



# Division of Health Care Policy and Oversight



# TOP DEFICIENCIES

*Eddie Alday – Fire / Life Safety Lead*  
*John Altherr - Fire / Life Safety Lead*

# Hospitals

Rank	Tag	Title	CFR
1	K0353	Sprinkler System - Maintenance and Testing	NFPA 101
2	K0920	Electrical Equipment - Power Cords and Extension Cords	NFPA 99
3	K0918	Electrical Systems - Essential Electric System (EES)	NFPA 99
4	K0923	Gas Equipment - Cylinder and Container Storage	NFPA 99
5	K0211	Means of Egress - General	NFPA 101
6	K0355	Portable Fire Extinguishers	NFPA 101
7	K0761	Maintenance Inspection & Testing Doors	NFPA 101
8	K0324	Cooking Facilities	NFPA 101
9	K0345	Fire Alarm System - Testing and Maintenance	NFPA 101
10	K0372	Subdivision of Building Spaces - Smoke Barrie	NFPA 101



# Nursing Homes (LTC)

STATE

Rank	Tag	Title	CFR
1	K0353	Sprinkler System - Maintenance and Testing	NFPA 101
2	K0345	Fire Alarm System - Testing and Maintenance	NFPA 101
3	K0918	Electrical Systems - Essential Electric Syste	NFPA 99
4	K0920	Electrical Equipment - Power Cords and Extens	NFPA 99
5	K0521	HVAC	NFPA 101
6	K0761	Maintenance Inspection & Testing - Doors	NFPA 101
7	K1150	Security Management	NFPA 99
8	K0324	Cooking Facilities	NFPA 101
9	K0914	Electrical Systems - Maintenance and Testing	NFPA 99
10	K0363	Corridor - Doors	NFPA 101



# Nursing Homes (LTC)

FEDERAL

Rank	Tag	Title	CFR
1	K0353	Sprinkler System - Maintenance and Testing	NFPA 101
2	K0920	Electrical Equipment - Power Cords and Extension Cords	NFPA 101
3	K0918	Electrical Systems - Essential Electric System (EES)	NFPA 101
4	K0324	Cooking Facilities	NFPA 101
5	K0521	HVAC	NFPA 101
6	K0345	Fire Alarm System - Testing and Maintenance	NFPA 101
7	K0741	Smoking Regulations	NFPA 101
8	K0223	Doors with Self-Closing Devices	NFPA 101
9	K0211	Means of Egress - General	NFPA 101
10	K0222	Egress Doors	NFPA 101
11	K0363	Corridor - Doors	NFPA 101



# Ambulatory Surgical Centers (ASC)

Rank	Tag	Title	CFR
1	K0345	Fire Alarm System - Testing and Maintenance	NFPA 101
2	K0918	Electrical Systems - Essential Electric System	NFPA 99
3	K0353	Sprinkler System - Maintenance and Testing	NFPA 101
4	K0923	Gas Equipment - Cylinder and Container Storage	NFPA 99
5	K1053	Emergency Management Plan	FAC 59A-5.018
6	K0291	Emergency Lighting	NFPA 101
7	K0920	Electrical Equipment - Power Cords and Extens	NFPA 99
8	K0211	Means of Egress - General	NFPA 101
9	K0521	HVAC	NFPA 101
10	K0929	Gas Equipment - Precautions for Handling Oxyg	NFPA 99
11	K0223	Doors with Self-Closing Devices	NFPA 101



# Automatic Fire Sprinkler Systems

- 1) 5-year inspections
  - Internal Piping inspection.

***NFPA 25 (2017 Edition) 14.2.1.1***

- Fire Department Connection (FDC) Hydrostatic testing.

***NFPA 25 (2017 Edition) 13.8.5***

- Internal Backflow inspection.

***NFPA 25 (2017 Edition) 13.7.1.3\****



# Automatic Fire Sprinkler Systems

## cont'd

### 2) Spare Sprinkler Cabinet

- A list of the sprinklers installed in the property shall be posted.

***NFPA 25 (2017 Edition) 5.4.1.5.6 – 5.4.1.5.6.1\*(1-4)***

- Stock of spare sprinklers shall include all types and ratings installed in the property.

***NFPA 25 (2017 Edition) 5.4.1.5.4***

- Dry sprinklers – a spare dry sprinkler or the means to restore service.

***NFPA 25 (2017 Edition) 5.4.1.5.3***



# Automatic Fire Sprinkler Systems

## cont'd

### 3) Annual Backflow Forward Flow Testing.

*NFPA 25 (2017 Edition) 13.7.2.1*

### 4) Inspection Tags – GREEN, YELLOW, & RED

*NFPA 25 (2017 Edition) 15.3, and F.A.C. 69A-46.041 (3 & 4)*

- *Compliance and Non-compliance Tags that are greater than 1-year old shall be removed from the system except those tags used for 3 and 5-year inspection/tests.*

**\*\* Fire Watch for impaired equipment >10hrs in a 24hr period \*\***



# Automatic Fire Sprinkler Systems

## cont'd

### 5) As-built system installation drawings (AFSS)

***NFPA 25 (2017 Edition) 4.3.4***

- As-built system installation drawings, hydraulic calculations, original acceptance test records, and device manufacturer's data sheets shall be retained for the life of the system.



# Fire Alarm Systems

1) Duct Detector Differential Pressure/Air Stream Testing.

***NFPA 72 (2016 Edition) 14.4.3, 14.4.3.2, Table 14.4.3.2(17)(g)(5)***

***(See Table 14.3.1(17)(b)(1-2) for inspection requirements)***

2) Smoke Detector Sensitivity Testing (including Duct Detectors).

***NFPA 72 (2016 Edition) Table 14.4.4.3.2(17)(g)(1-5)***

3) As-built Installation drawings, operation & maintenance manuals.

***NFPA 72 (2016 Edition) 14.6.1.1***



# Fire Alarm Systems cont'd

## 4) Fire Alarm Circuit Breaker Lock

*NFPA 72 (2016 Edition) 10.6.5.2.3 through 10.6.5.2.5, 10.6.5.3, 10.6.5.4*

- For fire alarm and/or signaling systems, the circuit disconnecting means shall have a red marking.
- The circuit disconnecting means shall be accessible only to authorized personnel.
- Where a circuit breaker is the disconnecting means, an approved breaker locking device shall be installed.



# Essential Electrical System (EES)

1) Facility failed to provide a written program based on the manufacturers recommended procedures for exercising and inspecting Critical, Life Safety, & Mechanical branches.

***NFPA 99 (2018 Edition) 6.7.4.1, 6.7.4.1.2.1***

***NFPA 110 (2016 Edition) 8.4.7***

2) Generator Housing not maintained.

***NFPA 110 (2016 Edition) 7.2.2.1***



# Essential Electrical System (EES)

cont'd

3) Documentation incomplete for weekly inspections and monthly under load runs.

***NFPA 99 (2018 Edition) 6.7.1.2.4.1, 6.7.1.2.11, 6.7.4.1.1.3***

***NFPA 110 (2016 Edition) 8.1 through 8.5.3 (1-4)***

4) At least 2-sets of instruction manuals for all major components of the EPSS.

***NFPA 110 (2016 Edition) 8.2.1 (1-5)***



# Essential Electrical System (EES)

cont'd

- **8.3.1\*** The EPSS shall be maintained to ensure to a reasonable degree that the system is capable of supplying service within the time specified for the type and for the time duration specified for the class.
- **8.3.3** A written schedule for routine maintenance and operational testing of the EPSS shall be established.



# Essential Electrical System (EES)

cont'd

- **8.4.2\*** Diesel generator sets in service shall be exercised at least once monthly, for a minimum of 30 minutes, using one of the following methods:
  - (1) Loading that maintains the minimum exhaust gas temperatures as recommended by the manufacturer.
  - (2) Under operating temperature conditions and at not less than 30 percent of the EPS standby nameplate kW rating.



# Essential Electrical System (EES)

cont'd

- When calculating 30 percent of nameplate — for example, a 100-kW standby generator is normally considered an 80-kW set for prime power:  $100\text{-kW} \times 30\% = 30\text{-kW}$ , but  $80\text{-kW} \times 30\% = 24\text{-kW}$ .



# Essential Electrical System (EES)

cont'd

- **8.4.2.3\*** Diesel-powered EPS installations that do not meet the requirements of 8.4.2 shall be exercised monthly with the available EPSS load and shall be exercised annually with supplemental loads at not less than 50 percent of the EPS nameplate kW rating for 30 continuous minutes and at not less than 75 percent of the EPS nameplate kW rating for 1 continuous hour for a total test duration of not less than 1.5 continuous hours.



# Essential Electrical System (EES)

cont'd

- **8.4.2.4** Spark-ignited generator sets shall be exercised at least once a month with the available EPSS load for 30 minutes or until the water temperature and the oil pressure have stabilized.
- **8.4.3** The EPS test shall be initiated by simulating a power outage using the test switch(es) on the ATSS or by opening a normal breaker. Opening a normal breaker shall not be required.
- **8.4.4** Load tests of generator sets shall include complete cold starts.



# Electrical Safety

## 1) Relocatable Power Taps (RPT) / aka Power Strips

- In-use in patient care areas.
- Appliances, heating devices plugged into RPT's.
- Multiple RPT's plugged in series.

***NFPA 70 (2017 Edition) 110.3(b), 400.12(1)(7)***

## 2) Extension Cords

- Used a substitute for permanent wiring
- Routed through walls, ceilings, and furniture.



# Means of Egress

1) Failure to provide positive latching on exit doors.

*NFPA 101 (2018 Edition) 19.2.2.2.1, 7.2.1.5.10*

*NFPA 1 (2018 Edition) 14.5.2.10*

2) Emergency Breakaway not maintained on power sliding doors.

*NFPA 101 (2018 Edition) 19.2.1, 7.1.10.1, 7.2.1.4.5.1(2), 7.2.1.9*

3) Delayed Egress Electronic Locking failed to release.

*NFPA 101 (2018 Edition) 19.2.2.2.4(2), 7.1.9, 7.2.1.5.6, 7.2.1.6.1.1(3), 7.2.1.6.1.2(3c)*

*NFPA 1 (2018 Edition) 14.5.3.1, 14.5.3.2(3c)*

4) Storage in Exit Stairways

*NFPA 101 (2018 Edition) 19.2.2.3, 7.2.2, 7.2.2.5.3, 7.2.2.5.3.1*



# Questions?





# RECORDS REQUEST

*Eddie Alday – Fire / Life Safety Lead*  
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# As Built Drawings

- Construction Type (*NFPA 101 and NFPA 220*).
- Remodel, Additions, & Modifications (*NFPA 101 - 4.6*).
- Life Safety Drawings.
- Mechanical Drawings.
- Fire Protection System Design Plans (*both Fire Alarm and AFSS*).



# Fire Alarm System

- Current through past 2-years of inspection reports.
- Biennial Smoke Sensitivity (report shall include factory parameters and actual test result).
- Annual Duct Detector Pressure Differential / Air Stream test (report shall include factory parameters and actual test result).



# Fire Alarm System cont'd

## NFPA 1 (2018 Edition) 13.7.1.5

- **13.7.1.5.2** The system owner or designated representative shall immediately notify the AHJ in an approved manner when a fire alarm system is impaired. (4-hrs or greater shall initiate a Fire Watch)
- **13.7.1.5.3** The AHJ shall be authorized to require standby fire personnel or an approved fire watch in accordance with 1.7.16 at premises in which required fire alarm systems are impaired or classified as chronic nuisance alarm prone systems.



# Automatic Fire Sprinkler System

- Inspection reports, Annual, Semi-Annual, Quarterly for past 2-years.
- 5-year internal inspection of AFSS.
- 5-year Hydrostatic testing on the Fire Department Connection (FDC).
- 5-year Internal Inspection of the Backflow (AFSS).



# Automatic Fire Sprinkler System (AFSS) cont'd

- Annual forward flow test on Backflow (AFSS).  
*NFPA 25 (2017 Edition) 13.7.2.1*
- Fire Pump inspections.  
*NFPA 25 (2017 Edition) 8.2*
- Annual Fire Hydrant.  
*NFPA 25 (2017 Edition) 7.3.2*
- Repair work orders for any discrepancies.



# Commercial Cooking Hood

- Semi-annual inspections.  
**NFPA 96 (2017 Edition) 11.2.1, 11.2.4 through 11.2.5.2**
- Monthly 8-point quick check (Owner's inspection).  
**NFPA 17A (2017 Edition) 7.2.2 (1-8)**
- Gas appliances on casters shall be tethered.  
**NFPA 54 (2018 Edition) 10.12.6**



# Fire Extinguishers

- Annual Inspections.
- Clean agent or water mist Fire Extinguishers shall be provided for Operating rooms.  
*NFPA 99 (2018 Edition) 16.9.1.3\**
- Nonferrous-type Fire Extinguishers shall be provided in MRI rooms and associated spaces.  
*NFPA 99 (2018 Edition) 16.9.1.1\**



# Fire Extinguishers cont'd

- Clean agent Fire Extinguishers shall be provided in telecommunication equipment rooms.

***NFPA 99 (2018 Edition) 16.9.1.4***



# Fire Extinguishers cont'd

- *Heliports - NFPA 418 (2016 Edition)*
- Table 9.2 Minimum Ratings of Portable Fire Extinguishers for Heliport
- \*Helicopter length, including the tail boom and the rotors.

***NFPA 1 (2018 Edition) 21.3.3.3 through 21.3.3.3.2, 21.3.3.7 through 21.3.3.7.3***

***NFPA 418 (2016 Edition) 4.4 through 4.4.2, 4.8 through 4.8.3***

Table 9.2 Minimum Ratings of Portable Fire Extinguishers for Heliport Categories

Heliport Category	Helicopter Overall Length*	Minimum Rating
H-1	Less than 50 ft (15.2 m)	4-A:80-B
H-2	50 ft (15.2 m) up to but not including 80 ft (24.4 m)	10-A:120-B
H-3	80 ft (24.4 m) up to but not including 120 ft (36.6 m)	30-A:240-B

\*Helicopter length, including the tail boom and the rotors.



# Damper Inspections

- Current Inspection report (Hospitals every 6-years, all others every 4-years).

***NFPA 80 (2016 Edition) 19.5 through 19.5.1.2***

- Repair work orders for any discrepancies.
- All dampers shall be made accessible.

***NFPA 80 (2016 Edition) 19.2.3.3***

- If the damper is not operable, repairs shall begin without delay.



# Generator(s)

- Maintenance program based of the manufacturer's recommendations.
- Weekly inspection (visual inspection & battery voltage check).
- Monthly under load (% of load applied, time to transfer power, specific gravity or conductance test on battery).



# Generator(s) cont'd

- Annual Fuel Quality test that meets NFPA 110 Requirements.
- Load bank testing (4-hr every 3yrs, Annual 90 min).
- 2-sets of operating manuals on-site for each generator.



# Diesel Fuel Testing – Generator / Fire Pump

- Cetane Index – ASTM D4737 / D976
- Cloud Point – ASTM D2500
- Density @15°C – ATSM D1298
- Distillation – ASTM D86
- Flash Point (PMCC) – ASTM D93
- Microbial Contamination – ASTM D6469
- Sediment & Water (BS & W) – ASTM D1796 / D2709
- Sulfur Content – ASTM D4294 / D5453



# Essential Electrical System (EES)

- EES Main & Feeder Exercise – Annual
- Facility program based on the manufacturers requirements for testing & inspecting.
- Documentation for Testing and Inspecting.



# Essential Electrical System (EES)

cont'd

- NFPA 99 (2018 Edition) **6.7.4.1.2.1\* Circuit Breakers.** Main and feeder circuit breakers shall be inspected annually and maintained in accordance with the manufacturer's instructions and industry standards. A program for periodically exercising the components shall be established according to the manufacturer's instructions.



# Essential Electrical System (EES)

cont'd

- **6.7.5.1.1** The essential electrical system shall be divided into the following three branches:
  - (1) Life safety
  - (2) Critical
  - (3) Equipment



# Emergency Battery Back-up Lighting

- Monthly 30-second testing with locations.
- Annual 90-minute testing with locations.

***NFPA 101 (2018 Edition) 7.9 through 7.9.3.1.4***



# Receptacle Testing

- Annual receptacle testing.

NFPA 99 (2018 Edition)

- **6.3.3.2.5** Where hospital-grade receptacles are required at patient bed locations and in locations where deep sedation or general anesthesia is administered, testing shall be performed after initial installation, replacement, or servicing of the device.



# Receptacle Testing cont'd

NFPA 99 (2018 Edition)

- **6.3.3.2.6** Additional testing of receptacles in patient care spaces shall be performed at intervals defined by documented performance data.
- **6.3.3.2.7** Receptacles not listed as hospital-grade, at patient bed locations and in locations where deep sedation or general anesthesia is administered, shall be tested at intervals not exceeding 12 months.



# Biomedical Equipment (PCREE)

- Annual / Semi-Annual testing based on manufactures requirements.

*NFPA 99 (2018 Edition) 10.3 through 10.3.6.4*

- All PCREE shall be tested prior to being placed into service
- **10.5.6.2.2** At a minimum, the record shall contain all of the following:
  - (1) Date
  - (2) Unique identification of the equipment tested
  - (3) Indication of which items have met or have failed to meet the performance requirements of Section 10.2



# Biomedical Equipment (PCREE)

## cont'd

- **10.5.8 Qualification and Training of Personnel.**
- **10.5.8.1\*** Personnel concerned for the application or maintenance of electric appliances shall be trained on the risks associated with their use.
- **10.5.8.1.1** The health care facilities shall provide programs of continuing education for its personnel.
- **10.5.8.1.2** Continuing education programs shall include periodic review of manufacturers' safety guidelines and usage requirements for electrosurgical units and similar appliances.



# Piped Medical Gas

- Piped medical gas inspection.
- Repair work orders for any discrepancies.
- Waste Anesthetic Gas Disposal (WAGD)

**NFPA 99 (2018 Edition) 5.1.5.16.1(1-4)**



# Fire Doors

- Annual Fire door inspection.
- Includes all rated access panels.
- Shall meet NFPA 80 (2016 Edition) 5.2.2.4 for documentation requirements.
- Shall meet NFPA 80 (2016 Edition) 5.2.3.5.2 as a minimum to be verified (13 items).



# Fire Doors cont'd

- 1) Date of inspection
- 2) Name of facility
- 3) Address of facility
- 4) Name of person(s) performing inspections and testing
- 5) Company name and address of inspecting company
- 6) Signature of inspector of record
- 7) Individual record of each inspected and tested fire door assembly



# Fire Doors cont'd

- 8) Opening identifier and location of each inspected and tested fire door assembly
- 9) Type and description of each inspected and tested fire door assembly
- 10) Verification of visual inspection and functional operation
- 11) Listing of deficiencies in accordance with 5.2.3, Section 5.3, and Section 5.4



# Smoke Door Inspections

- Periodic inspection and testing shall be performed not less than annually.
- Fire-rated smoke door assemblies shall be inspected and tested in accordance with NFPA 105 and chapter 5 of NFPA 80.
- Non-fire-rated doors shall be inspected and tested in accordance with NFPA 105. ***NFPA 105 (2016 Edition) 5.2.3.3***
- All functional test shall be conducted after the building's mechanical ventilation system has been balanced and is operating.



# CEMP / Federal EP

- Annual review of Comprehensive Emergency Plan
- Annual review Federal CMS Emergency Preparedness Plan by facility to include all Policy and Procedures.



# Security Vulnerability Assessment (SVA)

- At least annually the Health Care facility shall conduct a security vulnerability assessment.
- A person(s) shall be appointed by the leadership of the Health Care facility to be responsible for all security activities.
- Health Care facility shall comply with the requirements of chapter 13 NFPA 99 (2018 Edition).

***NFPA 99 (2018 Edition) 13.1 through 13.12***



# Fire Drills

- Review rolling 12-months of fire drills
- 1 per shift, per quarter.
- 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.
- Fire drills in health care occupancies shall include the transmission of a fire alarm signal and simulation of emergency fire conditions.

***NFPA 101 (2018 Edition) 4.7, 19.7.1***



# Disaster Drills – LTC/ICF

- The nursing home licensee must test the implementation of the emergency management plan annually, either in response to a disaster, an emergency, or in a planned drill.
- The outcome must be evaluated and documented and appropriate modifications to the plan to address deficiencies must be made within 30 days.
- Federal compliance requires a Community based and an In-house disaster drills.
- The emergency management plan shall be located in a designated area of the facility for immediate access by nursing home staff.



# Disaster Drills – HSP / ASC

- The hospital shall test the implementation of the emergency management plan semiannually, either in response to a disaster or an emergency or in a planned drill.
- The hospital shall evaluate and document the hospital's performance to the hospital's safety committee. As an alternative, the hospital may test its plan with the frequency specified by an accrediting organization.
- The emergency management plan shall be located for immediate access by hospital staff.



# Operating Rooms

- Line Isolation Monitors
  - Monthly testing.
  - Annual testing for automated self-test & self calibration.

***NFPA 99 (2018 Edition) 6.3.3.3, through 6.3.3.4, 6.3.4 through 6.3.4.1.3***

- OR Risk Assessment – Periodic review
- OR Hazard Assessment – Periodic review

***NFPA 99 (2018 Edition) 16.13***



# Questions?



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