

The Ohio Department of Health

Bureau of Survey and Certification

Preventative Maintenance Manual

June 2021

Acknowledgment

The Preventive Maintenance Manual was updated to reflect Centers for Medicare and Medicaid Services adoption of the 2012 edition of the National Fire Protection Association 101 Life Safety Code. The Ohio Department of Health believes the contents of this document to be compliant with the 2012 edition of the National Fire Protection Association 101 Life Safety Code and Federal Register Requirements for Life Safety Code.

Forward

The Life Safety Code is a compilation of fire safety requirements for new and existing buildings and is updated and published every three years by the National Fire Protection Association (NFPA), a private, nonprofit organization dedicated to reducing loss of life due to fire. The Medicare and Medicaid regulations have historically incorporated these requirements by reference.

On May 4, 2016, the Centers for Medicare and Medicaid Services (CMS) published final rules in the Federal Register adopting the 2012 Edition of NFPA 101, Life Safety Code (LSC). This final rule amended the fire safety standards for certified facilities. Further, this final rule adopted the 2012 Edition of the LSC and eliminated references to all earlier editions. These regulations were effective on July 5, 2016.

The objective of the code is to assure safety to life during fires and other emergencies. These requirements are designed to protect all residents and staff. The final rule allows other options for facilities to meet regulatory requirements when correction of a deficiency will create an undue burden or financial hardship such the FSES (Fire Safety Evaluation System) or waivers.

This Preventative Maintenance Manual is intended for use by maintenance staff and others in conjunction with health care facilities to maintain and improve life safety conditions for the benefit of the residents and employees. This document is intended to provide information to facilities but is not fully inclusive of all details of LSC 2012 or other NFPA Standards found in chapter two. Determinations of compliance with Life Safety Code regulations are made at the time of survey.

Additionally, this manual does not address the state and local building codes.

Any entity servicing fire suppression(s) or fire alarm system(s) shall be licensed and endorsed by the State of Ohio. Either a copy of the license should be obtained or the company and individual installers' names with appropriate license numbers should be available at the time of the survey.

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INTRODUCTION

Developing a Preventative Maintenance Program

Preventative maintenance is an important aspect of maintaining safe and efficient building operations in a long-term care facility. Many parts of your facility degrade over time, and preventative maintenance will help extend the life of your facility and its systems. Routine maintenance will ultimately save the facility money in by minimizing the need for a new system(s) or costly repairs. Preventative maintenance and other safe practices provide proper working equipment, systems, and creates safer conditions for all residents and staff throughout the facility.

- **Multiple Occupancies – Sections of Health Care Facilities (K-131) - 18.1.3.3, 19.1.3.3**
 - Sections of health care facilities classified as other occupancies shall meet all of the following:
 - They are not intended to serve four or more inpatients for purposes of housing, treatment, or customary access.
 - They are separated from areas of health care occupancies by construction having a minimum two-hour fire resistance rating in accordance with Chapter 8.
 - NFPA 220, Standard on Types of Building Construction, shall be used to determine the requirements for the construction classification.
 - Fire barrier wall in accordance with NFPA 221, Standard for High Challenge Fire Walls, Fire Walls, and Fire Barrier Walls, exists between the portions of the building
- **Multiple Occupancies – Construction Type - (K-133) - 18.1.3.5, 19.1.3.5, 8.2.1.3**
 - The most stringent construction type is provided throughout the building, unless a two-hour separation is provided in accordance with 8.2.1.3, in which case the construction type is determined
 - The construction type and supporting construction of the health care occupancy is based on the story in which it is located in the building in accordance with 18/19.1.6 and Tables 18/19.1.6.1.
 - Communicating openings in dividing fire barriers shall be permitted only in corridors and shall be protected by approved self-closing fire door assemblies.
 - Openings required to have a fire protection by approved, listed, labeled fire door assemblies and fire window assemblies and their accompanying hardware, including all frames, closing devices, anchorage, and sills in accordance with the requirements of NFPA 80, Standard for Fire Doors and Other Opening Protectives,
- **Means of Egress Requirements – (K-211) - 18/19.2.2 through 18/19.2.11. 18.2.1, 19.2.1, 7.1.10.1**
 - Aisles, passageways, corridors, exit discharges, exit locations, and accesses are in accordance with Chapter 7, and the means of egress is continuously maintained free of all obstructions to full use in case of emergency
 - Monitor corridors (at different hours of the day) serving as exit access to ensure that they are clear and unobstructed.
 - Monitor exit and directional signage display that maintain egress pathways or direction of travel access with continuous illumination and served by the emergency lighting systems in accordance with NFPA 101, 2012 Edition, Sections 7.10. and 18.2.10.1.
- **Patient Sleeping Room Doors – (K-221) - 18.2.2.2, 19.2.2.2; 18.2.2.2.5 or 19.2.2.2.5**
 - Locks on patient sleeping room doors are not permitted unless the key-locking device that restricts access from the corridor does not restrict egress from the patient room
- **Egress Doors – (K-222) - 18.2.2.2.5.1, 18.2.2.2.6, 19.2.2.2.5.1, 19.2.2.2.6; 18.2.2.2.4, 19.2.2.2.4**
 - Doors in a required means of egress shall not be equipped with a latch or a lock that requires the use of a tool or key from the egress side
 - Special locking arrangements for the safety needs of the patient are used, all of the locks must be electrical locks that fail safely so as to release upon loss of power to the device.
 - Only one locking device shall be permitted on each door and provisions shall be made for the rapid removal of occupants by: remote control of locks; keying of all locks or keys carried by staff at all times
 - Access-Controlled Egress Door assemblies installed in accordance with 7.2.1.6.2
 - Approved, listed delayed egress locking systems installed in accordance with 7.2.1.6.1
 - Delayed egress cannot exceed 15 seconds without approval by AHJ
 - The force shall not be required to exceed 15 lbf (67 N).
 - The force shall not be required to be continuously applied for more than 3 seconds.
 - A readily visible, durable sign in letters not less than 1 in. high and not less than 1/8 in. in stroke width on a contrasting background that reads as follows shall be located on the door leaf adjacent to the release device in the direction of egress:
 - PUSH UNTIL ALARM SOUNDS DOOR CAN BE OPENED IN 15 SECONDS

- **Doors with Self-Closing Devices (K-223)** - 18.2.2.2.7, 18.2.2.2.8, 19.2.2.2.7, 19.2.2.2.8
 - Doors in an exit passageway, stairway enclosure, or horizontal exit, smoke barrier, or hazardous area enclosure are self-closing and kept in the closed position, unless held open by a release device complying with 7.2.1.8.2 that automatically closes all such doors throughout the smoke compartment or entire facility upon activation of:
 - Fire alarm system; and smoke detectors, and sprinkler system, and Loss of power.
- **Horizontal-Sliding Doors – (K-224)** - 18.2.2.2.10, 19.2.2.2.10
 - Horizontal-sliding doors permitted by 7.2.1.14 that are not automatic-closing are limited to a single leaf and shall have a latch or other mechanism to ensure the door will not rebound
- **Stairways and Smokeproof Enclosures – (K-225)** - 18.2.2.3, 18.2.2.4, 19.2.2.3, 19.2.2.4, 7.2,
 - Stairways and Smokeproof enclosures used as exits are in accordance with 7.2.
- **Aisle, Corridor or Ramp Width – (K-232)** - 18.2.3.4, 18.2.3.5, 19.2.3.4, 19.2.3.5
 - EXISTING width of aisles or corridors (clear or unobstructed) serving as exit access shall be at least 4 feet and maintained to provide the convenient removal of nonambulatory patients on stretchers
 - NEW The 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
 - Fixed equipment which is attached to the floor or wall is now allowed in an 8-foot corridor as long as 6-foot is maintained along one side, the furniture grouping does not exceed 50 square feet in area, furniture groups are separated by 10 feet, building service equipment is not obstructed, corridors are protected with smoke detection or direct supervision and the facility has automatic sprinkler protection.
 - Wheeled-equipment not permitted includes: Beds, Televisions, Commodes, Linen carts, soiled linen hoppers, trash containers, desks, chairs tables. Wheeled-equipment is allowed in the corridor if: it does not reduce the clear width to less than 60-inches, and a safety plan with training program in place which addresses the relocation of such wheeled-equipment. Wheeled-equipment is limited to the following: equipment in use and carts in use, medical emergency equipment not-in-use, and patient lift and transport equipment.
- **Discharge from Exits – (K-271)** - 18.2.7, 19.2.7, 7.1
 - Exit discharge is arranged in accordance with 7.7, provides a level walking surface meeting the provisions of 7.1.7 with respect to changes in elevation and shall be maintained free of obstructions. Additionally, the exit discharge shall be a hard-packed all-weather travel surface.
 - Monitor exit discharges outside the building, ensure a hard surface to the public way, and that the exit discharge is usable during inclement weather and is without impediments
 - (This includes snow and ice removal in the winter months and landscaping (shrubs/bushes) in the spring and summer months)
 - Walking surfaces shall be nominally level. Abrupt changes in elevation of walking surfaces shall not exceed 1/4 in.
- **Illumination of Means of Egress – (K-281)** - 18.2.8, 19.2.8,
 - Illumination of means of egress, including exit discharge, is arranged in accordance with 7.8 and shall be either continuously in operation or capable of automatic operation without manual intervention.
 - Monitor exterior exit lighting to ensure that the exterior lighting is equipped with two sources of light either by having two fixtures or one light fixture with two light bulbs. The exit discharge must have a functional emergency light that lasts at least 1.5-hours.
 - Monitor exit discharges outside of the building to ensure they are illuminated along the path to the public way. (Minimum of one-foot candle power of illumination at floor level).

- **Emergency Lighting – (K-291)** - 18.2.9.1, 19.2.9.1, 7.9
 - Emergency lighting of at least 1.5-hours (90-minutes) duration is provided automatically
 - Conduct a functional test on all battery-operated emergency lighting systems at 30-day intervals for not less than 30-seconds. Conduct the annual test on every required battery powered emergency lighting system for not less than 1.5-hours. Ensure that equipment is fully operational for the duration of the test. Written records of visual inspections and tests shall be kept by the facility for surveyor review at the time of survey.

- **Exit Signage – (K-293)** – 18.2.10.1, 19.2.10.1
 - Exit and directional signs are displayed in accordance with 7.10 with continuous illumination also served by the emergency lighting system.
 - Mirrors shall not be placed on exit door leaves. Mirrors shall not be placed in or adjacent to any exit in such a manner as to confuse the direction of egress.
 - Any door, passage, or stairway that is neither an exit nor a way of exit access and that is located or arranged so that it is likely to be mistaken for an exit shall be identified by a sign that reads as follows: NO
EXIT
 - The NO EXIT sign shall have the word NO in letters 2 in. (51 mm) high, with a stroke width of 3/8 in. (9.5 mm), and the word EXIT in letters 1 in. (25 mm) high, with the word EXIT below the word NO, unless such sign is an approved existing sign.
 - The direction of travel to the exit discharge within a stair enclosure with horizontal components in excess of the typical landings might need additional signage to be readily visible or obvious. Exit signs should be installed above doors through which the egress path leads. Directional exit signs should be installed where the horizontal egress path changes directions. The stairway marking signs required by 7.2.2.5.4, provided within the stair enclosure at each floor landing, indicate the vertical direction to exit discharge.

- **Vertical Openings – Enclosure – (K-311)** - 19.3.1.1 through 19.3.1.6
 - Stairways, elevator shafts, light and ventilation shafts, chutes, and other vertical openings between floors are enclosed with construction having a fire resistance rating of at least 1-hour. An atrium may be used in accordance with 8.6.
 - Doors required to be 1-hour fire rated for 1-hour stairway; 1½ hour fire rated for 2-hour stairway 8.3.4

- **Hazardous Areas – Enclosure – (K-321)** - 18.3.2.1, 19.3.2.1, 19.3.5.9, 7.2.1.8, 8.4, 8.7, 9.7
 - A hazardous area is defined as: 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.
 - Hazardous areas are protected by a fire barrier having 1-hour fire resistance rating (with ¾ hour fire rated doors) or an automatic fire extinguishing system in accordance with 8.7.1 or 19.3.5.9. When the approved automatic fire extinguishing system option is used, the areas shall be separated from other spaces by smoke resisting partitions and doors in accordance with 8.4. Doors shall be self-closing or automatic-closing and permitted to have nonrated or field-applied protective plates that do not exceed 48 inches from the bottom of the door.
 - Monitor mechanical rooms to ensure that the rooms are clean and orderly and are not used for combustible storage.
 - Ensure that storage is in accordance with the Life Safety Code and Local Fire and Building Codes.
 - Ensure that there is a minimum of a 36-inch clearance around all electrical panels and heat producing equipment such as a gas furnace.
 - Monitor changes in use of any room that may lead to a hazardous area.
 - Hazardous areas may include:
 - Boiler and Fuel-Fired Heater Rooms (CO detector).
 - Laundries greater than 100 square feet.
 - Repair Shops and Paint Shops.
 - Laboratories if classified as a severe hazard.
 - Combustible storage Rooms/Spaces (over 50 square feet) Trash Collection Rooms.
 - Soiled Linen Rooms (exceeding 64 gal)

- **Cooking Facilities – (K-324)** - 18.3.2.5.1 through 18.3.2.5.4, 19.3.2.5.1 through 19.3.2.5.5, 9.2.3NFPA 96 2010 Edition
 - Cooking equipment is protected in accordance with NFPA 96
 - Inspect and maintain the hood suppression system in accordance with NFPA 96 2011 Edition, Chapter 11.
 - Keep these records for surveyor review at the time of survey.
 - The entire exhaust system shall be inspected for grease buildup by a properly trained qualified, and certified person semi-annually
 - Upon inspection, if the exhaust system is found to be contaminated with deposits from grease-laden vapors, the contaminated portions of the exhaust system shall be cleaned by a properly trained qualified, and certified person(s)
 - Verify that fuel sources are automatically disconnected when the extinguishing system is activated.
 - Clearly mark and locate the extinguishing system activator in the path of egress from the kitchen.
 - Verify that activation of the extinguishing system activates the facility fire alarm.
 - All fusible links must be removed, destroyed, and replaced with new ones on a semi-annual basis.
 - Ensure that there is a K-Class fire extinguisher installed per the regulation in the kitchen.
 - Train staff in the operation of any range hood extinguishing system and K-Class Fire Extinguisher
- **Alcohol Based Hand Rub (ABHR) Dispensers (K-325)** 18.3.2.6, 19.3.2.6
 - Corridor is at least 6-feet wide.
 - Maximum individual dispenser capacity is liquid
 - 0.32 gallons dispensers in rooms, corridors, and areas open to corridors
 - 0.53 gallons in suites of rooms
 - 18-ounces of Level-1 aerosols
 - Dispensers shall have a minimum of 4-foot (48-inches) horizontal spacing.
 - Not more than an aggregate of 10-gallons of fluid or 1135-ounces of aerosol are used in a single smoke compartment outside a storage cabinet, excluding one individual dispenser per room.
 - Not more than an aggregate 10 gal (37.8 L) of alcohol based hand-rub solution or 1135 oz (32.2 kg) of Level 1 aerosols, or a combination of liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gal of alcohol based hand-rub solution or 1135 oz (32.2 kg) of Level 1 aerosols, or a combination of liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gal (37.8 L) or 1135 oz (32.2 kg), shall be in use outside of a storage cabinet in a single smoke compartment (37.8 L) or 1135 oz (32.2 kg), shall be in use outside of a storage cabinet in a single smoke compartment,
 - Storage in a single smoke compartment greater than 5-gallons complies with NFPA 30, 2012.
 - Dispensers are not installed within 1-inch of an ignition source.
 - Dispensers over carpeted floors are located in sprinklered smoke compartments.
 - ABHR does not exceed 95 percent alcohol concentration.
 - Operation of the dispenser shall comply with Section NFPA 101 Chapter 18.3.2.6(11) or 19.3.2.6 (11)
- **Interior Wall and Ceiling Finish – (K-331)** - 18.3.3.1, 18.3.3.2, 10.2, 19.3.3.1, 19.3.3.2
 - Interior wall and ceiling finishes, including exposed interior surfaces of buildings such as fixed or movable walls, partitions, columns, and have a flame spread rating of Class A or Class B.
 - Fixed or movable walls and partitions, paneling, wall pads, and crash pads applied structurally or for decoration, acoustical correction, surface insulation, or other purposes shall be considered interior finish

- **Fire Alarm System – Installation – (K-341) - Initiation – (K342) – Notification – (K343) – Smoke Detection (347)** - 18.3.4.1 through 18.3.4.4, 19.3.4.1 through 19.3.4.4, 9.6, 9.7, NFPA 72 – 2010 Edition
- Initiation of the fire alarm system is by manual means and by any required sprinkler system alarm, detection device, or detection system.
 - Manual alarm boxes are provided in the path of egress near each required exit.
 - Each manual fire alarm box shall be securely mounted.
 - Manual fire alarm box shall not be less than 42 in. and not more than 48 in. above floor level.
 - Manual fire alarm boxes shall be installed so that they are conspicuous, unobstructed, and accessible
 - Ensure that the fire alarm system is installed and maintained in accordance with NFPA 72, and that maintenance records are available for the surveyor to review at the time of survey.
 - Semiannual visual inspection of fire alarm devices
 - NFPA 72 – 2012 Edition Sections 14.3 through 14.3.4
 - NFPA 72 – 2010 Edition 10.4.3 Inspection, Testing, and Maintenance Personnel
 - Verify that activation of the sprinkler system causes the fire alarm to sound.
 - Verify that the fire alarm system transmits the signal to the local fire department & central monitoring station.
 - Notify the authorities having jurisdiction and obtain any required permits before any changes are made to the system.
 - Detector coverage shall include all rooms, halls, storage areas, basements, attics, lofts, spaces above suspended ceilings, and other subdivisions and accessible spaces, as well as the inside of all closets, elevator shafts, enclosed stairways, dumbwaiter shafts, and chutes.
 - Any device or system intended to electrically lock a required means of egress door in the direction of egress shall be connected to the fire alarm system serving the protected premises.
 - Sensitivity shall be checked within 1 year after installation then every alternate year thereafter (includes Duct Smoke Detectors, single and multiple station smoke alarms)
 - NFPA 72 requires smoke detectors to be sensitivity tested at certain intervals and those test results must be documented. A self- monitoring system meets the test criteria of NFPA 72 even without individual smoke detector testing with a special sensitivity testing device. However, the self-monitoring system does not meet the documentation requirements, because sensitivity records must be available for review at the time of survey. The facility can either produce a printed sensitivity report from the fire alarm panel (must be dated within the required timeframe before the date of inspection) or have the system tested according to applicable code requirements.
 - The sensitivity report from a self-monitoring system will most likely be in a format that does not clearly show the sensitivity levels of each smoke detector. If this is the case, then the facility should have some documentation to show how numbers in the sensitivity report translates/corresponds to actual sensitivity levels that can be compared to the listed sensitivity range for all smoke detectors located throughout the facility.
 - A record of all inspections, testing, and maintenance shall be provided that includes the following information regarding tests and all the applicable information requested in Figure 14.6.2.4:
 - (1) Date
 - (2) Test frequency
 - (3) Name of property
 - (4) Address
 - (5) Name of person performing inspection, maintenance, tests, or combination thereof, and affiliation, business address, and telephone number
 - (6) Name, address, and representative of approving agency(ies)
 - (7) Designation of the detector(s) tested
 - (8) Functional test of detectors
 - (9)*Functional test of required sequence of operations
 - (10) Check of all smoke detectors
 - (11) Loop resistance for all fixed-temperature, line-type heat detectors
 - (12) Functional test of mass notification system control units
 - (13) Functional test of signal transmission to mass notification systems
 - (14) Functional test of ability of mass notification system to silence fire alarm notification appliances
 - (15) Tests of intelligibility of mass notification system speakers
 - (16) Other tests as required by the equipment manufacturer's published instructions
 - (17) Other tests as required by the authority having jurisdiction
 - (18) Signatures of tester and approved authority representative

(19) Disposition of problems identified during test (e.g., system owner notified, problem corrected/successfully retested, device abandoned in place)

➤ **Sprinkler System – Installation – (K-351) - Supervisory Signals – (K-352) - Maintenance and Testing – (K-353)**
- 18.3.5.1, 18.3.5.4, 18.3.5.5, 18.3.5.6, 19.3.5.1, 19.3.5.2, 19.3.5.3, 19.3.5.4, 19.3.5.5, 19.4.2, 19.3.5.10, 9.7, NFPA 13, 2010, NFPA 25, 2010

- Nursing homes, and hospitals where required by construction type, are protected throughout by an approved automatic sprinkler system in accordance with NFPA 13.
- Automatic sprinkler and standpipe systems are inspected, tested, and maintained in accordance with NFPA 25
- Records shall be made for all inspections, tests, and maintenance of the system and its components and shall be made available to the authority having jurisdiction upon request.
- Records shall indicate the procedure performed (e.g., inspection, test, or maintenance), the organization that performed the work, the results, and the date.
- In hospitals, sprinklers are not required in clothes closets of patient sleeping rooms where the area of the closet does not exceed 6 ft² and sprinkler coverage covers the closet footprint
- Any sprinkler that shows signs of any of the following shall be replaced:
 - (1) Leakage
 - (2) Corrosion
 - (3) Physical damage
 - (4) Loss of fluid in the glass bulb heat responsive element
 - (5) Loading
 - (6) Painting unless painted by the sprinkler manufacturer
- A supply of spare sprinklers (never fewer than six) shall be maintained on the premises so that any sprinklers that have operated or been damaged in any way can be promptly replaced.
 - The sprinklers shall correspond to the types and temperature ratings of the sprinklers in the property.
 - The sprinklers shall be kept in a cabinet located where the temperature in which they are subjected will at no time exceed 100°F (38°C).
- The stock of spare sprinklers shall include all types and ratings installed and shall be as follows:
 - (1) For protected facilities having under 300 sprinklers—no fewer than 6 sprinklers
 - (2) For protected facilities having 300 to 1000 sprinklers — no fewer than 12 sprinklers
 - (3) For protected facilities having over 1000 sprinklers — no fewer than 24 sprinklers
- A list of the sprinklers installed in the property shall be posted in the sprinkler cabinet. The list shall include the following:
 - (1) Manufacturer, model, orifice, deflector type, thermal sensitivity, and pressure rating
 - (2) General description
 - (3) Quantity of each type to be contained in the cabinet
 - (4) Issue or revision date of the list
- A special sprinkler wrench shall be provided and kept in the cabinet to be used in the removal and installation of sprinklers.
- Sprinkler piping shall not be subjected to external loads by materials either resting on the pipe or hung from the pipe
- Gauges on wet pipe and supervised dry sprinkler systems shall be inspected monthly to ensure that they are in good condition and that normal water supply pressure is being maintained
- An inspection of piping and branch line conditions shall be conducted every 5 years
- Combustible soffits, eaves, overhangs, and decorative frame elements shall not exceed 4 ft 0 in. in width without sprinkler coverage.
- Sprinklers shall be located so as to minimize obstructions to discharge
 - Continuous or noncontinuous obstructions less than or equal to 18 in. below the sprinkler deflector that prevent the pattern from fully developing shall comply with this section
- Electric Motor Drive Fire pumps tested monthly; Diesel-driven fire pumps must be tested weekly.

- **Fire Watch - Fire Alarm – Out of Service – (K-346) – 9.6.1.6 - Sprinkler System – Out of Service – (K-354) - 18.3.5.1, 19.3.5.1, 9.7.5, 15.5.2 (NFPA 25)**
 - Where the fire alarm system is out of service for more than 4 hours in a 24-hour period, the building shall be evacuated, or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the fire alarm system has been returned to service.
 - Where the sprinkler system is out of service for more than 10 hours in a 24-hour period, the building or portion of the building affected are evacuated or an approved fire watch is provided until the sprinkler system has been returned to service.
 - Upon activation of a fire watch the Authority Having Jurisdiction (AHJ) shall be notified:
 - Ohio Department of Health:
 - Local Fire Department
 - Ohio Fire Marshal
 - A written log or documentation of fire watch rounds should be kept and available for inspection
 - Fire watch policy must address:
 - Notification of AHJ: Local Fire Department, State Health Department, and Fire Marshal's office
 - Sprinkler system out of service shall also include notification to the facility's insurance carrier in accordance with that carrier's requirements.
 - Facility procedures must address separate situations in which the sprinkler system is out of service for more than ten-hours and/or the fire alarm system is out of service for four-hours or more in a 24-hour period
 - A fire watch shall involve one additional trained staff beyond normal facility staffing. This individual shall **not** be tasked with any duties other than FIRE WATCH duties. These individuals are specially trained in fire prevention and in occupant and fire department notification, and understand fire safety
- **Portable Fire Extinguishers – (K-355) - 18.3.5.12, 19.3.5.12, NFPA 10 – 2010 Edition**
 - Portable fire extinguishers are selected, installed, inspected, and maintained in accordance with NFPA 10
 - Inspect portable fire extinguishers on a monthly basis and maintain annually.
 - Fire extinguishers require maintenance every six-years
 - Conduct 12-year hydrostatic vessel test and ensure a sticker stating such is applied.
 - Hydrostatically test CO2 portable fire extinguisher vessels every five-years.
 - Inspect the Verification of Service ring (collar) to ensure it reflects the most recent hydrostatic test or six-year maintenance.
 - Ensure fire extinguishers are mounted correctly. Fire extinguishers having a gross weight not exceeding 40-pounds shall be installed so that the top of the fire extinguisher is not more than 5-feet above the floor. Fire extinguishers having a gross weight greater than 40- pounds shall be installed so that the top of the fire extinguisher is not more than 3.5-feet above the floor. In no case shall the clearance between the bottom of the fire extinguisher and the floor be less than 4-inches.
- **Corridors – Areas Open to Corridor (K-361) - Construction of Walls (K-362) – Doors (K-363) - Openings (K-364) - 18.3.6.1 – 18.3.6.5, 19.3.6.1. - 19.3.6.5, 8.3**
 - Spaces (other than patient sleeping rooms, treatment rooms and hazardous areas), waiting areas, nurse's stations, gift shops, and cooking facilities, open to the corridor are in accordance with the criteria under 18.3.6.1 and 19.3.6.1.
 - Ensure that corridors are separated from use areas by walls that form a barrier to limit the transfer of smoke, for existing construction, required to have a fire resistance rating of 30- minutes.
 - Doors protecting corridor openings in other than required enclosures of vertical openings, exits, or hazardous areas resist the passage of smoke and are made of 1¾ inch solid-bonded core wood or other material capable of resisting fire for at least 20 minutes.
 - Doors in fully sprinklered smoke compartments are only required to resist the passage of smoke.

- **Corridors – Areas Open to Corridor (K-361) - Construction of Walls (K-362) – Doors (K-363) - Openings (K-364) - 18.3.6.1 – 18.3.6.5, 19.3.6.1. - 19.3.6.5, 8.3**
 - Corridor doors and doors to rooms containing flammable or combustible materials have positive latching hardware.
 - Roller latches are prohibited by CMS regulation.
 - Powered doors complying with 7.2.1.9 are permissible if provided with a device capable of keeping the door closed when a force of 5lbf is applied, whether or not power is applied.
 - Clearance between bottom of door and floor covering is not exceeding 1 inch.
 - There is no impediment to the closing of the doors.
 - Hold open devices that release when the door is pushed or pulled are permitted.
 - Nonrated protective plates of unlimited height are permitted.

- **Subdivision of Building Spaces – Smoke Compartments (K-371) - Smoke Barrier Construction (K372) - Accumulation Space (K-373) - Smoke Barrier Doors (K-374) - Door Glazing (K-379) – 18.3.7, 19.3.7, 8.5, 8.6.7**
 - Smoke barriers shall be provided to form at least “two” smoke compartments on every sleeping room floor for more than 30 patients.
 - Smoke compartments shall not exceed 22,500 square feet and the travel distance to and from any point to reach a door in the required barrier shall not exceed 200-feet.
 - Openings in smoke barrier doors shall be fire-rated glazing or wired glass panels in steel frames.
 - Seal all penetrations with approved fire rated materials.
 - Do not use expanding foams to seal penetrations unless fire rated refer to NFPA 101, 2012 Edition, Section 8.3.5.
 - CMS advises to verify that you have the technical data sheets on the products prior to determining if it would be compliant.
 - Follow all instructions for application use and installation for fire rated materials
 - If the surveyor cannot determine the product applied a citation will be issued.
 - Replace damaged fire rated ceiling tiles with the same or equivalent fire rated ceiling tiles.

- **Utilities – Gas and Electric (K-511) - 18.5.1.1, 19.5.1.1, 9.1.1, 9.1.2, NFPA 70 – 2011 Edition**
 - Equipment using gas or related gas piping complies with NFPA 54, National Fuel Gas Code, electrical wiring and equipment complies with NFPA 70, National Electric Code. Existing installations can continue in service provided no hazard to life.
 - Receptacles shall be mounted in boxes or assemblies designed for the purpose, and such boxes or assemblies shall be securely fastened in place
 - Receptacle faceplates shall be installed so as to completely cover the opening
 - GFCI’s are to be installed in
 - bathrooms,
 - Kitchens where the receptacles are installed to serve the countertop surfaces,
 - Sinks located where receptacles are installed within 6 ft of the outside edge of the sink
 - Access and working space shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment. 3 ft on all sides
 - Elevator, dumbwaiter, escalator, and moving walk driving machines; motor-generator sets; motor controllers; and disconnecting means shall be in a room or space that shall be secured against unauthorized access.
 - Live parts of electrical equipment operating at 50 volts or more shall be guarded against accidental contact

➤ **HVAC (K-521) Smoke & Fire Dampers** - 18.5.2.1, 19.5.2.1, 9.2, NFPA 80, NFPA 90A

- Heating, ventilation, and air conditioning shall comply with 9.2 and shall be installed in accordance with the manufacturer's specifications.
- Fire dampers and ceiling dampers shall be maintained in accordance with NFPA 80, Standard for Fire Doors and Other Opening Protectives.
- Each damper shall be tested and inspected 1 year after installation.
- The test and inspection frequency shall then be every 4 years, except in hospitals, shall be every 6 years.
 - If the damper is equipped with a fusible link, the link shall be removed for testing to ensure full closure and lock-in place if so equipped.
 - The operational test of the damper shall verify that there is no damper interference due to rusted, bent, misaligned, or damaged frame or blades, or defective hinges or other moving parts.
 - The damper frame shall not be penetrated by any foreign objects that would affect fire damper operations.
 - The damper shall not be blocked from closure in any way.
 - The fusible link shall be reinstalled after testing is complete.
 - Damaged or painted link shall be replaced with a link of the same size, temperature, and load rating.
- All inspections and testing shall be documented, indicating
 - the location of the fire damper or combination fire/ smoke damper,
 - date of inspection,
 - name of inspector, and
 - deficiencies discovered.
 - The documentation shall have a space to indicate when and how the deficiencies were corrected.
- All documentation shall be maintained and made available for review by the AHJ.
- In accordance with Section 8.5.5.7 of NFPA 101; required smoke dampers in ducts penetrating smoke/fire barriers shall close upon detection of smoke by approved smoke detectors in accordance with NFPA 72
- All air filters should be kept free of excess dust and combustible material. Unit filters should be renewed or cleaned when the resistance to airflow has increased to two times the original resistance or when the resistance has reached a value of recommended replacement by the manufacturer. A suitable draft gauge should be provided for the purpose. Where the filters are of the automatic liquid adhesive type, sludge should be removed from the liquid adhesive reservoir regularly.
- Inspections to determine the amount of dust and waste material in the ducts (both discharge and return) should be made quarterly. If, after several inspections, such frequent inspection is determined to be unnecessary, the interval between inspections can be permitted to be adjusted to suit the conditions.
- Cleaning should be undertaken whenever an inspection indicates the need.

➤ **HVAC – Suspended Unit Heaters (K-523)** – 18.5.2.3(1), 19.5.2.3(1)

- Suspended unit heaters are permitted provided the following are met:
 - Not located in means of egress or in patient rooms.
 - Located high enough to be out of reach of people in the area.
 - Has a safety feature to stop fuel and shut down equipment if there is excessive temperature or ignition failure.

➤ **Elevators (K-531) – Escalators, Dumbwaiters, and Moving Walks (K-532)** - 18.5.3, 19.5.3, 9.4

- Elevators comply with the provision of 9.4.
- Elevators are inspected and tested as specified in ASME A17.1, Safety Code for Elevators and Escalators.
- Firefighter's Service is operated monthly with a written record.
- All existing escalators, dumbwaiters, and moving walks conform to the requirements of ASME/ANSI A17.3, Safety Code for Existing Elevators and Escalators.

- **Rubbish Chutes, Incinerators, and Laundry Chutes (K-541)** - 18.5.4.2, 19.5.4, 9.5, 8.4, NFPA 82
 - Any existing linen and trash chute, including pneumatic rubbish and linen systems, that opens directly onto any corridor shall be sealed by fire resistive construction to prevent further use or shall be provided with a fire door assembly having a fire protection rating of 1-hour. All new chutes shall comply with 9.5.
 - Any rubbish chute or linen chute, including pneumatic rubbish and linen systems, shall be provided with automatic extinguishing protection in accordance with 9.7.
 - Any trash chute shall discharge into a trash collection room used for no other purpose and protected in accordance with 8.4. (Existing laundry chutes permitted to discharge into same room are protected by automatic sprinklers in accordance with 19.3.5.9 or 19.3.5.7.)
 - Existing fuel-fed incinerators shall be sealed by fire resistive construction to prevent further use.

- **Fire Safety Plan - Evacuation and Relocation Plan (K-711)** - 18/19.7.2.2, 18.7.1.1 through 18.7.1.3, 18.7.2.1.2, 18.7.2.2, 18.7.2.3, 19.7.1.1 through 19.7.1.3, 19.7.2.1.2, 19.7.2.2, 19.7.2.3
 - A written plan **specific to your facility** for the protection of all patients and for their evacuation in the event of an emergency shall address all the following:

(1) Use of alarms (3) Emergency phone call to fire department (5) Isolation of fire (7) Evacuation of smoke compartment (9) Extinguishment of fire	(2) Transmission of alarms to fire department (4) Response to alarms (6) Evacuation of immediate area (8) Preparation of floors and building for evacuation
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 - All health care occupancy personnel shall be instructed in the use of and response to fire alarms.
 - All health care occupancy personnel shall be instructed in the use of the code phrase to ensure transmission of an alarm under any of the following conditions:
 - (1) When the individual who discovers a fire must immediately go to the aid of an endangered person
 - (2) During a malfunction of the building fire alarm system
 - A copy of the Fire Safety Plan is readily available with telephone operator, nurse station, or with security.

- **Fire Drills (K-712)** - 18.7.1.4 through 18.7.1.7, 19.7.1.4 through 19.7.1.7
 - Monitor fire drills to ensure that the drill includes the transmission of a fire alarm signal and simulation of emergency fire conditions. Document receipt or verification of a call to remote monitoring company.
 - Monitor fire drills to ensure that drills are held quarterly, per shift, and under varying conditions.
 - Maintain documentation concerning fire drills that shows at least the following:
 - One drill per shift per quarter. Drills conducted at shift change are only counted for one shift.
 - Varying conditions of drills must be used. Examples of varying conditions would be different locations on the same shift; utilizing different initiating devices to set off the alarm system such as a pull station, smoke detector, etc., unannounced drills to test staff response.
 - Conducting identical drills on the same shift at the same time for each quarter is not considered varied conditions.
 - Differing times for drills conducted on each shift. Drills should be conducted at various times throughout the shift to avoid patterns. Fire drills that occur within one-hour will not be considered varying and will equate to having occurred at the same time.
 - Differing days of the week including weekends.
 - Involvement of all departments.
 - Documented observations of staff response.
 - Record of equipment functioning such as the release of doors and alarms sounding.
 - Between the hours of 9:00 PM to 6:00 AM a silent alarm may be used instead of the audible alarm

➤ **Smoking Regulations (K-741) - 18.7.4, 19.7.4**

- Smoking regulations shall be adopted and shall include not less than the following provisions:
 - (1) Smoking shall be prohibited in any room, ward, or compartment where flammable liquids, combustible gases, or oxygen is used or stored and in any other hazardous location, and such area shall be posted with signs that read NO SMOKING or shall be posted with the international symbol for no smoking.
 - (2) In health care occupancies where smoking is prohibited and signs are prominently placed at all major entrances, secondary signs with language that prohibits smoking shall not be required.
 - (3) Smoking by patients classified as not responsible shall be prohibited.
 - (4) The requirement of 18.7.4(3) shall not apply where the patient is under direct supervision.
 - (5) Ashtrays of noncombustible material and safe design shall be provided in all areas where smoking is permitted.
 - (6) Metal containers with self-closing cover devices into which ashtrays can be emptied shall be readily available to all areas where smoking is permitted.
- Evaluate smoking areas for use of gravel rather than flammable materials such as mulch around the building.
- Signs may be required in non-smoking facilities if entrances are **not** marked with smoking prohibited in this facility signage. The exception is if all major exits including those used by staff have a “no smoking” sign posted at them.
- Monitor facility to ensure that smoking does not occur in any location where oxygen is in use, regardless of whether supplied by comparators, concentrators, tank, direct flow, wall unit, piped-in system, portable backpack, etc...
- Refer to OAC 3701-17-20 for additional licensure requirements regarding smoking and the use of flame producing devices.

➤ **Draperies, Curtains, and Loosely Hanging Fabrics (K-751) – 18.7.5.1, 18.3.5.11, 19.7.5.1, 19.3.5.11, 10.3.1**

- Draperies, curtains including cubicle curtains and loosely hanging fabric or films shall be in accordance with 10.3.1. Excluding curtains and draperies: at showers and baths; on windows in patient sleeping room located in sprinklered compartments; and in non-patient sleeping rooms in sprinklered compartments where individual drapery or curtain panels do not exceed 48 square feet or total area does not exceed 20 percent of the wall.

➤ **Combustible Decorations (K-753) - 18.7.5.6, 19.7.5.6**

- Combustible decorations shall be prohibited unless one of the following is met:
 - Flame retardant or treated with approved fire-retardant coating that is listed and labeled for product.
 - Decorations meet NFPA 701.
 - Decorations, such as photographs, paintings and other art are attached to the walls, ceilings and non-fire-rated doors in accordance with the following:
 - Decorations on non-fire-rated doors do not interfere with the operation or any required latching of the door
 - Decorations do not exceed 30 percent of the wall, ceiling, and door areas inside any room or space of a smoke compartment
 - Decorations do not exceed 50 percent of the wall, ceiling, and door areas inside patient sleeping rooms, having a capacity not exceeding four persons, in a smoke compartment
 - The decorations in existing occupancies are in such limited quantities that a hazard of fire development or spread is not present.

➤ **Maintenance, Inspection & Testing – Doors (K-761)** - 18.7.6, 19.7.6, 8.3.3.1 (LSC), 5.2, 5.2.3 (NFPA 80)

- Fire doors assemblies are inspected and tested annually in accordance with NFPA 80 Standard for Fire Doors and Other Opening Protectives.
- All fire rated door assemblies are to be inspected annually. This includes all of the side-hinged swinging fire rated doors in a facility. This applies to any fire rated door assembly located throughout the building, whether it is located in a required fire rated barrier or not. CMS stated if it is a 90-minute or greater door it must be maintained to NFPA 80, 2010, regardless of the door(s) location. These records must be made available for surveyor review at the time of survey.
- Fire doors that are not located in required fire barriers, including corridor doors to patient rooms and smoke barrier doors, are routinely inspected as part of the facility maintenance program.
- Individuals performing the door inspection and testing have an understanding of the operating components of the doors. Written records of inspection and testing are maintained and are available for review.
- Fire door assemblies shall be visually inspected from both sides to assess the overall condition of door assembly. As a minimum, the following items shall be verified:
 - (1) No open holes or breaks exist in surfaces of either the door or frame.
 - (2) Glazing, vision light frames, and glazing beads are intact and securely fastened in place, if so equipped.
 - (3) The door, frame, hinges, hardware, and noncombustible threshold are secured, aligned, and in working order with no visible signs of damage.
 - (4) No parts are missing or broken.
 - (5) Door clearances do not exceed clearances listed in 4.8.4 and 6.3.1.7.
 - (6) The self-closing device is operational; that is, the active door completely closes when operated from the fully open position.
 - (7) If a coordinator is installed, the inactive leaf closes before the active leaf.
 - (8) Latching hardware operates and secures the door when it is in the closed position.
 - (9) Auxiliary hardware items that interfere or prohibit operation are not installed on the door or frame.
 - (10) No field modifications to the door assembly have been performed that void the label.
 - (11) Gasketing and edge seals, where required, are inspected to verify their presence and integrity.
- Ensure that automatic or self-closing devices are properly installed and functioning (has not been removed).
- Smoke doors and doors opening into the corridor close properly and resist the passage of smoke. Non-rated gaskets, such as weather stripping, are not an acceptable method to correct door gaps.
- Doors close and latch into the frame (positive latching hardware), without impediments, and they open with one-motion.
- Doors are unobstructed and not blocked in any manner.
- Hazardous area doors are self-closing
- Smoke barrier doors that swing in the same direction may be required to have a coordinator to ensure doors close properly which allows one door to close first preventing the doors from hitting.
- Monitor doors with magnetic locked or delayed egress locks to ensure that:
 - Doors release appropriately.
 - Doors with magnetic locking devices without the delayed egress function shall unlock upon activation of the complete fire alarm system.
 - Doors may not reactivate if the fire alarm system is placed in silent mode. The doors should not relock without the system being reset. You can check this while testing the fire alarm.

➤ **Soiled Linen and Trash Containers (K-754)** - 18.7.5.7, 19.7.5.7

- Soiled linen or trash collection receptacles shall not exceed 32 gallons in capacity.
- A total container capacity of 32 gallons shall not be exceeded within any 64 square feet area.
- Mobile soiled linen or trash collection receptacles with capacities greater than 32 gallons shall be located in a room protected as a hazardous area when not attended.
- Containers used solely for recycling are permitted to be excluded from the above requirements where each container is ≤ 96 gal. unless attended, and containers for combustibles are labeled and listed as meeting FM Approval Standard 6921 or equivalent.

➤ **Portable Space Heaters (K-781) - 18.7.8, 19.7.8**

- Portable space heating devices shall be prohibited in all health care occupancies unless
 - Used in nonsleeping staff and employee areas
 - Heating elements do not exceed 212 degrees Fahrenheit (100 degrees Celsius).
 - Must provide documentation of heating element limits
- Must have a Space Heater Policy if allowed in facility

➤ **Construction, Repair, and Improvement Operations (K-791) - 18.7.9, 19.7.9, 4.6.10, 7.1.10.1**

- Construction, repair, and improvement operations shall comply with 4.6.10.
- Any means of egress in any area undergoing construction, repair, or improvements shall be inspected daily to ensure its ability to be used instantly in case of emergency and compliance with NFPA 241.

➤ **Gas and Vacuum Piped Systems – Categories (K-903) - Warning Systems (K-904) - Central Supply System Identification and Labeling (K-905) - Central Supply System Operations (K-906) - Maintenance Program (K-907) - Inspection and Testing Operations (K-908) - Information and Warning Signs (K-909) - NFPA 99**

- Medical gas, medical air, surgical vacuum, WAGD, and air supply systems are designated:
 - **Category 1.** Systems in which failure is likely to cause major injury or death. **Category 2.** Systems in which failure is likely to cause minor injury. **Category 3.** Systems in which failure is not likely to cause injury but can cause discomfort.
- All master, area, and local alarm systems used for medical gas and vacuum systems comply with appropriate Category warning system requirements, as applicable.
- Containers, cylinders & tanks are designed, fabricated, tested, & marked NFFPA 99 - 5.1.3.1.1 to 5.1.3.1.7.
- Medical gas container storage is mechanically ventilated or has natural ventilation to the outside.
- Locations containing only oxygen or medical air have doors labeled with "Medical Gases, NO Smoking or Open Flame".
- Locations containing other gases have doors labeled "Positive Pressure Gases, NO Smoking or Open Flame, Room May Have Insufficient Oxygen, Open Door and Allow Room to Ventilate Before Opening."
 - A precautionary sign, readable from a distance of 5 ft, shall be displayed on each door or gate of the storage room or enclosure. The sign shall include the following wording as a minimum:
 - CAUTION: OXIDIZING GAS(ES) STORED WITHIN NO SMOKING
- Only cylinders, reusable shipping containers, and their accessories are stored in rooms containing central supply systems or cylinders.
- No flammable materials are stored with cylinders.
- Cylinders are kept away from sources of heat, prevented from exceeding 130°F
- Valve protection caps are secured in place, if supplied, unless cylinder is in use.
- Cylinders are not stored in tightly closed spaces.
- Full or empty cylinders, when not connected, are stored in locations complying with 5.1.3.3.2 through 5.1.3.3.3, and are not stored in enclosures containing motor-driven machinery, unless for instrument air reserve headers.
- Medical gas, vacuum, WAGD, or support gas systems have documented maintenance programs.
- The program includes an inventory of all source systems, control valves, alarms, manufactured assemblies, and outlets.
- Inspection and maintenance schedules are established through risk assessment considering manufacturer recommendations.
 - Inspection procedures and testing methods are established through risk assessment.
 - Persons maintaining systems are qualified as demonstrated by training and certification or credentialing to the requirements of AASE 6030 or 6040.
- Records of the inspections and testing are maintained as required.
- Piping is labeled by stencil or adhesive markers identifying the gas or vacuum system, including the name of system or chemical symbol, color code.

➤ **Electrical Systems – Receptacles – (K-912)**

- Receptacles in patient rooms, bathrooms, and activity rooms, are listed tamper-resistant or employ a listed cover. If used in patient care room, ground-fault circuit interrupters (GFCI) are listed.
- NEW facilities: Minimum Number of Receptacles. The number of receptacles shall be determined by the intended use of the patient care rooms in accordance with 6.3.2.2.6.2(A) through 6.3.2.2.6.2(E).

➤ **Electrical Systems – Maintenance and Testing – (K-914) – NFPA 99 Section 6.3.3.2 through 6.3.3.2.4, 6.3.4.2, and 6.3.4.1 through 6.3.4.1.3.**

- The physical integrity of each receptacle shall be confirmed by visual inspection.
- The continuity of the grounding circuit in each electrical receptacle shall be verified.
- Correct polarity of the hot and neutral connections in each electrical receptacle shall be confirmed.
- The retention force of the grounding blade of each electrical receptacle (except locking-type receptacles) shall be not less than 115 g (4 oz)
- (A tension-tester is a handheld device that measures the amount of retention force applied to inserted plug blades by line and ground contacts in electrical receptacles and outlets).

➤ **Electrical Systems – Essential Electric System Categories – (K-915)**

- Critical care rooms (Category 1) in which electrical system failure is likely to cause major injury or death of patients, including all rooms where electric life support equipment is required, are served by a Type 1 EES.
- General care rooms (Category 2) in which electrical system failure is likely to cause minor injury to patients (Category 2) are served by a Type 1 or Type 2 EES.
- Basic care rooms (Category 3) in which electrical system failure is not likely to cause injury to patients and rooms other than patient care rooms are not required to be served by an EES. Type 3 EES life safety branch has an alternate source of power that will be effective for 1 1/2 hours.

➤ **Electrical Systems – Essential Electric System Alarm Annunciator – (K-916)**

- A remote annunciator that is storage battery powered is provided to operate outside of the generating room in a location readily observed by operating personnel.
- The annunciator is hard-wired to indicate alarm conditions of the emergency power source.
- Nursing homes with life support equipment must have a Type I Essential Electrical System (EES) powered by a generator with a transfer switch and separate power supply into three distinctive branches.

➤ **Electrical Systems – Essential Electric System Receptacles – (K-917)**

- Electrical receptacles or cover plates supplied from the life safety and critical branches have a distinctive color or marking.

- **Electrical Systems – Essential Electric System Maintenance and Testing (K-918)** - 6.4.4, 6.5.4, 6.6.4 (NFPA 99), NFPA 110, NFPA 111, 700.10
- The generator or other alternate power source and associated equipment is capable of supplying service within 10 seconds. If the 10-second criterion is not met during the monthly test, a process shall be provided to annually confirm this capability for the life safety and critical branches.
 - Maintenance and testing of the generator and transfer switches are performed in accordance with NFPA 110.
 - Generator sets are inspected weekly, exercised under load 30 minutes
 - 12 times a year in 20 to 40-day intervals
 - The monthly testing of Level 1 and Level 2 EES needs to be conducted by one of the following two methods:
 - Under operating temperature conditions or at not less than 30 percent of the EPS nameplate rating.
 - Diesel-powered EPS installations that do not meet the above requirements shall be exercised monthly with the available EPS load and exercised annually with a load which begins at 50 percent load for 30-minutes, then moves to 75 percent load for 60-minutes for a total of 90-minutes of continuous test. Ensure that the startup and or cool down times are not included in the 30-minute load test.
 - Generators shall be exercised once every 36 months for 4 continuous hours.
 - Level 1 EPSS shall be tested at least once within every 36 months
 - Transfer switches are required to be operated monthly (NFPA 110(10), Sec. 8.4.6.)
 - Scheduled test under load conditions include a complete simulated cold start and automatic or manual transfer of all EES loads and are conducted by competent personnel.
 - Maintenance and testing of stored energy power sources (Type 3 EES) are in accordance with NFPA 111.
 - Main and feeder circuit breakers are inspected annually, and a program for periodically exercising the components is established according to manufacturer requirements.
 - Written records of maintenance and testing are maintained and readily available.
 - EES electrical panels and circuits are marked, readily identifiable, and separate from normal power circuits. Minimizing the possibility of damage of the emergency power source is a design consideration for new installations.
 - Ensure that there is battery powered emergency lighting at generator set locations inside a facility (a flashlight is not considered emergency lighting).
 - For outdoor generators, lighting may be supplied by vehicle lights if the generator is accessible and the vehicle lights supplies sufficient illumination for task lighting
 - Emergency generator sets are required to have a minimum of a 90-minute fuel supply. Facilities with Level 1 electrical systems and located in Seismic Zone 3 or 4 per the Uniform Building Code are required to have 96-hours of fuel onsite.
 - Providers with natural gas generators who do not have a backup fuel source must be able to demonstrate that the reliability of natural gas fuel will not be interrupted to maintain compliance. This can be proven with a letter from natural gas vendor that contains:
 - A statement the fuel source is reasonably reliable
 - Description supporting the reasonable reliability assertion
 - A statement of the low likelihood of an interruption
 - Description supporting the low interruption assertion
 - Signature from technical personnel

- **Power Strips, multiple plug adapters, and extension cords (K-920)** - 10.2.3.6 (NFPA 99), 10.2.4 (NFPA 99), 400-8 (NFPA 70), 590.3(D) (NFPA 70), TIA 12-5
 - NFPA 99 – 2012 Edition, Section 10.2.3.6, 10.2.4.1 through 10.3.2.2, and 10.4.1 through 10.4.2.3, S&C 14-46-LSC
 - Power strips may not be used in a patient care vicinity to power non-patient care-related electrical equipment
 - Power strips may be used outside of the patient care vicinity for both patient care-related electrical equipment & non-patient-care-related electrical equipment.
 - “Patient care vicinity” is defined in section 3.3.139 as a space, within a location intended for the examination and treatment of patients (i.e., patient care room) extending 6 ft. beyond the normal location of the bed, chair, table, treadmill, or other device that supports the patient during examination and treatment
 - Multi-plug adapters are not allowed.
 - Medical equipment: Underwriters Laboratories (UL) UL1363A or UL60601-1
 - Personal electrical equipment: Underwriters Laboratories (UL) UL1363
 - Power strips may not be used to plug in appliances such as refrigerators, microwaves, vending machines, etc.
 - Power strips may not be used through doorways, window, under rugs, or similar areas.
 - Power strips may not be used to plug in life saving devices which would include oxygen concentrators.
 - Power strips are not permitted be permanently attached to the wall or any other surface (this is considered using temporary wiring as permanent wiring)
 - Approved power strips are not allowed to be plugged into another power strip (daisy-chained) and extension cords are not permitted to be plugged into the power strip.
 - 10.4.2.1 Nonpatient care–related electrical equipment, including facility- or patient-owned appliances that are used in the patient care vicinity and will, in normal use, contact patients, shall be visually inspected by the patient’s care staff or other personnel. 10.4.2.2 Any equipment that appears not to be in proper working order or in a worn condition shall be removed from service or reported to the appropriate maintenance staff.
 - Where additional outlets are needed in the “patient vicinity”, they must be installed in accordance with NFPA 70, The National Electrical Code, 2011 edition

- **Electrical Equipment – Testing and Maintenance Requirements – (K-921)** - 10.3, 10.5.2.1, 10.5.2.1.2, 10.5.2.5, 10.5.3, 10.5.6, 10.5.8
 - The physical integrity, resistance, leakage current, and touch current tests for fixed and portable patient-care related electrical equipment (PCREE) is performed as required in 10.3. Testing intervals are established with policies and protocols. All PCREE used in patient care rooms is tested in accordance with 10.3.5.4 or 10.3.6 before being put into service and after any repair or modification. Any system consisting of several electrical appliances demonstrates compliance with NFPA 99 as a complete system. Service manuals, instructions, and procedures provided by the manufacturer include information as required by 10.5.3.1.1 and are considered in the development of a program for electrical equipment maintenance. Electrical equipment instructions and maintenance manuals are readily available, and safety labels and condensed operating instructions on the appliance are legible. A record of electrical equipment tests, repairs, and modifications is maintained for a period of time to demonstrate compliance in accordance with the facility's policy. Personnel responsible for the testing, maintenance and use of electrical appliances receive continuing training.

- **Gas Equipment – Cylinder and Container Storage – (K-923) - 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.6.5 (NFPA 99)**
 - $\geq 3,000$ cubic feet
 - Storage locations are designed, constructed, and ventilated in accordance with 5.1.3.3.2 and 5.1.3.3.3.
 - >300 but $<3,000$ cubic feet
 - Storage locations are outdoors in an enclosure or within an enclosed interior space of non- or limited-combustible construction, with door (or gates outdoors) that can be secured. Oxidizing gases are not stored with flammables and are separated from combustibles by 20 feet (5 feet if sprinklered) or enclosed in a cabinet of noncombustible construction having a minimum 1/2 hr. fire protection rating.
 - ≤ 300 cubic feet
 - In a single smoke compartment, individual cylinders available for immediate use in patient care areas with an aggregate volume of ≤ 300 cubic feet are not required to be stored in an enclosure. Cylinders must be handled with precautions as specified in 11.6.2.
 - Cylinders stored in the open are protected from weather.
 - Storage locations are outdoors in an enclosure or within an enclosed interior space of non- or limited-combustible construction, with door (or gates outdoors) that can be secured.
 - Oxidizing gases are not stored with flammables and are separated from combustibles by 20 feet (5 feet if sprinklered) or enclosed in a cabinet of noncombustible construction having a minimum 1/2 hr. fire protection rating.
 - A precautionary sign readable from 5 feet is on each door or gate of a cylinder storage room, where the sign includes the wording as a minimum "CAUTION: OXIDIZING GAS(ES) STORED WITHIN NO SMOKING".
 - Storage is planned so cylinders are used in order of which they are received from the supplier.
 - Ordinary electrical wall fixtures in medical gas supply rooms are installed in fixed locations not less than 5-feet above the floor to avoid physical damage.
 - Empty cylinders are segregated from full cylinders. Empty cylinders are marked to avoid confusion.
 - Medical gas container storage is mechanically ventilated or has natural ventilation to the outside.
- **Gas Equipment – Respiratory Therapy Sources of Ignition – (K-925) - 11.5.1.1, TIA 12-6 (NFPA 99) (i.e. Beauty shops, salons)**
 - Smoking materials are removed from patients receiving respiratory therapy. When a nasal cannula is delivering oxygen outside of a patient's room, no sources of ignition are within in the site of intentional expulsion (1-foot). When other oxygen deliver equipment is used or oxygen is delivered inside a patient's room, no sources of ignition are within the area are of administration (15-feet). Solid fuel-burning appliances is not in the area of administration. Nonmedical appliances with hot surfaces or sparking mechanisms are not within oxygen-delivery equipment or site of intentional expulsion.
- **Gas Equipment – Qualifications and Training of Personnel – (K-926) - 11.5.2.1 (NFPA 99)**
 - Personnel concerned with the application, maintenance and handling of medical gases and cylinders are trained on the risk. Facilities provide continuing education, including safety guidelines and usage requirements. Equipment is serviced only by personnel trained in the maintenance and operation of equipment.
- **Gas Equipment – Labeling Equipment and Cylinders – Precautions for Handling Oxygen Cylinders and Manifolds - (K-928, K-929) - 11.5.3.1, 11.6.2 (NFPA 99)**
 - Equipment listed for use in oxygen-enriched atmospheres are so labeled. Oxygen metering equipment and pressure reducing regulators are labeled "OXYGEN-USE NO OIL". Flowmeters, pressure reducing regulators, and oxygen-dispensing apparatus are clearly and permanently labeled designating the gases for which they are intended. Oxygen-metering equipment, pressure reducing regulators, humidifiers, and nebulizers are labeled with name of manufacturer or supplier. Cylinders and containers are labeled in accordance with CGA C-7. Color coding is not utilized as the primary method of determining cylinder or container contents. All labeling is durable and withstands cleaning or disinfecting.
 - Handling of oxygen cylinders and manifolds is based on CGA G-4, Oxygen. Oxygen cylinders, containers, and associated equipment are protected from contact with oil and grease, from contamination, protected from damage, and handled with care in accordance with precautions provided under 11.6.2.1 through 11.6.2.4 (NFPA 99).

➤ **Flammable and Combustible Liquids Storage Tanks - (K-321, K-500, K-511, K-531)**

- **Installation** of above ground storage tanks shall be in accordance with NFPA 30, 2012 Edition, Section 22.4.1, which addresses the location with respect to property lines, public ways, and important buildings on the same property.
- **Sources of Ignition**
- **In locations** where flammable vapors could be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition can include open flames, lightning, smoking, cutting and welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physicochemical reactions, and radiant heat.
- **NFPA 30**, Section 22 -8.1, requires unsupervised, isolated aboveground storage tanks shall be secured and marked in such a manner as to identify the fire hazards of the tank and its contents to the general public. The area in which the tank is located shall be protected from tampering or trespassing, where necessary. According to NFPA 30, diesel fuel is considered a Class II combustible liquid, meaning, its closed cup flash point is at or above 100 degrees Fahrenheit and below 140 degrees Fahrenheit.
- In accordance with NFPA 30A, Motor Fuel Dispensing and Repair Garages, Section 9.2.5.4, Marking of Tanks and Containers, shall be conspicuously marked with the name of the product contained and with the following marking: "**Flammable -Keep Fire and Flame Away.**"

➤ **Construction / Renovations - (See Chapter 4 and 43 of NFPA 1010 2012 Edition)**

- 43.1.1 Classification of Rehabilitation Work Categories. Rehabilitation work on existing buildings shall be classified as one of the following work categories:
 - **Repair**-The patching, restoration, or painting of materials, elements, equipment, or fixtures for the purpose of maintaining such materials, elements, equipment, or fixtures in good or sound condition.
 - **Renovation**-The replacement in kind, strengthening, or upgrading of building elements, materials, equipment, or fixtures, that does not result in a reconfiguration of the building spaces within.
 - **Modification**-The reconfiguration of any space; the addition, relocation, or elimination of any door or window; the addition or elimination of load-bearing elements; the reconfiguration or extension of any system; or the installation of any additional equipment.
 - **Reconstruction**-The reconfiguration of a space that affects an exit or a corridor shared by more than one occupant space; or the reconfiguration of a space such that the rehabilitation work area is not permitted to be occupied because existing means of egress and fire protection systems, or their equivalent, are not in place or continuously maintained.
 - **Change of use**- A change in the purpose or level of activity within a structure that involves a change in application of the requirements of the Code.
 - **Change occupancy classification**-The change in the occupancy classification of a structure or portion of a structure.
 - **Addition**- An increase in the building area, aggregate floor area, building height, or number of stories of a structure.
 - **Newly constructed elements**, components, and systems shall comply with the requirements of other sections of this Code applicable to new construction.

➤ **Smoke Control Systems - (K-771)**

- Existing engineered smoke control systems, unless specifically exempted by the authority having jurisdiction, shall be tested in accordance with established engineering principles.

➤ **Fire Safety Evaluation System (FSES)**

- The Fire Safety Evaluation System (FSES) is a measuring system that compares the level of safety provided by an arrangement of safeguards that differ from those specified in NFPA 101, Life Safety Code. The FSES is to be utilized for specific deficiencies that cannot be corrected or will constitute an extreme financial hardship and undue burden on the facility. The FSES will be conducted for a specific deficiency or K-Tag, and it is not intended or designed to be used for deficiencies or K-Tags that can be corrected.
- An FSES may be conducted by a qualified individual such as an engineer or architect. The facility may state to request an FSES as part of their plan of correction. An FSES must be done each time a Life Safety Code survey is conducted. In order to use the FSES as an equivalency to the Life Safety Code the facility must meet conditions listed in Table 8 of the FSES. (CMS Form 2786T).

➤ **Temporary Construction Waivers/ Time Limited Waivers**

- The purpose of a Temporary Construction Waiver (TCW) is to allow a facility additional time to obtain bids, permits, architectural designs or plans, plan approval, construction time, etc.
- In order to qualify for a temporary construction waiver, the correction period required must be for more than 90-days from survey exit date.
- Documentation must be submitted to the Central Office Safety and Health Consultant at the Bureau of Survey and Certification and entered in the EIDC system. It should include such documentations as construction bids, pricing quotes, signed contracts, and a detailed timeline from the contractor listing out all major milestones and an estimated completion date.
- Facility must contact their regional office if they are unable to meet their original time frame for completion.

➤ **Continuing Waivers**

- A continuing or annual waiver is for deficiencies that are not covered by the Fire Safety Evaluation Survey (FSES) and are structurally impossible or impracticable to correct and are an undue burden and financial hardship on a facility.
- To be eligible for a continuing waiver the following criteria must be met:
- Must not adversely affect the safety & health of the residents.
- Must not adversely affect the safety & health of the staff.
- Must be a financial hardship and undue burden on the facility (except K-521-corridor(s) used as a plenum).
- Supporting documentation must be provided to support the claim of no adverse effect on residents and staff, and that it would be a financial hardship to correct.
- Continuing waivers must be renewed from year to year along with all required supporting documentation. Note-deficiencies are cited at each survey.

➤ **List of Required Documents**

- The following listing is of various system inspection, testing, and/or documentation that are normally requested by surveyors during the annual and/or complaint surveys involving life safety code. These should be maintained in the facility and retained for at least 24-months or longer based on the record retention required by applicable code:

Emergency Preparedness Plan	Census (by room number)
Waivers that are in effect	Certificate of Occupancy
Fire Watch Policies	Fire Safety Plan
Fire or Construction Reports	Smoking Policy
Space heater policy	
Facility Floor Plan: smoke & fire walls and exits	Fire Drills
Sprinkler Inspection reports:	Sprinkler Inspection reports:
Quarterly ITM Annual ITM Dry System Trip test 3yr leak test Internal pipe and or tank (5yr) Monthly gauge inspection	Hydraulic name plate Fire Pump (weekly or monthly run & ITM) Fire Hydrants Backflow (and forward flow test if applicable) Any other ITM required by NFPA 25
Fire Alarm Inspection Reports:	Fire Alarm Inspection Reports:
Annual Functional & Visual Any other ITM required by NFPA 72	Semiannual Visual Sensitivity of smoke detectors
Emergency Lighting (All battery Back-up) Monthly & Annual	Exit Signs (All battery Back-up) Monthly & Annual
Fire Extinguisher	State Fire Marshall
Fire/Smoke Dampers	Kitchen Hood (ITM & Cleaning)
Generator – Logs (weekly/monthly) – Maintenance – Load Bank – transfer switch – fuel quality	
Electrical Outlet – annual	Fire Door – annual
Boiler certificates	Elevator certificates
Flame Spread ratings	Fire stop materials
Additional documentation may be required upon request during survey	

***Note: Listing may not include all documentation to demonstrate compliance with the NFPA 101, 2012 Edition of LSC and the referenced publications found within chapter two.**

This page provides basic information about Medicare and/or Medicaid provider compliance with Life Safety Code (LSC) requirements and includes links to applicable laws, regulations, and compliance information.

[Hospitals - Section 1861\(e\)\(9\) of the Social Security Act](#) [Nursing Homes - Section 1819\(d\) of the Social Security Act](#)

[Section 1919 \(d\) of the Social Security Act](#) [ICF/IIDs - Section 1905 of the Social Security Act](#) [Hospitals - 42 CFR 482.41](#)

[Long Term Care - 42 CFR 483.90\(a\)&\(b\)](#) [ICF/IIDs - 42 CFR 483.470](#)

[Hospices Furnishing inpatient care - 42 CFR 418.100\(d\)](#) [Ambulatory Surgery Centers - 42 CFR 416.44](#)

[Religious Nonmedical Health Care Institutions – 42 CFR 403.742](#)

[Religious Nonmedical Health Care Institutions – 42 CFR 403.744](#)

[Religious Nonmedical Health Care Institutions – 42 CFR 403.745](#) [Programs of All-Inclusive Care for the Elderly - 42 CFR 460.72](#)