

5.1.6 Final design shall make assumptions objective.

5.1.7* Maintain assumptions required for performance goals throughout the life of the building. The design shall include design specifications of the authority having jurisdiction. (See also 4.6.7.)

5.1.8 Specific Alternative. See 3.3.38.

Chapter 5 PERFORMANCE DESIGN

Performance Based Alternative to the Prescriptive Code

Rarely used...

a) Can’t control human behavior;

b) Unsure who evaluates & how;

c) Liability issues open to litigation;

d) Mostly professional opinion-based
CHAPTER 6

OCCUPANCY & HAZARDS

Lunch & Learn

Occupancy

Will cover

in next

SECTION 6.1. CLASSIFICATION OF OCCUPANCY AND HAZARD OF CONTENTS

6.1.1 General. The classification of occupancy is based on the nature of the building, the type and degree of protection required, and the hazard of the contents. The classification shall be based on the occupancy of the building, the number of people using the building, and the nature of the activity in the building.

6.1.2 Classification of Occupancy. The classification of occupancy shall be determined by the type of building and the nature of the activity conducted in the building. The classification shall be based on the number of people using the building and the nature of the activity conducted in the building.

6.1.3 Classification of Hazard of Contents. The classification of hazard of contents shall be based on the nature and quantity of the contents in the building and the degree of protection required for the contents.

6.1.4 Classification of Type of Building. The classification of type of building shall be based on the type of construction, the material used in the building, and the type of occupancy.
CHAPTER 6
OCCUPANCY & HAZARDS

SECTION 6.2 HAZARD OF CONTENTS

6.2.1.1 General

6.2.2 Classification of Hazard of Contents

6.2.2.1 The hazard of contents of any building or structure shall be classified as low, ordinary, or high in accordance with 6.2.2.2, 6.2.2.3, and 6.2.2.4.

6.2.2.2 Low Hazard. Low hazard contents shall be classified as those of such low combustibility that no self-propagating fire therein can occur.

6.2.2.3 Ordinary Hazard. Ordinary hazard contents shall be classified as those that are likely to burn with moderate rapidity or to give off a considerable volume of smoke.

6.2.2.4 High Hazard. High hazard contents shall be classified as those that are likely to burn with extreme rapidity or from which explosions are likely. (For means of egress requirements, see Section 9.4.)
6.2.1.2 Hazard of contents shall be determined by the authority having jurisdiction on the basis of the character of the contents and the processes or operations conducted in the building or structure.
HAZARD OF CONTENTS

6.2.2.1* The hazard of contents of any building or structure shall be classified as low, ordinary, or high in accordance with 6.2.2.2, 6.2.2.3, and 6.2.2.4.

6.2.2.2* **Low Hazard.** Low hazard contents shall be classified as those of such low combustibility that no self-propagating fire therein can occur.

6.2.2.3* **Ordinary Hazard.** Ordinary hazard contents shall be classified as those that are likely to burn with moderate rapidity or to give off a considerable volume of smoke.

6.2.2.4* **High Hazard.** High hazard contents shall be classified as those that are likely to burn with extreme rapidity or from which explosions are likely. *(For means of egress requirements, see Section 7.11.)*
## HAZARD OF CONTENTS

Used in other parts of the LSC for:

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<th>Low</th>
<th>Ordinary</th>
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NOT used for Sprinkler Coverage (NFPA 13)
NOT used for Hazardous Area Classification
Lunch & Learn Webinar
Jan 9  Agenda

1. AHJ’s
2. NFPA
3. Life Safety Code Overview
4. Chapter 1 – Administration
5. Chapter 2 – Referenced Codes
6. Chapter 3 – Definitions
7. Chapter 4 – General Rules
8. Chapter 5 – Performance Design
9. Chapter 6 – Hazard of Contents
Have Questions?

During the Live Webinar:
Click on “chat” in the Lower RH corner

During viewing the posted Webinar:
Call Bill Lauzon (262-945-4567) or
E-Mail at Lauzon.LSC@gmail.com
You DON’T need to memorize the Codes ...

You just need to know where to look
“Lunch & Learn”
2014 Webinar Series

JANUARY, 2014
INTRODUCTION TO THE LIFE SAFETY CODE