

NFPA 101[®] Life Safety Code[®] 2000 Edition

Preventive Maintenance Manual

**Ohio Department of Health
Division of Quality Assurance
February 2014**

ACKNOWLEDGEMENT

The Preventive Maintenance Manual was developed as a joint educational effort of LeadingAge Ohio, the Academy of Senior Health Sciences, the Ohio Health Care Association, and the Ohio Department of Health. The participants believe the contents of this document to be compliant with the 2000 edition of the National Fire Protection Association 101 *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 January 10, 2003, the Centers for Medicare and Medicaid Services (CMS) published final rules in the Federal Register adopting the 2000 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 2000 edition of the *LSC* and eliminated references to all earlier editions. These regulations were effective on September 11, 2003.

The objective of the code is to assure safety to life during fires and other emergencies. Adoption and use of the 2000 edition of the *LSC* is updated to the latest and best technology in fire protection. 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 as the FSES (Fire Safety Evaluation System) or waivers.

This Preventive Maintenance Manual is intended for use by personnel of Ohio long term care facilities to maintain and improve life safety conditions for the benefit of residents and employees. This document is intended to provide information to facilities, but is not necessarily fully inclusive of all details of *LSC* 2000 or other NFPA Standards. Determinations of compliance with *Life Safety Code* regulations are made at the time of survey. Additionally, this manual does not address state and local building codes.

Please see the regulatory reference overview included in this manual for applicable NFPA codes. In addition to the mandatory references, existing nursing facilities must comply with Chapter 19 Health Care Occupancies while new nursing facilities must comply with Chapter 18 Health Care Occupancies.

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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. Here are some reasons why you should develop a preventative maintenance plan for your facility:

Preventative Maintenance Saves Money: We've all heard the old adage "an ounce of prevention is worth a pound of cure." It's trite, but it is also true. Avoiding problems with your physical plant will save you money in the long run by minimizing the need for new systems or repair jobs.

Preventative Maintenance Saves Time: Taking two hours a month to perform maintenance saves time. It saves you the hassles of dealing with system failures and data loss. Most preventative maintenance procedures are quite simple compared to troubleshooting and repair procedures.

Preventative Maintenance Improves Performance: Many parts of your facility actually degrade over time, and preventative maintenance will help extend the life of your facility's systems.

Preventative Maintenance Provides Safety: Proper working equipment and other safe practices create safe conditions for residents and staff.

LIFE SAFETY CODE REQUIREMENTS

Alcohol Based Hand Rub (ABHR) Dispensers K-211

- o Ensure that corridors are at least 6 feet wide before installing dispensers and that there is a minimum spacing of 4 feet between dispensers.
- o Ensure that dispensers in all locations are not installed over or adjacent to an ignition source such as an electrical switch or outlet. If adjacency is in question, look for evidence of spill, splash, or spray pattern from the ABHR dispenser.
- o Ensure that the maximum individual fluid dispenser capacity is 1.2 liters (2 liters in suites of rooms) and that there are not more than 10 gallons in a single smoke compartment outside a storage cabinet. Storing of quantities greater than 5 gal (18.9L) must meet the requirements of NFPA30.
- o If the floor is carpeted, the building must be fully sprinklered in order to install dispensers.

Construction / Renovations

- o Where major renovations, alterations, or modernizations are made the most current applicable code shall be enforced.
- o “Major” means the modification of more than 50 percent, or more than 4,500 square feet, of the smoke compartment.
- o “Minor” means the modification of less than 50 percent, or less than 4,500 square feet, of the smoke compartment.
- o The replacement of a system, such as a fire alarm system, would be “major” for that system only. Thus, that system would have to meet the requirements for new construction, not the entire building itself. However, if more than one system is renovated, altered or modernized then the entire building may be required to meet the new construction standards.
- o When an entire floor is gutted, the renovation of that floor should be considered “major” and must meet the regulatory requirements for new construction. If corridor walls or partition walls between rooms are removed in their entirety (to make additional space or to reconfigure rooms), the replacement wall must meet new requirements.
- o Cosmetic changes such as painting and wallpapering would not constitute a “major” renovation or alteration regardless of the size of the affected area.

Corridor Walls / Fire Walls / Smoke Walls K-11, K-17, K-21, K-25, K-27, K-39

- o Ensure that corridors are separated from use areas by walls that form a barrier to limit the transfer of smoke and, for existing construction, required to have a fire resistance rating of 30 minutes.
- o Seal all penetrations with rated materials. Do not use expanding foams to seal penetrations unless fire rated.
- o Ensure that damaged fire rated ceiling tiles are replaced with the same type of fire rated tiles.
- o See *NFPA 101* 19.3.6.1 and 19.3.6.5 for exceptions to the corridor separation requirements and permissible openings such as lounges, waiting areas and nursing stations.
- o Fire Walls separating non-conforming buildings are required to maintain a 2 hour fire resistance rating.
- o Openings in corridor walls, such as a pass through a kitchenette that is non-hazardous or a receptionist area, shall meet the requirements for areas open to the corridor.

Corridor Width / Means of Egress K-39, K-72, K-73

Monitor corridors serving as exit access to ensure that they are clear and unobstructed:

- o CMS issued Survey and Certification Memo 12-21 “Instructions Concerning Waivers of Specific Requirements of the 2000 edition of the NFPA 101, LSC, in health care facilities, which allows for waivers related to placing and installing permanent furniture and or wheeled items in the corridor that would be nonconforming under the NFPA 2000 Edition of the LSC and meet the requirements of the NFPA 2012 edition. CMS is allowing facilities, after being cited, to seek waivers for the following:
 - o Fixed Furniture
 - o Is securely attached to the floor or to the wall and does not reduce the clear unobstructed corridor width to less than 6 feet.
 - o Is located only on one side of the corridor and each group does not exceed an area of 50 square feet and is separated from each other by a distance of at least 10ft.
 - o Is located to not obstruct access to building service and fire protection equipment.

- o Corridors are protected by an electrically supervised automatic smoke detection system or the fixed furniture spaces are arranged and located to allow direct supervision.
- o Wheeled Equipment
 - o Does not reduce the clear unobstructed corridor width to less than 60 inches.
 - o The health care occupancy fire safety plan and training program address the relocation of the wheeled equipment during a fire or similar emergency.
 - o Wheeled equipment is limited to the following:
 - o Equipment in use and carts in use
 - o Medical emergency equipment not in use
 - o Patient lift and transport equipment
 - o “Not in use” criteria still applicable
 - o Linen carts, soiled utility carts, wheelchairs and lifts may not be stored in hallways. Isolation carts and crash carts are allowed in the corridors.
 - o Monitor facility to ensure that the facility does not have combustible decorations unless they are flame-retardant. Exception: Combustible decorations, such as photographs and paintings, in such limited quantities that a hazard of fire development or spread is not present.
 - o Storage occurs when an item is left in place or not in use for over 30 minutes. If the appropriate staff is around and using something every 30 minutes the item is not considered to be stored.
 - o “Stop signs” attached to exit doors must not obstruct egress or cover hardware.

Doors K-18, K-21, K-25, K-27, K-28, K-29, K-38

- o Inspect, repair, and maintain doors to ensure that:
 - o Automatic or self-closing devices are properly installed and functioning.
 - o New construction – Doors in the means of egress from sleeping room; diagnostic and treatment areas shall have not less than 41.5 in. (105 cm) in clear width. (44 inch doors).

- o 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.
- o Doors close and latch into the frame (positive latching hardware), no impediments.
- o Doors are unobstructed and not blocked in any manner.
- o Hazardous area doors are self-closing (see also hazardous areas).
- o 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.
- o See CMS Survey and Certification letter 07-18 for clarification and guidance related to door gaps.
- o Monitor doors with magnetic locked or delayed egress locks to ensure that:
 - o Doors release appropriately.
 - o No more than one delayed egress locked door in the path of travel.
 - o Doors with magnetic locking devices without the delayed egress function shall unlock upon activation of the complete fire alarm system.
 - o Doors may not reactivate if the fire alarm system is placed in silent mode. The doors should not relock without the system being reset.
- o Check systems after performance of maintenance to assure systems are returned to working order.
- o Ensure that doors latching mechanisms do not require more than one action to open.
- o No deadbolt locks.
- o Obtain written approval from the local fire authority to extend delayed release locking mechanisms to 30 seconds and submit request for extension of the timed delay to the District Office. Facility must have a written approval from ODH for 30 second delayed locking mechanisms.
- o Notify the local or state fire marshal and obtain any required permits before any changes are made to the system.

Electrical K-106, K-145, K-146, K-147

- o Verify that nursing homes with life support equipment have a Type I Essential Electrical System (EES) powered by a generator with a transfer switch and separate power supply. The EES is in accordance with *NFPA 99*, 3.4.2.2, and 3.4.2.1.4.
- o Inspect and monitor facility to ensure that power strips with surge protection are used appropriately.
 - o Power strips may not be used in resident rooms in the “patient vicinity.” This means the area around the patient bed. No medical equipment, including the resident bed or any high current draw devices can be plugged into a power strip. No hair dryers or refrigerators may be plugged into power strips. Appliances that produce heat or are used for cooling cannot be plugged into a power strip.
 - o Power strips may be used in non-wet, non-direct patient areas. Routine mopping does not constitute a wet area. Equipment such as televisions, DVD players, and clocks, may be plugged into a power strip with surge protection.
 - o Power strips are not allowed to be plugged into another power strip and extension cords cannot be plugged into them. Where additional outlets are needed in the patient vicinity they must be installed in accordance with *NFPA 70, The National Electrical Code*, 1999 edition.
 - o Power strips cannot be covered with rugs or other material.
 - o Power strips should not be permanently attached to the wall.
- o Maintain three foot clearance around all electrical panels.
- o Ensure that all electrical equipment is in good repair and that all electrical cords and plugs have no frayed or exposed wires.

Elevators & Dumbwaiters K-160, K-161

- o Subject elevators to routine and periodic inspections and tests as specified in *ASME/ANSI A17.1, Safety Code for Elevators and Escalators*. All elevators equipped with fire fighter service in accordance with 9.4.4 and 9.4.5 of *NFPA 101* are subjected to a monthly operation with a written record of the findings made and kept on the premises as required by *ASME/ANSI A17.1, Safety Code for Elevators and Escalators*.

Emergency Lighting K-45, K-46

- o Conduct a functional test on all battery operated emergency lighting system 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.
- o 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.
- o Ensure that rooms over 1,000 square feet in area have illuminated exit signs and that the signs are on emergency power.

Exits K-38, K-47, K-72

- o Exit and directional signs display the correct egress pathway or direction of travel with continuous illumination and are also served by the emergency lighting system in accordance with NFPA 101 sections 7.10., 18.2.10.1.
- o Exit access is arranged so that exits are readily accessible at all times and that the means of egress is continuously maintained free of all obstructions or impediments to full instant use.
- o Exit discharges outside the building have a hard surface to the public way and that the exit discharge is usable during inclement weather and is without impediments.
- o Exit discharges outside of the building are illuminated along the path to the public way. (Minimum of one foot candle of illumination at floor level).
- o Doors in the path of travel in means of egress that are not exits but appear to be exists must have signage indicating "NOT AN EXIT" in letters 2 in. (5 cm) high with a stroke width of 3/8 in. (1 cm) and the word EXIT in letters 1 in. (2.5 cm) high
- o Changes in elevation at thresholds cannot exceed 1/4" and changes less than 1/2" can be beveled. Changes greater than 1/2" must be corrected by other means.

Fire Alarm System K-51, K-52, K-54, K-60, K-107

- o Ensure that the fire alarm system is installed and maintained in accordance with *NFPA 72, National Fire Alarm Code, 1999 edition* and that maintenance records are available.
- o Inspect the fire alarm system to determine if the sprinkler system is connected to the alarm system including water flow devices. Verify that activation of the sprinkler system causes the fire alarm to sound.
- o Verify that the fire alarm system transmits to the local fire department or central station.
- o Ensure that the fire alarm system is provided with an alternative power supply in accordance with NFPA 72 as defined in section 9.6.1 of NFPA 101.
- o Self-monitoring fire alarm systems are still required to maintain and provide all required documentation of maintenance and testing.
- o Notify the local or state fire marshal and obtain any required permits before any changes are made to the system.

Fire Drills K-50

- o Ensure that the facility administration has a plan that has been distributed for the protection of all persons in the event of fire, for their evacuation to areas of refuge, and for their evacuation from the building when necessary. Establish a system to ensure that all employees are periodically instructed and kept informed with respect to their duties under the plan.
- o 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 call to the remote monitoring company.
- o Monitor fire drills to ensure that drills are held quarterly, per shift, at unexpected times and under varying conditions.
- o Maintain documentation concerning fire drills for the preceding 12 months that shows at least the following:
 - o 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 may be considered as having occurred at the same time.
 - o One drill per shift per quarter. Drills conducted at shift change are only counted for one shift. If a drill is conducted January 1st, then another drill must be conducted by April 30th to meet the quarterly requirement.

- o Varying conditions of drill. A drill conducted at mealtime is an example of a varying condition.
- o Differing days of the week including weekends.
- o Involvement of all departments.
- o Documented observations of staff response.
- o Record of equipment functioning such as the release of doors and alarms sounding.
- o Between the hours of 9:00 PM to 6:00 AM a silent alarm may be used instead of the audible alarm.
- o Document the time the alarm monitoring company received the alarm.
- o When conducting a silent alarm, ensure that the alarm is tested the following morning noting the time the alarm signal was received.
- o Also refer to Licensure Requirements OAC 1701-17-25 Emergency Disaster and Preparedness.

Fire Extinguishers K-64

- o Inspect portable fire extinguishers on a monthly basis and maintain annually.
- o Change chemical for dry chemical fire extinguishers every six years.
- o Conduct 12 year hydrostatic vessel test.
- o Hydrostatically test CO2 portable fire extinguisher vessels every five years.
- o Ensure that fire extinguishers having a gross weight not exceeding 40 lbs (18.14 kg) are not installed so that the top of the fire extinguisher is not more than 5 feet above the floor.
- o Ensure that fire extinguishers having a gross weight greater than 40 lbs (18.14 kg) 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.

Fire Safety Plan K-48

- o Develop a written health care occupancy fire safety plan that addresses all of the following components:
 - o Use of alarms
 - o Transmission of alarm to fire department
 - o Response to alarms
 - o Isolation of fire
 - o Evacuation of immediate area
 - o Evacuation of smoke compartment
 - o Preparation of floors and building for evacuation
 - o Extinguishment of fire

- o Ensure that evacuation routes are clearly marked on the plan including alternative routes.

Fire Watch K-154, K-155

- o Where a required automatic sprinkler system **or** a required fire alarm system is out of service for more than four hours in a 24-hour period, the long term care district office shall be notified, and the building shall be evacuated or an approved fire watch system be provided for all parties left unprotected by the shutdown until the sprinkler system or fire alarm system has been returned to service. NFPA 101 section 9.7.6.1

- o A fire watch should at least involve one additional trained staff beyond normal facility staffing. These individuals are specially trained in fire prevention and in occupant and fire department notification, and understand the fire safety.

- o A written log or documentation of fire watch rounds should be kept and available for inspection.

- o Fire watch policy must address:
 - o Notification of the local fire department
 - o Notification of the State Health Department and Fire Marshal's office (in the event of a catastrophe)
 - o Facility procedures must address separate situations in which the sprinkler system and/or the fire alarm system is out of service for more than four hours in a 24 hour period.

Fire Safety Evaluation Survey (FSES)

The Fire Safety Evaluation Survey (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 is not intended or designed to be used for deficiencies or K Tags that can be corrected. The FSES will reflect all deficiencies that are present the day that the FSES was completed.

Although usually an FSES is performed by the Department, an FSES may be conducted by a qualified individual such as an engineer or architect. The facility may 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).

Fireplaces (gas and solid fuel burning)

CMS issued Survey and Certification Memo 12-21 which allows waivers related to culture change aspects of a facility that would be nonconforming under the NFPA 2000 Edition of the LSC if the requirements of NPFA Life Safety Code 2012 were met. CMS is allowing facilities, after being cited, to seek waivers pertaining to the installation of direct-vent gas fireplaces in smoke compartments containing patient sleeping rooms; and solid fuel burning fireplaces in areas other than patient sleeping areas.

- o Gas fireplaces:
 - o The smoke compartment must be protected throughout with quick response sprinkler heads;
 - o The fireplace shall include a sealed glass front with a wire mesh panel or screen;
 - o Controls for the fireplace shall be locked or located in a restricted location; and
 - o Electronically supervised carbon monoxide detector shall be provided in the room where the fireplace is located.

- o Solid fuel burning fireplaces:
 - o Shall not be located in a compartment containing patient sleeping areas;

 - o The room or area shall be separated from patient sleeping areas by a one hour fire resistance rating;

- o Fireplace is equipped with an enclosure guaranteed against breakage up to a temperature of 650 degrees Fahrenheit and constructed of heat tempered glass or other approved material; and
- o Electronically supervised carbon monoxide detector shall be provided in the room where the fireplace is located.

Generators K-105, K-108, K-144

- o Inspect all generators weekly and exercise under load for 30 minutes per month in accordance with NFPA 99, section 3.4.4.1. Maintenance and testing of essential electrical system
- o The monthly testing of Level 1 and Level 2 EES needs to be conducted by one of the following two methods:
 - o Under operating temperature conditions or at not less than 30 percent of the EPS nameplate rating.
 - o Loading that maintains the minimum exhaust gas temperatures as recommended by the manufacturer.
 - o Diesel-powered EPS installations that do not meet the above requirements shall be exercised monthly with the available EPS load and exercised annually with supplemental loads at 25 percent of nameplate rating for 30 minutes, followed by 50 percent of nameplate rating for 30 minutes, followed by 75 percent of nameplate rating for 60 minutes, for a total of 2 continuous hours.
 - o Ensure that the startup and or cool down times are not included in the 30 minute load test.
- o Maintain all records of inspections and running under load. Records should include at least:
 - o Date of inspection
 - o Time of inspection
 - o Generator's general condition (leaks, hoses, fuel supply, oil, belts, battery, cooling system, transfer switch)
 - o Start and end times of the load test including start-up time and cool-down time
 - o Generator output readings during load test
 - o Signature of individual conducting inspection, testing, or repair

- o Ensure that there is battery powered emergency lighting at generator set locations inside a facility (a flashlight is not considered emergency lighting). Lighting from vehicles is an acceptable means of providing emergency lighting for generator sets located outside and accessible.
- o NFPA 99 requires an emergency generator in a health care facility when life support equipment is utilized. Monitor facility supplies to ensure that a liquid fuel supply is available for use by the emergency generator including fuels such as propane and fuel oil.
- o Emergency generator sets are required to have a minimum of a 90 minute fuel supply.
- o Facility must have a contingency plan and a written agreement for the resupplying of fuel in an emergency situation.
- o 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:
 - o A statement the fuel source is reasonable reliable
 - o Description supporting the reasonable reliability assertion
 - o A statement of the low likelihood of an interruption
 - o Description supporting the low interruption assertion
 - o Signature from technical personnel
- o Maintain a remote generator annunciator panel in an attended area that is staffed twenty four hours a day seven days a week.
- o Ensure that electrical power is transferred within 10 seconds of interruption when using a generator.
- o Facilities with an off-site fuel source are required to have a letter of reliability from their natural gas provider that contains:
 - o Statement that the fuel source is reasonable reliable
 - o Description supporting the reasonable reliability assertion
 - o Statement of the low likelihood of an interruption
 - o Description supporting the low interruption assertion
 - o Signature from technical personnel
 - o Emergency (battery powered) lighting must be installed in the generator room to supply task lighting.
 - o For outdoor generators, lighting may be supplied by vehicle lights if the generator is accessible and the vehicle lights supplies sufficient illumination to provide task lighting

Hazardous Areas K-29

- o 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.
- o New construction - any hazardous area is required to have a one hour fire separation, including a 45 minute rated fire door with positive latching hardware and a self-closing device, and to be completely sprinklered.
- o For existing facilities, ensure that any hazardous area is separated by a one-hour fire construction or completely sprinklered. If area is sprinklered, maintain a solid wood core door with automatic self-closing device equipped with positive latching hardware that resists the passage of smoke.
- o Monitor mechanical rooms to ensure that the rooms are clean and orderly and are not used for combustible storage.
- o Ensure that storage is in accordance with the Life Safety Code and Local Fire and Building Codes.
- o Ensure that there is a minimum of a 3 foot clearance around all electrical panels and heat producing equipment such as a gas furnace.
- o Change in use of a room can create a hazardous area.
- o Hazardous areas for existing facilities include but are not limited to:
 - o Boiler and fuel-fired heater rooms
 - o Laundries greater than 100 square feet
 - o Repair shops and paint shops
 - o Laboratories if classified as a severe hazard
 - o Combustible storage rooms/spaces (over 50 square feet)
 - o Trash collection rooms
 - o Soiled linen rooms
 - o Smoking rooms

Heating, Ventilation, Air Conditioning, & Cooling (HVAC) K-67, K-68, K-104

- o Ensure that all HVAC units are installed and maintained in accordance with *NFPA 90A, Standard for the Installation of Air-Conditioning and Ventilation Systems*, 1999 Edition.

- o Examine each fire, smoke or ceiling damper every two years to ensure that it is not rusted or blocked giving attention to hinges and other moving parts. At least every 4 years, fusible links (where applicable) shall be removed; all dampers shall be operated to verify that they fully close; the latch, if provided, shall be checked; and moving parts shall be lubricated as necessary.
- o Monitor facility plant to ensure that all air filters are kept free of excess dust and combustible material. Unit filters should be renewed or cleaned according to manufacturer's recommendations
- o Semiannually (twice a year) inspect electrical equipment automatic filters and observe the operation cycle to ensure that the motor, relays, and other controls function as intended. Inspect drive motors and gear reductions at least semiannually and lubricate when necessary.

Hood Suppression System K-69

- o Inspect and maintain the hood suppression system in accordance with *NFPA 96*.
 - o Suppression systems inspected semi-annually
 - o Hood and exhaust ducts must be cleaned at least annually
- o Verify that fuel sources are automatically disconnected when the extinguishing system is activated.
- o Clearly mark and locate the extinguishing system activator in the path of egress from the kitchen.
- o Verify that activation of the extinguishing system activates the facility fire alarm.
- o Ensure that the hood suppression system is UL 300 compliant.
- o Train staff in the operation of any range hood extinguishing system.
- o Monitor all cooking and warming locations to limit or avoid creating grease laden vapors in accordance with *NFPA 96*.
- o Ensure that there is a K Type fire extinguisher installed in the kitchen.

Interior Finish, Furnishings, & Decorations K-14, K-15, K-16, K-72, K-73, K-74, K-130

- o CMS issued Survey and Certification Memo 12-21 “Instructions Concerning Waivers of Specific Requirements of the 2000 edition of the NFPA 101, LSC, in health care facilities, which allows for waivers related to interior finishes/decorations that would be nonconforming under the NFPA 2000 Edition of the LSC and meet the requirements of the NFPA 2012 edition. CMS is allowing facilities, after being cited, to seek waivers for the following:
 - o Decorations on non-fire-rated doors do not interfere with the operation of any required latching of the door and do not exceed area limitations.
 - o Decoration do not exceed 30 percent of the wall, ceiling, and door areas inside any room or space of a smoke compartment that is protected by an approved supervised automatic sprinkler system.
 - o Decoration 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 that is protected throughout by an approved, supervised automatic sprinkler system.
- o Interior finish that is an approved existing installation of materials applied directly to the surface of walls and ceilings in a total thickness of less than 1/28 in. shall be permitted to remain in use.
- o Facilities are required to maintain documentation as to the flame and smoke spread ratings of all their interior finishes that have been replaced and or updated.
 - o Corridor finishes must be Class A or B (existing buildings).
 - o Interior finishes for non-corridor areas may be Class A, B or C if the building is fully sprinklered (existing buildings).
- o Monitor facility to ensure that the means of egress is continuously maintained free of all obstructions or impediment to full instant use in the case of fire or other emergency. No furnishings, decorations, or other objects shall obstruct exits, access thereto, egress there from, or visibility thereof. *NFPA 101* section 7.1.10.
- o Monitor facility to ensure than no signs or decorations are attached to sprinkler heads or exit signs.

- o Inspect curtains for flammability, review labels, or tags. Section 10.3.1 requires these materials to be flame resistant as demonstrated by testing in accordance with NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*.
- o Fabrics can be made flame resistant by chemical treatment. However, such treatments can be made ineffective by laundering, dry cleaning or water leaching. Maintain records to document that treated fabrics are maintained in accordance with the manufacturer's specification to retain flame resistance.
- o Monitor facility to ensure that the facility does not have combustible decorations unless they are flame-retardant. Exception: Combustible decorations, such as photographs and paintings, in such limited quantities that a hazard of fire development or spread is not present.
- o Monitor use of outdoor decorations that are placed near the building as these can create a hazard, e.g. hay bales. Consider alternative to mulch in outside bedding areas to reduce the risk of fire.
- o Monitor facility to ensure that furnishings or decorations of an explosive or highly flammable character are not used. Examples of explosive or highly flammable decorations include live or cut Christmas trees and pine branches/roping/garland; not effectively flame-retardant treated crepe paper decorations; finely divided tinsel-like material, garland; pyrozylin plastic decorations.

Laundry /Trash K-29, K-75

- o Monitor facility to ensure that trash (including recycle bins, shredding paper containers) and soiled linen containers do not exceed 32 gallons in a 64 square foot area.
- o Recycle Bins

Oxygen Storage K-76, K-77, K-141, K-143

- o Monitor facility to ensure appropriate oxygen storage including verifying that:
 - o Doors are secured against unauthorized entry.
 - o Interior doors of storage locations are equipped with self-closing devices and positive latching hardware to establish the required separation. Door must have at least a $\frac{3}{4}$ hour fire rating when transferring of liquid oxygen occurs within the storage location.
 - o Oxygen cylinders are separated from combustible materials by a minimum distance of five feet if the entire storage location is protected by an automatic sprinkler system.

- o Liquefied gas container storage is mechanically ventilated or has natural ventilation to the outside.
- o Cylinder and container storage locations meet temperature limitations. Where enclosures (interior or exterior) for supply systems are located near sources of heat, such as furnaces, incinerators, or boiler rooms, they shall be of construction that protects cylinders from reaching temperatures exceeding 130°F (54°C).
- o Ordinary electrical wall fixtures in oxygen supply rooms are installed in fixed locations not less than five feet (1.5 m) above the floor to avoid physical damage.
- o Monitor facility to ensure that oxygen cylinders are protected to avoid damage to the cylinder, valve, or safety device. Such cylinders shall not be stored near elevators, gangways, or in locations where heavy moving objects will strike them or fall on them.
- o Monitor facility to ensure that freestanding cylinders are properly chained or supported in a proper cylinder stand or cart.
- o Monitor oxygen storage area to ensure the separation of full and empty oxygen cylinders.
- o Monitor facility to ensure that smoking, open flames, electric heating elements, and other sources of ignition do not occur within storage locations or within 20 feet of outside storage locations
- o Maintain non-smoking and no smoking signs in areas where oxygen is used or stored.
- o Maintain a precautionary sign, readable from a distance of five feet that is conspicuously 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**

Oxygen (Transferring Liquid) Oxygen K-143

- o Ensure that liquid oxygen is transferred in an area in a separate portion of the facility away from where residents reside and separated by 1-hour fire resistive construction, is mechanically ventilated, sprinklered and has a ceramic or concrete floor.

- o Monitor facility to ensure that the area is posted with signs indicating transferring is occurring and that smoking in the immediate area is prohibited.

Portable space heating devices K-70

- o Portable space heating devices are prohibited in health care occupancies. NFPA 101 section 18.7.8, 19.7.8 Exception: portable space-heating devices shall be permitted to be used in non-sleeping staff and employee areas where the heating elements of such devices do not exceed 212 degrees F (100 degrees C).
- o If a facility is utilizing space heaters, then the facility must maintain documentation/policies consistent with the Life Safety Code.

Smoke Detectors K-53, K-54

- o Maintain and calibrate smoke detector systems in accordance with *NFPA 72*.
- o Test all smoke detectors at least annually to ensure that each detector is operative and produces the intended response.
- o Check smoke detector sensitivity within one year of installation and every 2 years thereafter.
 - o 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. 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).
 - o 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 to actual sensitivity levels that can be compared to the listed sensitivity range for all smoke detectors.
- o Ensure that smoke detectors are installed the appropriate distance from intake and exhaust ventilation.
- o Ensure sensitivity tests reports have all required information pertaining to the ranges of the sensitivity of the smoke detectors and the time it took to activate.

Smoking Regulations K-66

- o Monitor facility to ensure that ashtrays of noncombustible material and safe design are provided in all indoor and outdoor areas where smoking is permitted.
- o Provide metal containers with self-closing cover devices into which ashtrays can be emptied that are readily available to all areas where smoking is permitted.
- o Evaluate smoking areas for use of gravel rather than flammable mulch around building.
- o Maintain required "OXYGEN IN USE" signs. Signs may be required in non-smoking facilities if entrances are not marked with smoking prohibited in this facility signage.
- o 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 back pack, etc.
- o Refer to OAC 3701-17-20 for additional licensure requirements regarding smoking and the use of flame producing devices.

Sprinkler System K-56, K-58, K-61, K-62

- o Inspect and maintain sprinkler system in accordance with *NFPA 25*. Retain maintenance records of the sprinkler system for the preceding 12 months and ensure availability for inspections.
- o Gauges shall be replaced every 5 years or tested every 5 years by comparison with a calibrated gauge. Gauges not accurate to within 3 percent of the full scale shall be recalibrated or replaced.
- o Water-flow alarm devices including, but not limited to, mechanical water motor gongs, vane-type water-flow devices, and pressure switches that provide audible or visual signals shall be tested quarterly.
- o Testing the water-flow alarms on wet pipe systems shall be accomplished by opening the inspector's test connection. Fire pumps shall not be turned off during testing unless all impairment procedures contained in Chapter 11 are followed.
- o Fire pumps shall be tested conducted under minimum, rated, and peak flows of the fire pump by controlling the quantity of water discharged through approved test devices annually.

- o A weekly test of electric motor-driven fire pump assemblies shall be conducted without flowing water. This test shall be conducted by starting the pump automatically. The pump shall run a minimum of 10 minutes.
- o A weekly test of a diesel engine-driven fire pump assemblies shall be conducted without flowing water. This test shall be conducted by starting the pump automatically, and the pump shall run a minimum of 30 minutes.
- o Monitor facility to ensure that there are no gaps in ceiling adjacent to sprinkler heads.
- o Ensure that all storage is kept at least 18 inches below and away from any sprinkler head.
- o Monitor facility to ensure that cubicle curtains are installed to prevent interference with the sprinkler system.
- o Maintain a supply of at least two spare sprinkler heads for each type of sprinkler used in the facility. (Note- more than two sprinkler heads may be required depending on the number of heads used in a facility). Keep the sprinkler wrench with the spare sprinkler heads.
- o Ensure that the same type of sprinkler head is used throughout each compartment. (Note there are exceptions for special areas such as boiler rooms which may have higher than normal temperatures.) According to NFPA 13, a compartment is defined as a space completely enclosed by walls and a ceiling. The compartment enclosure is permitted to have openings to an adjoining space if the openings have a minimum lintel depth of 8 in. (203 mm) from the ceiling.
- o Maintain sprinkler heads clean, dust free, and paint free.
- o 1999 NFPA 13 describes fully sprinkler coverage to include all:
 - o Closets – must have sprinkler protection
 - o Area behind dryers in laundry
 - o Walk-in coolers/freezers
 - o Linen/trash chutes
 - o Attic spaces
 - o Overhangs that extend more than 48” from building with limited unless construction of non-combustible or limited combustible materials according to 1999, NFPA 13, section 5-13.8
 - o Elevator machine rooms and shaft space with limited exceptions according to 1999, NFPA, Section 5-13.6
 - o Electrical rooms with limited exceptions according to 1999, NFPA 13, section 5-13.11

Vertical Openings K-20, K-21, K-71

- o Ensure that stairways, elevator shafts, light and ventilation shafts, trash, laundry chutes and other vertical openings, including pneumatic rubbish and linen systems, that open directly onto any corridor is sealed by fire-resistive construction to prevent further use or is provided with a fire door assembly having a fire protection rating of one hour with self-closing device and positive latching hardware.
- o Collection rooms must be dedicated for the collection function only.
- o Monitor facility to ensure that the area under stairways is not used for storage, unless by special design.
- o Ensure that all chute openings are secure from accidental falls.

WAIVERS

Temporary Construction Waivers

- o 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.
- o In order to qualify for a temporary construction waiver the correction period required must be for more than 90 days from survey exit date.
- o Documentation must be submitted to the Regional Office supporting the facility's TCW request such as construction bids, pricing quotes, and signed contracts.
- o Facility must contact their Regional Office if they are unable to meet their original time frame for completion. A good faith effort must have been made in order for a facility to be granted an extension from CMS.

Continuing Waivers

- o 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.
- o To be eligible for a continuing waiver the following criteria must be met.
 - o Must not adversely affect the safety & health of the residents.
 - o Must not adversely affect the safety & health of the staff.
 - o Must be a financial hardship and undue burden on the facility.
 - o Documentation must be provided to support the claim of no adverse effect on residents and staff, and a financial hardship to correct.
- o 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. All of these should be maintained in the facility and retained for at least 24 months or longer based on the facilities last annual survey.

- o Facility diagram showing layout, room designation and exits.
- o Copy of any waivers that are in effect.
- o Emergency Lighting (Battery Operated)
 - o Test monthly for 30 seconds
 - o Test annually for 90 minutes
- o Fire Alarm
 - o Monthly, Quarterly, semi-annual and annual testing
 - o Batteries every 4 years
- o Fire Dampers
 - o Test and lube every 4 years
- o Fire Drills
 - o One per month, per shift, per quarter
- o Fire Pump (if applicable)
 - o Weekly
 - o Monthly
 - o Annual
- o Flame Retardant Treatments
- o Generator
 - o Weekly inspection
 - o Monthly exercising
 - o Annual Load testing (is applicable)
 - o Annual Inspection Report
- o Hood Suppression
 - o Semi-annual (surveyors will need to see at least last two)
 - o Follow up repairs and corrections completed from semi-annual inspection
 - o Cleaning reports

- o Sprinkler System
 - o Check pressure gauges - weekly (dry)
 - o Check pressure gauges monthly (wet)
 - o Quarterly inspection
 - o Annual inspection
 - o 5yr. internal inspection if required
 - o 5yr. standpipe hydro test

- o Smoke detectors
 - o Test functionality annually
 - o Test sensitivity within one year after installation
 - o Test sensitivity every two years afterwards

- o Misc. Items (if necessary)
 - o Elevator maintenance, state certificate and state inspection
 - o Medical gas certificate
 - o Boiler certificate (annual)

- o Facility Policies
 - o Fire Alarm
 - o Fire Drill
 - o Fire Procedures
 - o Fire Watch
 - o Smoking
 - o Generator use, maintenance and malfunction
 - o Power strips use
 - o Portable space heaters

*Note: Listing may not include all documentation to demonstrate compliance with the LSC