LIFE SAFETY CODE MAINTENANCE MANUAL

NORTH DAKOTA
DEPARTMENT *of* HEALTH

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INTRODUCTION

The Life Safety Code designates specific requirements to provide a reasonably safe environment for residents, patients, and staff during fires and other similar emergencies in both new construction and existing buildings.

This Life Safety Code Maintenance Manual is intended for use by maintenance staff and others in health care facilities (hospitals and nursing facilities) to maintain and improve life safety conditions. This document provides information to assist facilities in maintaining fire and life safety systems in their building, but is not necessarily fully inclusive of all requirements of the Life Safety Code or other National Fire Protection Association (NFPA) Standards. It is not intended to provide information to aid in the design of a health care facility. Determinations of compliance with the Life Safety Code are made at the time of the survey by the authority having jurisdiction. This manual does not address compliance with state and local building codes such as the International Building Code.

References are provided to the Life Safety Code and other NFPA standards as appropriate. Primary references are found in the 2012 edition of NFPA 101, Life Safety Code, Chapter 18, New Health Care Occupancies and Chapter 19, Existing Health Care Occupancies. The Centers for Medicare and Medicaid Services (CMS) also provides guidance and interpretations of the Life Safety Code requirements in CMS Survey & Certification letters at http://www.cms.gov/Medicare/Provider-Enrollment-and-Certification/SurveyCertificationGenInfo/Policy-and-Memos-to-States-and-Regions.html

All new construction, remodeling, or installations in licensed hospitals and nursing facilities must be submitted to the North Dakota Department of Health (NDDoH), Division of Life Safety & Construction for review and approval prior to the start of construction. Hospitals refer to North Dakota Administrative Code Section 33-07-02.1-02. Nursing facilities refer to North Dakota Administrative Code Section 33-07-04.2-08.

For further information, please contact the Division of Life Safety & Construction, NDDoH, 600 E. Boulevard Ave. – Dept. 301, Bismarck, ND 58505-0200, or call 701.328.4873.

Alcohol-Based Hand-Rub (ABHR) Dispensers

Alcohol-based hand-rub dispensers must be installed in a manner that minimizes leaks and spills that could lead to falls and protects against access by vulnerable populations, such as residents in dementia units.

Where dispensers are installed in a corridor, the corridor must be at least 6 feet wide. There is also a minimum spacing of 4 feet between dispensers.

The maximum individual fluid dispenser capacity is 0.3 gallons (1.2 liters) in rooms, corridors, and areas open to corridor. The maximum individual dispenser fluid capacity is limited to 0.5 gallons (2.0 liters) in suites of rooms. Not more than a total of 10 gallons of solution can be in use in a single smoke compartment outside of a storage cabinet.

Dispensers installed directly over carpeted floor surfaces are permitted only in smoke compartments protected by automatic sprinkler systems.

Ensure that the ABHR location relative to electrical outlets, switches, etc. is more than 1 inch to the left, right, or below the electrical source and at no time directly above the source.

- **References**:
  - LSC 18/19.3.2.6

Corridor Walls

Ensure that corridors are separated from use areas by walls that form a barrier to limit the transfer of smoke.

Seal all penetrations in fire-rated walls with fire-rated materials. Do not use expanding foams to seal penetrations unless fire-rated. Products that are acceptable are United Laboratories (UL) or Factory Mutual (FM) listed. Refer to firestopping systems provided by the product manufacturer.

Replace damaged fire-rated ceiling tiles with fire-rated ceiling tiles.

See references for exceptions to the corridor separation requirements and permissible openings such as lounges, waiting areas, nursing stations, mail slots, and certain pass-through windows.

- **References**:
  - LSC 18/19.3.6.1, 18/19.3.6.2, 18/19.3.6.5

Corridor Width

Monitor corridors serving as exit access to ensure that they are clear and unobstructed. Wheeled equipment, consisting of equipment and carts in use, medical emergency equipment not in use, and

patient lift and transport equipment is permitted so long as it doesn't reduce the clear unobstructed corridor width to less than 60 inches and the fire safety plan and training of staff addresses relocation of this wheeled equipment. Other items, furniture, equipment, etc. cannot be stored in the corridor. Storage occurs when an item is left in place or not in use for over 30 minutes. If the item is in use every 30 minutes or less, the item is not considered to be stored in the corridor.

    - Items such as furniture and plants are not to be placed in the corridors. Fixed furniture complying with 18/19.2.3.4(5) is allowed.

- **References**:
    - S&C-10-18-LSC: Revision of S&C-04-41, Corridor Width & Corridor Mounted Computer Touch Screens in Health Care Facilities; S&C-04-41 Corridor Width and Corridor Mounted Computer Touch Screens
    - LSC 18/19.2.3.4, 18/19.2.3.5

Doors

Ensure that automatic or self-closing devices are properly installed and functioning.

Smoke doors and doors opening on to the corridor must close properly and resist the passage of smoke. Non-rated gaskets, such as weather stripping, are not an acceptable method to correct door gaps.

Ensure doors close and latch into the frame (positive latching hardware), without impediments, and open with one motion.

Ensure doors are unobstructed and not blocked in any manner.

Ensure hazardous area doors are self-closing (see also hazardous areas).

Smoke barrier doors that swing in the same direction may be required to have a coordinator to ensure doors close properly (allows one door to close first preventing the doors from binding).

Monitor doors with magnetic locks or delayed egress locks to ensure that:

    - Doors release appropriately at preset time delay and upon activation of the fire alarm system.
    - Doors with magnetic locking devices unlock upon activation of the fire alarm system.
    - Doors do not reactivate if the fire alarm system is placed in silent mode. The doors should not relock without the system being reset.
    - Systems are returned to working order after performance of maintenance.
    - The Department of Health is contacted to obtain any required approval before changes are made to the system.

- **References**:
    - LSC 18/19.2.2.2, 18/19.3.6.3

Electrical

Power strips can be used for electronic devices such as computer equipment, flat-screen TVs, etc., so long as they are not within the patient care vicinity (within 6'-0" of the patient). Any cord-connected electrical equipment used in the patient care vicinity must have a three-pin grounding-type plug.

Maintain a minimum 3-foot clearance around all electrical panels.

- **References**:
  - LSC 9.1.2
  - NFPA 70, *National Electrical Code*
  - NFPA 99, *Health Care Facility Code*
  - CMS S&C 14-46 Categorical Waiver for Power Strips Use in Patient Care Areas

Elevators & Dumbwaiters

Elevators must undergo routine and periodic inspections and tests as specified in ASME A17.1, *Safety Code for Elevators and Escalators*. All elevators equipped with fire fighter service in accordance with 9.4.3 of NFPA 101 must be subjected to a monthly operation with a written record of the findings made and kept on the premises as required by ASME A17.1 and ASME A17.3.

- **References**:
  - LSC 18/19.5.3, 9.4

Emergency Lighting

Conduct a functional test on all exit signs and emergency lighting units at 30-day intervals for not less than 30 seconds. Conduct a functional test on all battery-powered emergency exit signs and emergency lighting units annually for not less than 90 minutes. Ensure that equipment is fully operational for the duration of the test. Written records of visual inspections and tests must be kept by the facility.

Ensure exterior exit lighting is equipped with two sources of light either by having two fixtures or one light fixture with two independent bulbs. A single-bulb fixture equipped with long-life type bulbs and quick strike is also acceptable.

The exit discharge must have a functional emergency light that lasts at least 90 minutes.

Battery pack emergency lighting is required at the generator and anesthetizing locations.

All bulbs in all emergency lights and exit lights must be functional at all times.

- **References**:
  - LSC 18/19.2.8, 18/19.2.9

Exits

Monitor exit and directional signs to ensure that they are continuously illuminated (all bulbs must be functional).

Monitor exit access to ensure it 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.

Ensure that exit discharge outside the building has a hard surface to the public way, is usable during inclement weather, and is without impediments.

Monitor exit discharge outside the building to ensure it is illuminated along the path to the public way (minimum of 1-foot candle at floor level).

- **References**:
  - LSC 18/19.2.1, 18/19.2.8, 18/19.2.10.1, 7.1, 7.8, 7.10.1.5

Fire Alarm System

The fire alarm system must transmit to the local fire department or central station. The outside notification portion of the fire alarm system must be tested monthly, and a complete fire alarm system test and servicing must be performed on an annual basis. The monthly testing may be done in conjunction with the fire drill. Note that activation of the fire alarm is not required during the drill on the night shift. However, the fire alarm system must still be tested each month. Upon activation of the alarm, determine that smoke and fire doors close properly, the fire department notification device functions, smoke dampers close, etc.

Ensure all batteries within the fire alarm system are tested as required, including the semiannual load voltage test and annual 30-minute discharge test.

Ensure that the fire alarm system is installed and maintained in accordance with NFPA 72, *National Fire Alarm and Signaling Code*, 2010 edition and that maintenance records are available.

Ensure that hard copy records are available for self-monitoring fire alarm systems.

- **References:**
  - LSC 18/19.3.4, 9.6

Fire Drills

Fire exit drills must include the transmission of a fire alarm signal and the simulation of emergency fire conditions. However, the movement of patients or residents to safe areas or to the exterior of the building is not required.

Drills must be conducted quarterly on each shift to familiarize staff with signals and emergency actions required under varied conditions. Drills must be held at unexpected times and under varying conditions to simulate an actual fire. Avoid conducting fire drills at the same time on each shift. When drills are conducted between 9:00 p.m. and 6:00 a.m., a coded announcement may be used instead of audible alarms. The purpose of a fire drill is to test the efficiency, knowledge, and response of staff. Its purpose is not to disturb or excite patients or residents.

Maintain documentation concerning fire drills for the preceding 12 months that shows at least the following:

- One drill per shift per quarter
- Varying conditions of drill
- Involvement of all departments
- Observations of staff response
- Functioning of equipment such as the release of doors and alarms sounding

- **References:**
  - 18/19.7.1

Fire Extinguishers (Portable)

Inspect portable fire extinguishers monthly and maintain annually.

Change chemical for dry chemical fire extinguishers every six years and install the appropriate label.

Conduct 12-year hydrostatic vessel test and ensure a sticker stating such is applied.

Hydrostatically test CO2 portable fire extinguishers every five years.

Inspect the Verification of Service (collar) ring 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 lb (18.14 kg) must 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 lb must be installed so that the top of the fire extinguisher is not more than 3.5 feet above the floor. In no case can the clearance between the bottom of the fire extinguisher and the floor be less than 4 inches.

- **References**:
  - LSC 18/19.3.5.12, 9.7.4.1
  - NFPA 10, *Standard for Portable Fire Extinguishers*

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 it is not intended or designed to be used for deficiencies or K Tags that can be corrected.

Although usually an FSES is performed by the health department, an FSES may be conducted by a qualified engineer or architect. The facility may request an FSES as part of its plan of correction. In order to use the FSES as an equivalency to the Life Safety Code, the facility must meet conditions listed on Worksheet 4.7.10 of the FSES (CMS Form 2786T).

- **References**:
  - CMS S&C-17-15 Use of the Fire Safety Evaluation System (FSES), National Fire Protection Association (NFPA) 101A, Guide on Alternative Approaches to Life Safety, 2013 Edition by Health Care Occupancies and Board and Care Occupancies
  - LSC 18/19.1.1.1.1, 1.4

Fire Safety Plan

A written plan must be provided for the protection of all patients and residents during an evacuation in an emergency. The plan must include:

- Use of the alarm system
- Transmission of the alarm to the fire department
- Emergency phone call to the fire department
- Response to the alarm
- Isolation of the fire
- Evacuation of the immediate area
- Evacuation of the smoke compartment
- Preparation of floors and building for evacuation
- Extinguishment of fire

Ensure that evacuation routes are clearly marked on the plan, including alternative routes. The evacuation routes do not have to be posted in the facility.

- **References**:
  - LSC 18/19.7.1, 18/19.7.2

Fire & Smoke Dampers

NFPA 80, *Standard for Fire Doors and Other Opening Protectives*, covers the installation, testing, and maintenance of fire dampers and combination fire and smoke dampers. NFPA 105, *Standard for Smoke Door Assemblies and Other Opening Protectives*, covers the installation, testing, and maintenance of smoke dampers.

One year after initial installation and then at least every 4 years (6 years for hospitals), the following maintenance must be performed:

1) Fusible links must be removed.
2) All dampers must be operated to verify that they close fully.
3) Moving parts must be dry lubricated as necessary.
4) Fusible link to be reinstalled or replaced after testing is complete.

This maintenance can be performed through the service opening, which is required to be located in the air duct adjacent to the damper. This opening must be large enough to permit maintenance and resetting of the device.

- **References:**
  - NFPA 80, *Standard for Fire Doors and Other Opening Protectives*
  - NFPA 105, *Standard for Smoke Door Assemblies and Other Opening Protectives*

Fire Watch

Where a required fire alarm system is out of service for more than four hours in a 24-hour period, or a required automatic sprinkler system is out of service for more than 10 hours in a 24-hour period, the health department must be notified. The building must be evacuated or an approved fire watch provided for all areas left unprotected by the shutdown until the sprinkler system or fire alarm system has been returned to service. When a fire watch is instituted, the facility must call the department at 701.328.4873 with the following:

  - Name of facility
  - Contact person
  - Telephone number
  - Reason fire watch was instituted

Facility staff will need to call the health department when the fire watch has been lifted and after the sprinkler system or fire alarm system is returned to normal.

A fire watch should involve at least one additional trained staff beyond normal facility staffing. These individuals should have no other assigned duties during the fire watch.

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

- **References**:
  - LSC 18/19.3.4.1, 18/19.3.5.1, 9.6.1.6, 9.7.6
  - NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*

Generators

Inspect all generators weekly and exercise under load for 30 minutes per month in accordance with NFPA 99, *Health Care Facilities Code*, 6.4.4.1.1.4(A) through 6.4.4.1.1.4(C).

The monthly testing of diesel generator sets must be conducted for a minimum of 30 minutes using one of the following two methods:

1) Loading that maintains the minimum exhaust gas temperatures as recommended by the manufacturer.
2) Under operating temperature conditions and at not less than 30 percent of the EPS nameplate kW rating.

Spark-ignited generator sets shall be exercised at least once a month with the available EPSS load for 30 minutes or until the water temperature and the oil pressure have stabilized.

Maintain all records of inspections and running under load. Records should include at least:

- The date of the maintenance report
- Identification of the servicing personnel
- Notation of any unsatisfactory condition and the corrective action taken, including parts replaced
- Testing of any repair for the time as recommended by the manufacturer

Ensure that electrical power is transferred within 10 seconds of interruption when using a generator.

Ensure that there is battery-powered emergency lighting at generator set locations inside a facility or enclosure.

The ambient air temperature in the EPS equipment room or outdoor housing containing Level 1 rotating equipment shall be not less than 4.5°C (40°F).

Units housed outdoors shall be heated as necessary to maintain the water jacket and battery temperature determined by the EPS manufacturer for cold start and load acceptance for the type of EPSS.

Emergency generator sets are required to have a minimum of a 90-minute fuel supply.

Maintenance of lead-acid batteries shall include the monthly testing and recording of electrolyte specific gravity. Battery conductance testing shall be permitted in lieu of the testing of specific gravity when applicable or warranted.

Maintain a remote generator annunciator panel in a constantly attended area and a remote stop external to the room or enclosure.

- **References**:
  - LSC 18/19.2.9, 7.9
  - NFPA 99, *Health Care Facilities Code*
  - NFPA 110, *Standard for Emergency and Standby Power Systems*

Hazardous Areas

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. This can include areas used for the storage or use of combustibles or flammables; toxic, noxious, or corrosive materials; or heat-producing appliances.

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.

Ensure that there is a minimum of a 3-foot 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
- Laundries greater than 100 square feet
- Maintenance shops and paint shops
- Laboratories
- Combustible storage rooms (over 50 square feet)
- Trash collection rooms containing more than 64 gallons
- Soiled linen rooms containing more than 64 gallons
- Anesthetizing locations
- Medical gas storage
- Cooking facilities

- **References**:
  - LSC 18/19.3.2, 19.3.5.9, 7.2.1.8, 8.7

NFPA 99, *Health Care Facilities Code*

Heating, Ventilating, and Air-Conditioning (HVAC)

Portable space heating devices are prohibited in all health care occupancies, unless both of the following are met:

- Such devices are permitted to be used only in nonsleeping staff and employee areas.
- The heating elements of such devices do not exceed 212°F (100°C).

- **References**:
  - LSC 18/19.5.2, 18/19.7.8, 9.2
  - NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*

Interior Finish, Contents, and Furnishings

Maintain documentation as to the flame and smoke spread ratings of all interior finishes.

Existing interior wall and ceiling finishes must be Class A or B (or Class C permitted if sprinklered). New interior wall and ceiling finishes must be Class A (or Class B permitted if sprinklered),

Monitor 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.

Monitor facility to ensure that no signs or decorations are attached to sprinklers or exit signs.

Inspect curtains for flammability and review labels or tags. Section 10.3.1 requires that these materials meet the flame propagation performance criteria contained in NFPA 701, *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*.

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 specifications to retain flame resistance.

Monitor to ensure combustible decorations are not used unless they are flame-retardant. Exception: Combustible decorations, such as photographs and paintings, in such limited quantities (less than 20 percent of wall area, 30% if sprinkled, and 50% inside sprinklered patient sleeping rooms having a capacity of four or fewer persons) that a hazard of fire development or spread is not present. Decorations may not be attached to fire-rated doors.

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 that are not effectively flame-retardant treated; crepe paper decorations; finely divided tinsel-like material and garland; and pyroxylin plastic decorations.

- **References**:
  - S&C-11-07-LSC Interior Finish Documentation Requirements for Multiple Providers
  - LSC 18/19.3.3, 18/19.7.5, 7.1.10, 10.2, 10.3

Kitchen Hood Fire Suppression System

Inspect and maintain the hood suppression system in accordance with NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.

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 system.

Ensure that the hood suppression system is UL 300 compliant or equivalent. A K-type fire extinguisher is required in kitchens that are equipped with a UL 300 hood system. A sign must be installed and staff instructed on the use of the extinguisher.

Train staff in the operation of any kitchen hood fire suppression system.

Monitor all cooking locations to limit or avoid creating grease laden vapors in accordance with NFPA 96.

Servicing of hoods must be done every six months. Cleaning of hood includes all the exhaust ventilation ductwork, fans, etc. when required.

- **References**:
  - LSC 18/19.3.2.5, 9.2.3
  - NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*

Laundry/Trash

Ensure that soiled linen or trash in quantities greater than 64 gallons is stored in rooms protected as a hazardous area.

Monitor facility to ensure that trash and soiled linen containers do not exceed 32 gallons in a 64 square foot area.

- **References:**
  - LSC 18/19.7.5.7

Medical Gas Storage

Monitor facility to ensure appropriate medical gas storage, verifying that:

- Doors are secured against unauthorized entry.
- Indoor central supply locations or storage of nonflammable gases equal to or greater than 3000 ft^3 shall be constructed of walls, floors, ceilings, and doors that are of a minimum 1-hour fire resistance rating.
- Oxygen cylinders are separated from combustible materials by a minimum distance of 5 feet if the entire storage location is protected by an automatic sprinkler system.
- Medical gas container storage is mechanically ventilated or has natural ventilation to the outside.
- Cylinders in use and in storage shall be prevented from reaching temperatures in excess of 54°C (130°F).
- Electrical devices in medical gas supply and storage rooms should be physically protected such as by use of a protective barrier around the electrical device, or by

location of the electrical device (for example, 5 ft above the finished floor), to avoid physical damage.
- Monitor facility to ensure that medical gas cylinders are protected to avoid damage to elevators, gangways, or in locations where heavy moving objects will strike them or fall on them.
- Monitor facility to ensure that freestanding cylinders are properly chained or supported in a proper cylinder stand or cart.
- 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.
- Maintain a precautionary sign, readable from a distance of 5 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

Transfilling of Liquid Oxygen

- Transfilling of liquid oxygen to liquid oxygen base reservoir containers or to liquid oxygen portable containers over 344.74 kPa (50 psi) must be done in a location specifically designated for transfilling that is as follows:
  - Separated from any portion of a facility wherein patients are housed, examined, or treated by a fire barrier of 1-hour fire-resistive construction.
  - The area is mechanically ventilated, is sprinklered, and has ceramic or concrete flooring.
  - The area is posted with signs indicating that transfilling is occurring.
- Transfilling to liquid oxygen portable containers at 344.74 kPa (50 psi) and under must be done in an area that is well ventilated and has noncombustible flooring, utilizing equipment designed to comply with CGA Pamphlet P-2.6, *Transfilling of Low-Pressure Liquid Oxygen to be Used for Respiration*, and adhering to those procedures.

Transfilling of Medical Gases

- Mixing of compressed gases in cylinders is prohibited.
- Transfilling of gaseous oxygen from one cylinder to another must be done in accordance with CGA Pamphlet P-2.5, *Transfilling of High Pressure Gaseous Oxygen to Be Used for Respiration*. Transfilling of any gases from one cylinder to another in patient care rooms of health care facilities is prohibited.

- **References:**
  - LSC 18/19.3.2.4
  - NFPA 99, *Health Care Facilities Code*

Portable Space Heating Devices

Portable space-heating devices are prohibited in health care occupancies.

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°F (100°C).

- **References**:
  - LSC 18/19.7.8

Smoke Detectors

A smoke detector or a rate-of-rise heat detector is required above fire alarm panels that are located in non-occupied rooms or areas.

Maintain and calibrate smoke detector systems in accordance with NFPA 72, *National Fire Alarm Code*.

Test all smoke detectors at least annually to ensure that each detector is operative and produces the intended response.

Smoke detector sensitivity must be checked within one year after installation and every alternate year thereafter. After the second required calibration test, if sensitivity tests indicate that the detector has remained within its listed and marked sensitivity range, the length of time between calibration tests can be extended to a maximum of five years.

Maintain records that document testing of smoke detectors, including hard copy or the ability to produce a hard copy of records of automated sensitivity testing.

- **References**:
  - LSC 18/19.3.4.5, 9.6

Sprinkler System

The automatic fire sprinkler system must be serviced on a weekly, monthly, quarterly, and annual basis.

Inspect and maintain the sprinkler system in accordance with NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. Retain maintenance records of the sprinkler system for at least the preceding 24 months and ensure availability for inspection.

Ensure that all storage is kept at least 18 inches below the sprinkler deflector. Where shelving is installed on a wall and is not directly below sprinklers, the shelves, including storage thereon, can extend above the level of a plane located 18 inches below the sprinkler deflectors. Shelving, and any

storage thereon, directly below the sprinklers cannot extend above a plane located 18 inches below the ceiling sprinkler deflectors.

Monitor facility to ensure that cubicle curtains are installed to prevent interference with the sprinkler system.

Maintain a supply of at least six spare sprinklers, including a minimum of two spare sprinklers for each type of sprinkler used in the facility. (Note: more than two sprinklers may be required depending on the number used in a facility). Keep the sprinkler wrench with the spare sprinklers.

Maintain sprinklers clean, dust free, and paint free.

Perform weekly and monthly inspection and annual testing of the system backflow preventers.

Fire pumps must be inspected weekly, and tested weekly, monthly, semiannually, annually, and biennially.

- **References**:
  - S&C 17-14 Clarification of Automatic Fire Sprinkler System Installation Requirements in Attic Spaces in Long-Term Care (LTC) Facilities
  - LSC 18/19.3.5, 18/19.7.6, 4.6.12, 9.7
  - NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*

Transfer Switches

Automatic transfer switches must be operated monthly, consisting of electrically operating the transfer switch from the standard position to the alternate position and then a return to the standard position.
Maintenance programs for transfer switches include checking of connections, inspection or testing for evidence of overheating and excessive contact erosion, removal of dust and dirt, and replacement of contacts when required. The maintenance procedure and frequency should follow those recommended by the manufacturer. NFPA 110, *Standard for Emergency and Standby Power Systems*, suggests visual inspection and cleaning annually and recommends an annual maintenance program including one major maintenance and three quarterly inspections. The major maintenance includes a temperature scan of the automatic transfer switch before and during the test.

- **References:**
  - LSC 18/19.5.1
  - NFPA 99, *Standard for Health Care Facilities*
  - NFPA 110, *Standard for Emergency and Standby Power Systems*

Vertical Openings

Ensure that stairways, elevator shafts, light and ventilation shafts, and other vertical openings such as pneumatic rubbish and linen systems that open directly onto any corridor are sealed by fire-resistive construction and include a fire door assembly. The fire door assembly must have a fire protection rating consistent with the rating of the shaft, with a self-closing device and positive latching hardware.

Monitor to ensure the area under stairways is not used for storage, unless by special design.

- **References**:
  - LSC 18/19.3.1, 18/19.5.4, 8.6, 9.5
  - NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*

Waivers

Time Limited Waivers

- The purpose of a time limited waiver 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 time limited waiver, the correction period required must be for more than 60 days from the survey. The maximum time allowed is six months from the date of the survey.
- The facility must submit the request to the health department if they are unable to meet their original time frame for completion. If the requested completion date is more than six months from the date of the survey, it will be forwarded to CMS for review. A good faith effort must have been made in order for a facility to be granted an extension beyond six months from CMS.

Standard Waivers or 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.
- To be eligible for a continuing waiver the following criteria must be met:
  - Must not adversely affect the safety and health of the residents and/or staff.
  - Must be a financial hardship and undue burden on the facility.
- Continuing waivers may be granted by CMS for up to three years. Note: deficiencies are cited at each survey.