ACKNOWLEDGEMENT

The Preventive Maintenance Manual was developed as a joint educational effort of LeadingAge Ohio, the Ohio Academy of Nursing Homes, the Ohio Health Care Association, the Ohio Veteran’s Home, 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.
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 Preventive Maintenance Program

Preventive maintenance is one of the often overlooked aspects in long term care facilities. With many competing priorities many providers believe that preventive maintenance can be postponed and completed only when a system breaks. These providers generally find themselves repairing or replacing systems or components much sooner than those who take proactive steps to avoid difficulties in the first place. Here are some reasons why you should develop a preventive maintenance plan for your facility:

**Preventive 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.

**Preventive 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 preventive maintenance procedures are quite simple compared to troubleshooting and repair procedures.

**Preventive Maintenance Improves Performance:** Many parts of your facility actually degrade over time, and preventive maintenance will help extend the life of your facility’s systems.

**Preventive 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

- Ensure that corridors are at least 6 feet wide before installing dispensers and that there is a minimum spacing of 4 feet between dispensers.

- 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.

- 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.

- If the floor is carpeted, the building is fully sprinklered.

Construction / Renovations (Various K tags)

- Where major renovations, alterations, or modernizations are made the most current applicable code shall be enforced.

- “Major” means the modification of more than 50 percent, or more than 4,500 square feet, of the smoke compartment.

- “Minor” means the modification of less than 50 percent, or less than 4,500 square feet, of the smoke compartment.

- 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.

- 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.

- 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

- 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.

- Ensure continuity of smoke barriers/fire walls – Outside wall to outside wall or other smoke/fire barrier and from floor to roof/floor deck above.

- Seal all penetrations with rated materials. Do not use expanding foams to seal penetrations unless fire rated.

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

- 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.

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:
  - Linen carts, soiled utility carts, wheelchairs and lifts may not be stored in hallways. Isolation carts and crash carts are allowed in the corridors.
  - Items are not to be placed in the halls that impede evacuation such as furniture and plants.
  - 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.
  - 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.
  - “Stop signs” attached to exit doors must not obstruct egress or cover hardware.

- Inspect, repair, and maintain doors to ensure that:
  - Automatic or self closing devices are properly installed and functioning.
  - 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), no impediments.
  - Doors are unobstructed and not blocked in any manner. Hold-open devices that release when the door is pushed or pulled are permitted. Door stops, chocks, tie-backs or other devices that require manual unlatching or release are not permitted.
  - Door latches open with one motion.
  - 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 which allows one door to close first preventing the doors from hitting.
  - See CMS Survey and Certification letter 07-18 for clarification and guidance related to door gaps.

- Monitor doors with magnetic locked or delayed egress locks to ensure that:
  - Doors release appropriately.
  - No more than one delayed egress locked door in the path of travel.
  - 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.

- Check systems after performance of maintenance to assure systems are returned to working order.
Obtain written approval from the local fire authority to extend delayed release locking mechanisms to 30 seconds. Submit request for extension of the timed delay to the District Office with supporting justification and identification of the locations of the affected doors. Facility must retain the written approval from ODH for the 30 second delayed locking mechanisms. The approval will be reviewed annually and will remain in effect until rescinded.

Notify the local or state fire marshal and obtain any required permits before any changes are made to the system.

See also: http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx

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

- 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.

- Inspect and monitor facility to ensure that power strips with surge protection are used appropriately.
  - 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.
  - Power strips may be used be 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.
  - 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.
  - Power strips cannot be covered with rugs or other material.
  - 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.

o Ensure that all electrical outlets, light switches, and junction boxes have appropriate cover plates.

**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 Monitor facility plant to ensure that:

  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.
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.

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.

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).

See also: http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx


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.

A fire alarm panel must be installed in a supervised location.

Annual fire alarm test documentation must be complete, accurate and show test results for all initiating and supervisory devices.

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.

Verify that the fire alarm system transmits to the local fire department or central station.

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.

Self monitoring fire alarm systems are still required to maintain and provide all required documentation of maintenance and testing.

Notify the local or state fire marshal and obtain any required permits before any changes are made to the system.
Fire Drills K-50

- 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.

- 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 remote monitoring company.

- Monitor fire drills to ensure that drills are held quarterly, per shift, at unexpected times and under varying conditions.

- Maintain documentation concerning fire drills for the preceding 12 months that shows at least the following:
  - 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.
  - 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.
  - Varying conditions of drill. A drill conducted at mealtime is an example of a varying condition.
  - 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.
  - Document the time the alarm monitoring company received the alarm.
  - When conducting a silent alarm, ensure that the alarm is tested the following morning noting the time the alarm signal was received.
  - Also refer to Licensure Requirements OAC 1701-17-25 Emergency Disaster and Preparedness.

Fire Extinguishers K-64

- Inspect portable fire extinguishers on a monthly basis and maintain annually.

- Change chemical for dry chemical fire extinguishers every six years.
- Conduct 12 year hydrostatic vessel test.
- Hydrostatically test CO2 portable fire extinguisher vessels every five years.
- 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.
- 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**

- Develop a written health care occupancy fire safety plan that addresses all of the following components:
  - Use of alarms
  - Transmission of alarm to fire department
  - Response to alarms
  - Isolation of fire
  - Evacuation of immediate area
  - Evacuation of 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.

**Fire Watch  K-154, K-155**

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

Fire watch policy must address:

- Notification of the local fire department.
- Notification of the State Health Department and Fire Marshal’s office (in the event of a catastrophe).
- 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.

See also: http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx (ODH fire watch template)

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 can not 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.

Although usually an FSES is performed by the Department, an FSES may be conducted by a qualified 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)

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

- 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.

- 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.
Loading that maintains the minimum exhaust gas temperatures as recommended by the manufacturer.

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.

Ensure that the startup and or cool down times are not included in the 30 minute load test.

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

- Date of inspection
- Time of inspection
- Generator’s general condition (leaks, hoses, fuel supply, oil, belts, battery, cooling system, transfer switch)
- Start and end times of the load test including start-up time and cool-down time
- Generator output readings during load test
- Signature of individual conducting inspection, testing, or repair

Ensure that there is battery powered emergency lighting at generator set locations inside a facility (a flashlight is not considered emergency lighting).

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.

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

Facility must have a contingency plan and a written agreement for the resuppling of fuel in an emergency situation.

Maintain a remote generator annunciator panel in an attended area that is staffed twenty four hours a day seven days a week.

Ensure that electrical power is transferred within 10 seconds of interruption when using a generator.
Facilities with an off-site fuel source are required to have a letter of reliability from their natural gas provider that contains:

- Statement that the fuel source is reasonable reliable
- Description supporting the reasonable reliability assertion
- Statement of the low likelihood of an interruption
- Description supporting the low interruption assertion
- Signature from technical personnel

Hazardous Areas  K-29

- 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.

- For new construction, any hazardous area is required to have a one hour fire separation and to be completely sprinklered.

- 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.

- 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 3 foot clearance around all electrical panels and heat producing equipment such as a gas furnace.

- Change in use of a room can create a hazardous area.

- Hazardous areas for existing facilities include but are not limited to:
  - Boiler and fuel-fired heater rooms
  - 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
  - Smoking rooms
Hazardous areas for new facilities include but are not limited to:

- Boiler and fuel-fired heater rooms
- Central/bulk laundries larger than 100 ft²
- Laboratories employing flammable or combustible materials in quantities less than those that would be considered a severe hazard
- Laboratories that use hazardous materials that would be classified as a severe hazard in accordance with NFPA 99
- Paint shops employing hazardous substances and materials in quantities less than those that would be classified as a severe hazard
- Physical plant maintenance shops
- Soiled linen rooms
- Storage rooms larger than 50 ft² but not exceeding 100 ft² storing combustible material
- Storage rooms larger than 100 ft² storing combustible material
- Trash collection rooms


- 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.

- 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.

- 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

- Inspect and maintain the hood suppression system in accordance with NFPA 96.
- 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.
- Ensure that the hood suppression system is UL 300 compliant.
- Train staff in the operation of any range hood extinguishing system.
- Monitor all cooking locations to limit or avoid creating grease laden vapors in accordance with NFPA 96.


- Approved existing installations 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.
- 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.
  - Corridor finishes must be Class A or B (existing buildings).
  - Interior finishes for non-corridor areas may be Class A, B or C if the building is fully sprinklered (existing buildings).
- 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.
- 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.

See also: [http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx](http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx)

**Laundry /Trash K-29, K-75**

- Ensure that soiled linen or trash 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.

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

- Monitor facility to ensure appropriate oxygen storage including verifying that:
  - Doors are secured against unauthorized entry.
  - 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 ¾ 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

See also: http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx
Oxygen (Transferring Liquid) Oxygen K-143

- 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.

- Maintain a transfer area that is mechanically ventilated, sprinklered and has a ceramic or concrete floor.

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

Also see: http://www.odh.ohio.gov/odhPrograms/ltc/nurhome/safecode/safcode1.aspx

Portable space heating devices K-70

- 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).

- 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

- Maintain and calibrate smoke detector systems in accordance with NFPA 72.

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

- Check smoke detector sensitivity within one year of installation and every 2 years thereafter. After the second required sensitivity tests indicate that the detector has remained within its listed and marked sensitivity range the length of time between calibration tests shall be permitted to be extended to a maximum of 5 years.

- Maintain records that indicate what testing of smoke detectors have been done over the past 12 months including records of automated sensitivity testing.

- Smoke detectors must be located out of the direct airflow of a supply or return air vent.

- 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

- Monitor facility to ensure that ashtrays of noncombustible material and safe design are provided in all indoor and outdoor areas where smoking is permitted.

- 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.

- Evaluate smoking areas for use of gravel rather than flammable mulch around building.

- 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.

- 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.

- 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

- By August 13, 2013 CMS is requiring all facilities regardless of their construction type to be completely sprinklered in accordance with NFPA 13, Installation of Sprinkler Systems, 1999 Edition.

- 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.

- Monitor facility to ensure that there are no gaps in ceiling adjacent to sprinkler heads.

- Ensure that all storage is kept at least 18 inches below and away from any sprinkler heads.

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

- Maintain a supply of at least two spare sprinkler heads for each type of sprinkler used in the facility. (Note- more that 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.)

o 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.

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

o Ensure that stairways, elevator shafts, light and ventilation shafts 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 Monitor facility to ensure that the area under stairways is not used for storage, unless by special design.

o Ensure that all chutes 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 District Office supporting the facility's TCW request such as construction bids, pricing quotes, and signed contracts.

o Facility must contact their District 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**

- 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.
  - Supporting documentation must be provided to support the claim of no adverse affect 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.