TEST YOUR CODE KNOWLEDGE

LENNON PEAKE, P.E., SASHE
KOFFEL COMPLIANCE, LLC
INTRODUCTION

Lennon Peake, P.E., SASHE

- Director
- NFPA technical committees and ASHE involvement (local & national)
- 15+ years industry experience
THE “TEST” SYSTEM

- Question displayed
- Use clicker to select response
- Further discussion and explanation based on percentage of correct responses
THE “TEST” SYSTEM

- Press any key to turn on device
- Confirm channel is 41
- When instructed to do so, select appropriate **black** letter key
QUESTION CATEGORIES

- **NFPA 101®**
- NFPA 99
- Reference Standards
- NFPA 13, NFPA 25, NFPA 72, NFPA 105
Who will win the PGA golf tournament?

A. Tiger Woods
B. Jordan Speith
C. Another American
D. A non-American
The 100 ft maximum allowable suite travel distance is measured from any point in the suite to which location?

A. Smoke barrier door  
B. Exit access door  
C. Exit stair door  
D. All of the above
Answer B – Exit Access Door

- **LSC 2012 §18/19.2.5.7.2.4(A) and 18/19.2.5.7.3.4(A)**
- **LSC 2015**
  - suite travel distance can be measured to a horizontal exit or door to another suite
  - “exit access door” replaced with “exit access corridor door”
FIRE FIGHTERS EMERGENCY OPERATION

Which existing elevator is required to be provided with fire fighters’ emergency operations?

A. Elevator serving 2 floors
B. Elevator serving 3 floors
C. Elevator with vertical travel 35 ft from primary recall floor
D. Elevator with vertical travel 25 ft from primary recall floor
Answer D - Elevator with vertical travel 25 ft from primary recall floor

- LSC 2012 §9.4.3.2

- LSC language references 25 ft of travel above or below the level that best serves the needs of emergency personnel for fire-fighting or rescue purposes
FIRE ALARM VISIBLE SIGNALS

An existing fire alarm strobe is located 50 ft from the end of a corridor. What modification is required to meet LSC provisions?

A. No modification required
B. Relocate/add strobe within 5 ft of end of corridor
C. Relocate/add strobe within 15 ft of end of corridor
D. Relocate strobe/add within 30 ft of end of corridor
FIRE ALARM VISIBLE SIGNALS

Answer A – No modification required

- **LSC 2012 §9.6.3.5.3** Existing alarm systems shall not be required to comply with the provisions for visible signals

- **NFPA 72** requires strobes within 15 ft of the end of the corridor for new construction
NORMALLY UNOCCUPIED ROOMS

What features is not one of the three requirements for an existing normally unoccupied room to be permitted to open directly onto an exit enclosure?

A. Space contains no fuel-fired equipment
B. Space contains no storage of combustible materials
C. Building is completely sprinkler protected
D. Room is provided with sprinkler protection and complete smoke detection
Answer D - Room is provided with sprinkler protection and complete smoke detection

- **NFPA 101 2012 §7.1.3.2.1(9)(c)**

- **NFPA 101 2018 permits Option D in lieu of complete building sprinkler protection**
AMBULATORY HEALTH CARE SEPARATION

Ambulatory health care facilities are required to be separated from other tenants and business occupancies with which of the following?

A. Walls with a 1-hr fire-resistance rating
B. Walls with a 2-hr fire-resistance rating
C. Floor slabs with a 1-hr fire-resistance rating
D. None of the above

0% 0% 0% 0%
A. B. C. D.
Answer A – Walls with a 1-hr fire-resistance rating

- **LSC 2012 §20/21.3.7.1**
- 1-3/4 in. solid-bonded wood core door self-closing and positive latching
- Any windows required to be fixed fire window assembly
- **LSC 2015 Handbook states floor slabs are not required to have a fire-resistance rated separation**
  - Local building code may require rated floor slab and supporting construction
What type of penetrating item is not specifically permitted in an exit enclosure?

A. Sprinkler/standpipe piping
B. Fire alarm circuits installed in metal conduits
C. Security circuits installed in metal conduits
D. Electrical conduit serving the exit enclosure
PENETRATIONS IN EXIT ENCLOSURES

Answer C – Security circuits installed in metal conduits

- \textit{LSC 2012 §7.1.3.2.1(10) & June 2018 HITF}
  - (b) electrical conduit serving exit enclosure
    - Annex note - .....penetrations for electrical wiring are permitted where approved by the AHJ for to be located in exit enclosure for items such as security systems, public address systems and fire department emergency communication systems
  - (h) existing penetrations protected per §8.3.5

- \textit{LSC 2018 §7.1.3.2.1(10)(c) permits “Pathways for devices for security and communication systems serving the exit enclosure where pathways are installed in metal conduit”}
When a patient room in an existing health care occupancy is converted to a storage room (less than 250 ft²) it is classified as:

A. Renovation
B. Modification
C. Reconstruction
D. Change of use
PATIENT ROOM CONVERSION TO STORAGE

Answer – D Change of use

- **LSC 2012 §43.7.1.2(2)**
- New construction requirements do not apply
  - 250 sq ft limitation
  - Sprinkler protection required
  - Enclosure in smoke partition in lieu of fire-resistance rated barrier
  - Self-closing or automatic closing doors
WHAT type of door is permitted to meet 5 lb force requirement in lieu of positive latching?

A. Hazardous area door
B. Power operated corridor doors
C. Smoke barrier door
D. Door provided with a locking arrangement
Answer B – Power operated corridor doors

- Effective March 11, 2018
- 5 lb force option requires AHJ approval
- Positive latching is required unless the organization can verify that latching equipment is not an option provided by the door manufacturer
- Door must remain closed upon application of a 5 lb force whether or not power is applied to the door
OUTDOOR MEDICAL GAS STORAGE AREAS

In an existing hospital, how many means of egress are required from an outdoor medical gas storage area greater than 200 sq ft?

A. 1
B. 2
5.1.1.5 The following sections of this chapter shall apply to the operation, management, and maintenance of Category 1 medical gas and vacuum systems in both new and existing facilities:

- (1) 5.1.2
- (2) 5.1.3.1
- (3) 5.1.3.2
- (4) 5.1.3.3.4
- (5) 5.1.3.6.2
- (6) 5.1.3.6.3.10(A)(2)
- (7) 5.1.3.7.6(A)(2)
- (8) 5.1.3.8.4.3(A)(2)
- (9) 5.1.14
Answer – you are right depending on who you ask

- **NFPA committee reviewed Formal Interpretation and did not agree on requirement**

- **NFPA 99 2012 §5.1.3.3.2(3) requires two exits**
  - NFPA 99 2012 §5.1.1.5(4) does not require compliance for existing buildings

- **NFPA 99 2012 §5.1.3.3.4.1 is required to comply in existing buildings which requires compliance with §5.1.3.3.2**
  - Unintended reference to §5.1.3.3.2 for existing buildings?
MEDICAL GAS MANIFOLD ROOM

Which of the following is required in an indoor oxygen manifold room?

A. Sprinkler protection
B. Smoke detection
C. 1-hr enclosure
D. All of the above
MEDICAL GAS MANIFOLD ROOM

Answer C – 1-hr enclosure

- NFPA 99 2012 §5.1.3.3.2(4)
MEDICAL GAS STORAGE ROOM EXHAUST

An existing medical gas storage room storage with greater than 3,000 ft³ of medical gas requires an exhaust inlet within 12 in. of the floor?

A. True
B. False
MEDICAL GAS STORAGE ROOM EXHAUST

Answer B – False

- NFPA 99 2012 §5.1.3.3.3 and 9.3.7.5.3.3
- Chapter 5 requires an exhaust
- Chapter 9 contains 12 in. requirement
  - Does not apply to existing construction unless a distinct hazard to life is posed
What type of fire extinguisher is permitted in an operating room?

A. Clean agent extinguisher  
B. Water mist extinguisher  
C. Carbon dioxide extinguisher  
D. All of the above
FIRE EXTINGUISHERS IN OPERATING ROOMS

Answer D – All of the above

- NFPA 99 2012 §15.9.1 requires compliance with NFPA for all locations
- NFPA 99 2018 §16.9.1.3 requires clean-agent or water mist type fire extinguishers in ORs
- NFPA 10 Clean Agent Definition
  - “Electrically non-conducting, volatile, or gaseous fire extinguishant that does not leave a residue upon evaporation.”
  - Carbon dioxide extinguishers meet definition of clean agent
- Class A rating concern
- Dry chemical extinguishers should not be used
NFPA 13
PAINTED SPRINKLERS

If a sprinkler or cover plate has been painted by the manufacturer, the facility can apply touch-up paint for maintenance/appearance purposes.

A. True
B. False
PAINTED SPRINKLERS

Answer – B) False

- 2010 NFPA 13 §6.2.6.2
  - Painting is only permitted by the manufacturer, any other application of paint will require replacement of the sprinkler and/or cover plate.
Which of the following conditions does NOT require replacement of the sprinkler?

A. Dust loading
B. Corrosion
C. Painting (not by manufacturer)
D. All of the above must be replaced
Answer – A) Dust loading

- **2011 NFPA 25 §5.2.1.1.2**
  - Removal of dust is permitted as long as the removal equipment does not touch the sprinkler (vacuum, compressed air)
A renovation occurs in a hospital. Quick-response sprinklers are installed. Are the sprinklers in the entire smoke zone required to be replaced?

A. Yes

B. No

C. Only sprinklers in the same compartment as the quick-response sprinklers
Answer C – Only sprinklers in the same compartment as the quick-response sprinklers

- **NFPA 13 2010 §8.3.3.2**

- Defines a compartment as “A space enclosed by walls and a ceiling”
  - Openings for permitted depending on dimensions
Is it intended that there be any correlation between the definition for “compartment” in NFPA 13 and the corresponding term “smoke compartment” in NFPA 101?

Answer - NO
SPRINKLER SUPPORTS

Sprinkler piping installed below ducts must be supported by?

A. Building structure
B. Duct supports
C. All of the above
D. None of the above
Answer C – All of the above

- NFPA 13 2010 9.2.1.5
- Duct supports must be capable of supporting ductwork and weight of water-filled pipe + 250 lbs
At what interval must transmission of the fire alarm signal to a supervising station be verified?

A. Monthly
B. Quarterly
C. Semi-annually
D. Annually
Answer D – Annually

- **NFPA 72 2010 Table 14.4.5.18**

- **Requirement has been confused with LSC 2012 §19.7.1.4**
  - Fire drills in health care occupancies shall include the transmission of a fire alarm signal and simulation of emergency fire conditions
  - **LSC 2021 PI seeks to address Code language**
SMOKE ALARMS

What is the maximum amount of time a single/multiple station smoke alarm may remain in service?

A. 10 years
B. 15 years
C. 20 years
D. No maximum time
SMOKE ALARMS

Answer A – 10 years

- NFPA 72 2010, §14.4.8.1
- From the date of manufacture
  - Unless otherwise recommended by the manufacturer’s published instructions
- Check your smoke alarms in your home
NFPA 105 2010
SMOKE DOOR ASSEMBLY INSPECTION

A door required to comply with NFPA 105 is required to be inspected at what interval?

A. Quarterly
B. Semi-annually
C. Annually
D. No requirement
SMOKE DOOR ASSEMBLY INSPECTION

- Answer C – Annually

- NFPA 105 2010 §5.2.1.1

- Existing smoke barrier doors in hospitals likely are not considered smoke door assemblies
  - Door assembly that restricts movement through door openings by limiting the amount of air that can pass through the assembly
NFPA 25 2011
SPRINKLER LIFE CYCLE

How long is a standard response sprinkler permitted to remain in service before it must be replaced or tested?

A. 20 years
B. 35 years
C. 50 years
D. No requirement
Answer C – 50 years
MAIN DRAIN TEST

What is the purpose of a main drain test?

A. Verify adequacy of water supply
B. Ensure inspector test drains are operable
C. Verify adequacy of fire pump room drain
D. All of the above
MAIN DRAIN TEST

Answer A - Verify adequacy of water supply

- Benchmark test to be compared to previous year and original test
- Do not forget to document comparison between test
NFPA 25 2011 §A.13.2.5 contains a recommended main drain test procedure

- (1) Record the pressure indicated by the supply water gauge
- (2) Close the alarm control valve on alarm valves
- (3) Fully open the main drain valve
- (4) After the flow has stabilized, record the residual (flowing) pressure indicated by the water supply gauge
- (5) Close the main drain valve slowly
- (6) Record the time taken for the supply water pressure to return to the original static (nonflowing) pressure
- (7) Open the alarm control valve
FIRE PUMP PERFORMANCE

Degradation in excess of what percent of the initial unadjusted field acceptance test curve or nameplate rating requires an investigation to reveal the cause?

A. 5 percent
B. 10 percent
C. 20 percent
D. 25 percent
Answer A – 5%

- NFPA 25 2011 §8.3.5.4
- Annex note refers to Annex C – Possible Causes of Pump Troubles
THANK YOU

Please return all polling devices.
QUESTIONS?

Lennon Peake, P.E., SASHE

lpeake@koffelcompliance.com