

Life Safety Code Surveys in Nursing Facilities – II

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K130 - Miscellaneous

Emergency lighting system

- A functional test must be conducted on every required emergency lighting system at 30-day intervals for not less than 30 seconds.
- An annual test must be conducted on every required battery-powered emergency lighting system for not less than 1 1/2-hours.
- Equipment must be fully operational for the duration of the test.
- Written records of visual inspection and tests must be kept by the owner for inspection. 7.9.3

K130-Miscellaneous

Emergency Lighting

- Emergency lighting must be provided for 1½ hours.
- Not less than an average of 1 ft-candle at any point.
- Must include exit discharge.

K130-Miscellaneous

Emergency lighting system deficiencies

- “Review of records could not verify 30-second monthly tests of the battery-powered lighting located in the Boiler Room (above the generator).”
- “Review of records indicated the 90-minute annual test of the battery-powered lighting in the Boiler Room (above the generator).”
- “Emergency battery pack lighting was not provided at the generator location.”

K130-Miscellaneous

Fire Dampers

- Must be maintain in a reliable operating condition

Fire damper maintenance is required at least every 4 years. Maintenance includes:

- (a) Fusible links must be removed.
- (b) All dampers must be operated to verify that they closed fully.
- (c) The latch, if provided, must be checked.
- (d) Moving parts must be lubricated as necessary.

K130-Miscellaneous

Fire Damper deficiency

“Records review indicated the facility failed to maintain fire dampers in a reliable operating condition as required. Maintenance of fire dampers is required at least every 4 years.”

K130-Transfer Switches

Operated monthly
Maintenance:

- check connections
- inspection for overheating and contact erosion
- removal of dust and dirt
- replacement of contacts

K130 - Miscellaneous

Transfer Switch deficiency

“Based on record review, the facility failed to provide evidence of quarterly checks and maintenance of the emergency generator electrical transfer switch.”

K130 - Miscellaneous

Gas meters, regulators and piping must be protected against physical damage in an approved manner when exposed to equipment traffic. The barriers must be designed to the largest piece of equipment that would be typically parked or used in the immediate area.

NFPA 54, National Fuel Gas Code

K130 - Miscellaneous

Gas regulator and gas piping deficiency

“The facility failed to adequately the gas regulator and gas piping located adjacent to the north side of the building from vehicular/equipment damage as required by NFPA 54 .”

K069 – Kitchen Hood Fire Suppression System

- Fire extinguishing systems for commercial cooking operations must meet NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations.
- NFPA 96 requires an inspection and servicing of the fire-extinguishing system be made at least every 6 months by properly trained and qualified persons.

K069 – Kitchen Hood Fire Suppression System

- Commercial kitchens must be equipped with a K-extinguisher and an operational sign for the portable fire extinguisher mounted by the K-extinguisher.
- The automatic fire-extinguishing system installed over the commercial cooking equipment must be in compliance with UL 300, Standard for Fire Testing of Fire Extinguishing Systems for Protection of Restaurant Cooking Areas, or other equivalent standards.



K069 – Kitchen Hood Fire Suppression System

- The activation of the kitchen hood automatic fire-extinguishing system must activate the fire alarm signaling system. NFPA 96, 10.6.2
- Listed grease filters, baffles, or other approved grease removal devices for use with commercial cooking equipment must be provided. Listed grease filters must be tested in accordance with UL 1046, Grease Filters for Exhaust Ducts.
- Mesh filters can not be used. NFPA 96, 3-1

K069 – Kitchen Hood Fire Suppression System

Deficiencies

- “Review of records determined the cooking equipment fire extinguishing system was inspected in July 2009 and February 2010. The time period between July 2009 and February 2010 exceeded 6 months.”
- “Records review determined the lack of documentation to indicate the kitchen automatic fire extinguishing system was interconnected to the fire alarm system and had the interconnection tested annually.”

K069 – Kitchen Hood Fire Suppression System

- “Observation determined a wet NFPA 13 sprinkler was installed over the commercial cooking equipment in addition to the UL 300 system. The presence of a wet NFPA 13 blue-colored high temperature rated sprinkler installed over the commercial cooking equipment is incompatible with and does not meet the requirements of a UL 300 Fire Extinguishing System.”
- “Fire alarm test records indicated the kitchen hood extinguishing system was not connected to the fire alarm system.”

K012 – Construction Type

Type I

Masonry, concrete, brick, block, stone, clay tile, etc.

Type II

Steel beams, bar joists, studs, etc.

K012 – Construction Type

- Type III

Combination of noncombustible and combustible

- Type IV

Heavy timber

K012 – Construction Type

Type V

Combustible wood members

K012 – Construction Type

- **Construction Deficiencies**
- “Unsealed holes and electrical conduit, metal pipe, PVC pipe, and low-voltage wiring penetrations through the room floor/ceiling assemblies.”
- “PVC pipe penetrations through floor/ceiling assembly not sealed with fire rated material.”
- “Suspended ceiling systems not one-hour fire resistive rated assemblies. No documentation provided by the facility to indicate the ceiling tile and grid system has a fire resistance rating.”

K012 – Construction Type

Construction Deficiencies-continued

- “Holes in the gypsum board ceiling.”
- “Unprotected ventilation grills.”
- “Recessed light fixtures and speakers not protected with UL fire rated enclosures.”
- “Air registers are not equipped with fire dampers.”
- “Missing ceiling tiles.”



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K062 – Automatic Sprinkler System Maintenance

- Testing frequencies range from quarterly to annually. Inspection frequencies can be as often as weekly to as long as annually. The frequencies for testing, inspection and maintenance are dictated by the requirements as outlined by Table 5-1 of NFPA 25.
- NFPA 25 requires the facility to complete, maintain and make available to the authority having jurisdiction copies of records which indicate the procedure performed, by whom, the results and the date. These records are to be retained for the life of the system.

K062 – Automatic Sprinkler System Maintenance

- The automatic sprinkler system must be continuously maintained in a reliable operating condition as required by NFPA 25, Standard for the Inspection, Testing and Maintenance of Water-based Fire Protection Systems.



K062 – Automatic Sprinkler System Maintenance

- “Observation determined the lack of sprinkler protection in the Physical Therapy storage closet.”
- “The facility failed to ensure all areas are protected by the automatic fire sprinkler system.”
- “Observation determined the lack of sprinkler protection in the Kitchen Elevator Equipment Room, two (2) closets in Resident Room W-13, two (2) closets in Resident Room W-14, the W-Wing Nurses' Station Restroom, and along the north wall of the basement Water Heater Room.”

K025 – Smoke Barriers

- Smoke barriers must be continuous from an outside wall to an outside wall, from a floor to a floor, or from a smoke barrier to a smoke barrier or combination thereof. Such barriers must be continuous through all concealed spaces, such as those found above a ceiling.

8.3.2

- “Lack of adequate fire caulking at pipe, electrical conduit, air duct, and low-voltage penetrations”.
- “Lack of fire rated head-of-wall fire stopping assemblies at smoke barriers”.



K144 – Emergency Generators

- Generators are inspected weekly
- Exercised under load for 30 minutes per month in accordance with NFPA 99. 3.4.4.1.

K144 – Emergency Generators

Deficiencies

- “Review of generator test records indicated weekly inspections were not being documented.”
- “Review of generator test records indicated monthly generator testing was not conducted for a 30-minute period during the months of January, February, March, April and May, 2009.



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K056- Sprinkler Installations

- Properly maintained in accordance with NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.
- Reliable, adequate water supply for the system.
- Fully supervised
- Equipped with water flow and tamper switches, electrically connected to the building fire alarm system. 19.3.5

K056 – Sprinkler Installations

- An automatic sprinkler system installed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems,
- Provides complete coverage for all portions of the building.

K056 – Sprinkler Installations

- “The facility failed to ensure the automatic sprinkler system was installed to provide complete coverage for all portions of the building. NFPA 13, Standard for the Installation of Sprinkler Systems, 1999 Edition. 5-13.1.
- “Concealed soffit spaces in the Lobby had concealed combustible wood construction that was not protected by sprinklers.”
- “Concealed soffit spaces in the Day Room and adjacent corridor had concealed combustible wood construction that was not protected by sprinklers.”



K052 – Fire Alarm System

- Installed, tested, and maintained in accordance with NFPA 70 National Electrical Code and NFPA 72.
- Facility has an approved maintenance and testing program complying with applicable requirements of NFPA 70 and 72. 9.6.1.4

K052 – Fire Alarm System

Deficiencies

- “The facility failed to ensure the fire alarm system was tested monthly.
Records review indicated the fire alarm system was not tested during the months when Night Shift fire drills were conducted in June and September, 2009 and in March, 2010.
- “Review of fire alarm test records identified a duct detector needed to be replaced. The fire alarm records did not indicate the duct detector located in the Mechanical Penthouse was replaced.”

K052 – Fire Alarm System

Deficiencies -continued

“Annual fire alarm test records of were reviewed. The fire alarm testing company identified that a duct detector needed to be replaced. The fire alarm records did not indicate the duct detector located in the Mechanical Penthouse was replaced.”

K052 – Fire Alarm System

Deficiencies -continued

- Record review indicated that some of the initiating devices were not tested. The 11-01-07 to 10-31-08 fire alarm testing contract indicated that twenty four (24) photoelectric smoke detectors and three (3) photo-duct detectors would be tested. The 11-17-08 fire alarm test indicated that only twenty (20) photoelectric smoke detectors and three (3) photo-duct detectors were tested.

K052 – Fire Alarm System

Deficiencies -continued

- Review of the fire alarm test records indicated the facility failed conduct an annual fire alarm test during the last two years.
- The facility failed to ensure the fire alarm system is in compliance with NFPA 72, National Fire Alarm Code.

K052 – Fire Alarm System

Deficiencies –continued

“Observation determined the fire alarm panel dialer located in the Boiler Room was not protected.”

CMS requires a photoelectric smoke detector above the fire alarm panel. If conditions do not permit a smoke detector, a rate-of-rise heat detector may be used.

K052 – Fire Alarm System

Deficiencies –continued

“The fire alarm system had a time delay of the transmission of the alarm signal to the fire department added to the fire alarm panel. The time delay for transmission of a fire alarm to the fire department was adjustable and was set to delay the transmission to the fire department for 1 to 4 minutes. A toggle switch existed on the fire alarm panel used to prevent transmission of an alarm to the fire department. The fire alarm system is required to immediately retransmit the alarm to the fire department.”

K052 – Fire Alarm System

Deficiencies -continued

- “The facility failed to provide a locking device on the fire alarm electrical circuit breaker.”

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FIA

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11 12

FIREWATCH II

ZONE 1

ZONE 2

SYSTEM
ALARM
SYSTEM
TROUBLE
ALARM
TROUBLE

FARADAY

FIRE
ALARM
SYSTEM
CONTROL





FAST-ACTING
F5 4A

SYSTEM RESET

SIGNAL SILENCE

TROUBLE SILENCE

PH

F7 5A

FAST-ACTING
FA 1A

TRE

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*shut off
alarm*

FIREWATCH II

ZONE 1



ZONE 2



K045 – Egress Illumination

- Illumination of means of egress, including exit discharge, is arranged so that failure of any single lighting fixture (bulb) will not leave the area in darkness. 19.2.8

K045 – Egress Illumination

- Exterior exits were illuminated with single bulb high pressure sodium light fixtures without quick strike capabilities.
- CMS allows a light fixture equipped with a single long-life bulb with a quick strike feature to illuminate exit discharge.

K045-Egress Illumination

- “The two stair enclosures from the basement were not equipped with emergency illumination.”
- “The windowless basement was not equipped with emergency illumination.”
- “Exterior exits were illuminated with single bulb high pressure sodium light fixtures without quick strike capabilities. Exterior exits were illuminated with single bulb high pressure sodium light fixtures.”

K045-Egress Illumination

- “No exterior lights were installed outside the north exit discharge.”
- “The lighting throughout the second floor corridors were controlled by light switches.”

K054 – Smoke Detector Maintenance

Visual inspection frequencies and specific testing and maintenance frequencies for smoke detection systems are dictated by the prescriptive requirements of NFPA 72, National Fire Alarm Code (Chapter 10-Inspection, Testing and Maintenance Tables 10.3.1, 10.4.2.2 and 10.4.3). This code identifies specific inspection, testing and maintenance frequencies and methods.

K054 – Smoke Detector

Maintenance-Deficiencies

- “Not all components of the smoke detection system had sensitivity testing at frequencies in compliance with the minimum requirements of NFPA 72.”
- “The test records indicated four (4) smoke detectors failed the previous sensitivity test and were not replaced.”
- “No functional or sensitivity test in the past twelve (12) months.”

K011 – Occupancy or Construction Separation

- “The facility failed to ensure two-hour fire rated wall assemblies between the different occupancies or construction types.”
- “The fire-rated doors do not self-close to the latched position.”
- “The 1 ½ hour fire rated double doors did not latch into the door frame and into the floor.”
- “Multiple unsealed spaces around through-wall penetrations.”

K011 – Occupancy Separation



K017 –Corridor Walls

- Corridors are separated from use areas by walls constructed with at least ½ hour fire resistance rating.
- In non-sprinklered buildings, walls properly extend above the ceiling.
- Charting and clerical stations, waiting areas, dining rooms, and activity spaces may be open to the corridor under certain conditions specified in the Code.

K017 –Corridor Walls

In sprinklered buildings:

- Partitions are only required to resist the passage of smoke. (Corridor walls may terminate at the underside of ceilings where specifically permitted by Code. Gift shops may be separated from corridors by non-fire rated walls if the gift shop is fully sprinklered.) 19.3.6.1, 19.3.6.2.1, 19.3.6.5

K017 –Corridor Walls

Deficiencies

- “The North Parlor was open to the corridor and was not protected by the facility's electrically supervised automatic smoke detection system.”
- “The Living Room was open to the corridor. The area was not protected by an electrically supervised automatic smoke detection system.”

K017 –Corridor Walls

Deficiencies

“The facility failed to provide corridors separated from use areas by walls with at least ½ hour fire resistance rating. Observation determined corridor walls terminate at the suspended ceiling in numerous locations throughout the facility.”

K017 –Corridor Walls

Deficiencies

“Observation determined the corridor walls have holes and pipe, electrical conduit, and low-voltage wiring penetrations that were not sealed with fire rated material installed according to the manufacturer's instructions. This currently occurs in the northwest and northeast smoke compartments (two (2) of six (6) smoke compartments).”

K017 –Corridor Walls

Deficiencies

“The Dining Room was open to the corridor due to the removal of the two sets of double doors in the corridor wall and was not protected by an electrically supervised automatic smoke detection system.”

K029 – Hazardous Areas

Deficiencies

- “The Laundry Room corridor door was not labeled as a 45-minute fire rated door assembly.”
- “The 60 minute fire rated door to the Administrative Storage Room would not self-close to the latched position.”

K029 – Hazardous Areas

- **Deficiencies-continued**
- “The doors to the three storage rooms were equipped with fire rated smoke gaskets but were not equipped with intumescent gaskets.”
- “The north wall of the Storage Room was penetrated by two air ducts with unsealed spaces around the duct.”
- “The Main Storage Room door frame was not labeled as having at least a 45 minute fire resistance rating.”
the east and west walls tie into the north wall.

K029 – Hazardous Areas

Deficiencies-continued

- “The Main Storage Room door frame was not labeled as having at least a 45 minute fire resistance rating.”

K029 – Hazardous Areas

Deficiencies-continued

- “The Supply Room had two (2) unsealed openings in the 1-hour fire rated ceiling.”
- “The walls of the Air Handling Room were not one-hour fire rated (storage of medical records)”.