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**To:** Ambulatory Surgery Centers ASC 01  
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 Hospices HSPC 01  
 Hospitals HOSP 01  
 Nursing Homes NH 01

**From:** David Soens, Fire Authority  
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**cc:** Otis Woods, Administrator  
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**Life Safety Informational Release**

The purpose of this memorandum is to notify the health care provider community of common Life Safety Code NFPA 101 (LSC) items that have been cited in recent Medicare or Medicaid surveys.

The following list is based on the Centers for Medicare and Medicaid’s (CMS) Federal Monitoring Surveys (FMS) for long term care (LTC) facilities. CMS has concluded fiscal year 2007 FMS activities, and has shared their common findings with the state agencies of Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin. Overall, the federal surveys resulted in a significant increase in deficiencies compared to the state agency survey findings. Most of the deficiencies are being corrected by the facilities, and this has created a new baseline for compliance.

The Wisconsin Department of Health and Family Services (DHFS) is attempting to address the disparity between the federal and state survey findings by proactively notifying all providers subject to the Life Safety Code of conditions that will prompt CMS to cite. Department surveyors will look at these conditions/concerns based on current CMS interpretations. If these conditions are found out of compliance with the LSC, based upon CMS interpretations, they will be cited. Facility staff may presently be aware of these conditions, or may seek professional consultation to identify them, so that they can proactively address them prior to their next LSC survey. Correcting all of the items identified in this memorandum does not guarantee a deficiency free survey; because each facility is designed, operated, and maintained differently. Surveyors will continue to survey for all applicable regulations.

Copies of the Life Safety Code NFPA 101 are available from the National Fire Protection Association (NFPA) at [www.nfpa.org](http://www.nfpa.org), or by contacting NFPA at 1-800-344-3555. The following tags are paraphrased to aid in comprehension, but the code sections referenced should be reviewed in their entirety to ensure a thorough understanding. The LSC survey tags at issue are:

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**K14:** Interior finish for corridors and exitways, including exposed interior surfaces of buildings such as fixed moveable walls, partitions, columns, and ceilings has a flame spread rating of Class A or Class B. LSC references 19.3.3.1 and 19.3.3.2

- Scenario: Facility lacks flame-spread documentation or uses field-applied products that are not listed for the intended application.

**K18:** Doors protecting corridor openings in other than required enclosures of vertical openings, exits, or hazardous areas are substantial doors, such as those constructed of 1-<sup>3</sup>/<sub>4</sub> inch solid-bonded core wood, or capable of resisting fire for at least 20 minutes. Doors in sprinklered buildings are only required to resist the passage of smoke. LSC reference: 19.3.6.3

- Scenario: Double-leaf corridor doors to normally occupied rooms lack an astragal, rabbet, or bevel when the gap between the doors exceeds 1/8-inch. Inactive leafs within a pair of double doors for a normally occupied room lack a reliable latching mechanism; e.g., automatic flush bolting hardware. Concerns are also related to improper operation to full closure due to conflicting coordinator or latch mechanism operation. Refer to CMS Memo S&C 07-18 for additional information.

**K25:** Smoke barriers are constructed to provide at least a one-half hour fire resistance rating for existing facilities, and one hour for new construction plans approved after 9/11/2003. Pipes, conduits, bus ducts, cables, wires, air ducts, pneumatic tubes, and similar building service equipment that pass through smoke barriers shall be protected. LSC references: 19.3.7.3, 19.3.7.5, 19.1.6.3, and 19.1.6.4

- Scenario: Penetrations through a smoke barrier are not protected with a fire-stopping compound, or the existing compound has deteriorated. Fire-stopping compounds ensure the integrity of the barrier is continuous; and in the event of a fire, will reasonably ensure that health care staff and residents have some form of safe refuge on one side or the other of the smoke barrier. Typical penetrations arise from new utilities, such as electrical conduit or communication cables, among others.

**K27:** Smoke barrier door openings have at least a 20-minute fire protection rating or are at least 1 <sup>3</sup>/<sub>4</sub> inch thick solid bonded core wood. Doors shall be self-closing or automatic-closing. LSC references 19.3.7.5, 19.3.7.6 and 19.3.7.7.

- Scenario: The smoke barrier door gaps exceed 1/8 inch in clearance or do not have an astragal, bevel, or rabbet.

**K29:** Hazardous areas shall be enclosed with one-hour fire-rated construction (with <sup>3</sup>/<sub>4</sub>-hour fire-rated doors) or an approved automatic fire extinguishing system. When the approved automatic fire extinguishing system option is used, the areas are separated from other spaces by smoke-resisting partitions and doors. Doors are self-closing and non-rated. LSC reference: 19.3.2.1

- Scenario: Existing combustible storage rooms, greater than 50 square feet, shall be deemed a hazardous room. Typically, the facility is fully sprinkler protected, and these storage rooms require a door closer. Additionally, penetrations within a hazardous room enclosure require the opening to be protected or sealed, depending upon the wall construction. Lastly, the fire rated doors exceed the 1/8-inch door gap restriction. Note: The period of construction for a facility, e.g., 1973 New, 1981 New, 1985 New, and 1991 New, could require both automatic sprinkler protection and one-hour fire rated enclosure, depending on the size of the hazardous room.

**K38:** Exit access is so arranged that exits are readily accessible at all times. LSC references: 7.1, 19.2.1, and 19.2.2.2.4.

7.2.1.6.1 Delayed-Egress Locks. Approved, listed, delayed-egress locks shall be permitted to be installed on doors serving low and ordinary hazard contents in buildings protected throughout by an approved, supervised automatic sprinkler system or an approved, supervised fire detection system; provided that the following criteria are met:

- (a) The doors shall unlock upon actuation of any approved, supervised automatic sprinkler system, or upon the actuation of any heat detector or activation of not more than two smoke detectors of an approved, supervised automatic fire detection system.
- (b) The doors shall unlock upon loss of power controlling the lock or locking mechanism.
- (c) An irreversible process shall release the lock within 15 seconds upon application of a force to the release device that shall not exceed 15 pounds of force, or be required to be continuously applied for more than 3 seconds. The initiation of the release process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.
- (d) On the door adjacent to the release device, there shall be a readily visible, durable sign in letters not less than 1 inch high and not less than 1/8 inch in stroke width on a contrasting background that reads as follows:

PUSH UNTIL ALARM SOUNDS  
DOOR CAN BE OPENED IN 15 SECONDS

- Scenario: The devices are not working per the requirements found in section 7.2.1.6.1, or two devices are installed within a primary egress path in conflict with the requirements found in section 19.2.2.2.4. Typically, the doors will not release and open within 15 seconds, or the doors will lack the proper signage, or the doors will require more than 15 pounds to initiate and open the doors. These unique locking devices are allowed in health care facilities without significant clinical or admission restrictions and provide a needed form of elopement deterrence, but the system must operate in compliance with all of the prescriptive requirements to provide such flexibility. Note that these locking devices shall not be coupled with doors artistically disguised to look like a bookcase or outside environment. Lastly, the exit-discharge path has grade changes in excess of 1/2", which provides a trip hazard for occupants and emergency responders.

**K45:** Illumination of means of egress, including exit discharge, is arranged so that failure of any single lighting fixture (bulb) will not leave the area in darkness. (This does not refer to emergency lighting in accordance with 7.9) LSC reference: 18.2.8 and 19.2.8.

- Scenario: Exit discharge normal lighting lacks, at minimum, duplicate light bulbs in fixtures or overlapping light patterns.

**K46:** Emergency lighting of at least 1 1/2-hour duration is provided in accordance with 7.9. LSC reference: 19.2.9.1

- Scenario: Battery emergency lighting is not tested and documented to substantiate a monthly test for 30 seconds and an annual test for 90 minutes. Emergency lighting is not provided at each exit discharge, or the facility can not substantiate that the emergency lighting is provided. Proper emergency lighting is commonly provided in egress corridors and at exit doors, but exterior exit paths also require illumination to a reasonable distance (40 ft.) from the structure.

**K48:** There is a written plan for the protection of all residents and for their evacuation in the event of an emergency. LSC references: 19.7.1.1 and 19.7.2.2

19.7.2.2 A written health care occupancy fire safety plan shall provide for the following:

- (1) Use of alarms;
- (2) Transmission of alarm to fire department;
- (3) Response to alarms;
- (4) Isolation of fire;
- (5) Evacuation of immediate area;
- (6) Evacuation of smoke compartment;
- (7) Preparation of floors and building for evacuation; and
- (8) Extinguishment of fire

• Scenario: The written facility evacuation plan does not include all of the items required by 19.7.2.2.; typically missing the smoke compartment evacuation component and how it relates to the specific facility layout or configuration. Additionally, some fire emergency plans do not identify manual initiation of the building's fire alarm system by staff.

**K50:** Fire drills are held at unexpected times, under varying conditions, and at least quarterly on each shift. The staff is familiar with procedures and is aware that drills are part of established routine. Responsibility for planning and conducting drills is assigned only to competent persons who are qualified to exercise leadership. LSC reference: 19.7.1.2

• Scenario: The facility fails to conduct a quarterly fire drill; or, the facility may conduct all of its required drills, but the drills for a given shift occur at approximately the same time (within a 1-hour window). The goal of this regulation is to ensure staff is properly trained on all shifts for the **unexpected** occurrence of a fire.

**K51:** A fire alarm system with approved devices or equipment is installed in accordance with the National Fire Alarm Code NFPA 72 to provide effective warning of fire in any part of the building. Activation of the complete fire alarm system shall be by manual fire alarm initiation, automatic detection, or extinguishing system operation. Electronic or written records of tests shall be available. Fire alarm systems shall be maintained periodically and records of maintenance kept readily available. The fire alarm system must provide **automatic** notification to the local fire department through one of the approved methods found in NFPA 72.

• Scenario: The buildings fire alarm system is not connected per NFPA 72. Typical deficiencies result when a fire alarm signal is initiated by the facility, the signal is sent off site to a remote or central monitoring station, and the monitoring station calls the facility back to confirm a fire prior to dispatching emergency forces. CMS emphasized this point in the January 10, 2003 Federal Register adoption of the 2000 edition of NFPA 101. Emergency services are to be notified automatically without delay.

**K52:** A fire alarm system required for life safety is installed, tested, and maintained in accordance with NFPA 70, the National Electrical Code and NFPA 72, the National Fire Alarm Code. The system has an approved maintenance and testing program complying with the applicable requirements of NFPA 70 and NFPA 72. LSC reference: 9.6.1.4

• Scenario: The facility lacks documentation of conducting quarterly fire alarm signal transmission testing to an offsite location. Additionally, the facility may lack smoke detector sensitivity and functional

testing. Detectors are located within 36" of ventilation supply or exhaust diffusers. Not all devices on the system are reflected on the testing records. Initiating devices are not visually inspected semi-annually. These systems can only provide their intended safety if properly tested and maintained per NFPA 72.

**K56:** If there is an automatic sprinkler system, it is installed in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems, to provide complete coverage for all portions of the building. The system is properly maintained in accordance with NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. It is fully supervised. There is a reliable, adequate water supply for the system. Required sprinkler systems are equipped with water flow and tamper switches, which are electrically connected to the building fire alarm system. LSC reference: 19.3.5

- Scenario: The facility lacks documentation of conducting quarterly sprinkler testing/inspections; or if completed, a report will often contain problems and the facility failed to correct the problems. Additionally, some systems have unsupervised control valves, have painted or obstructed sprinkler heads, do not have an adequate supply of spare sprinkler heads, or do not have a sprinkler wrench readily available. Compromised ceiling systems are a major contributor to building safety concerns. Some trade-offs in the code have been allowed, but only if the system is properly installed, maintained, and inspected.

**K61:** Required automatic sprinkler systems shall have valves supervised so that at least a local alarm will sound when the valves are closed. LSC reference: 9.7.2.1, NFPA 72, NFPA 25 § 9-2.8.2.

- Scenario: Sprinkler system water supplies have valves unsupervised, or the required pressure gauges are not recalibrated or replaced every five years.

**K66:** Smoking regulations shall be adopted and shall include not less than the following provisions:

- (1) Smoking shall be prohibited in any room, ward, or compartment where flammable liquids, combustible gases, or oxygen is used or stored, or in any other hazardous location; and such area shall be posted with signs that read NO SMOKING, or shall be posted with the international symbol for no smoking.
- (2) Smoking by patients/residents classified as not responsible shall be prohibited, except when under direct supervision.
- (3) Ashtrays of noncombustible material and safe design shall be provided in all areas where smoking is permitted.
- (4) Metal containers with self-closing cover devices into which ashtrays can be emptied shall be readily available to all areas where smoking is permitted. LSC Reference 18.7.4 and 19.7.4.

- Scenario: Outdoor areas lack a noncombustible ashtray or self-closing metal container.

**K67:** Heating, ventilating, and air conditioning shall comply with 9.2, and shall be installed in accordance with the manufacturer's specifications. LSC references 19.5.2.1, 19.5.2.2, and NFPA 90A

- Scenario: All fire dampers are not tested at least every four years; which includes operating damper to full closure, and lubricating moving parts as necessary.

**K69:** Cooking facilities are protected in accordance with NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. LSC reference: 19.3.2.6

- Scenario: The facility lacks substantiation that the kitchen hood assembly is cleaned periodically per NFPA 96 section 8-3.1. Typical hospital/nursing homes fall into the "moderate-volume" cooking

category and lack semi-annual inspections that check for contaminate levels and the subsequent cleaning once contaminants are found. The kitchen hood cleaning includes the hood, grease removal devices, fans, ducts, and other apparatus to bare metal. Additionally, some facilities have an outdated dry chemical hood extinguishment system. An outdated system has been defined by CMS as one requiring replacement by a UL300 wet chemical if any of the following events occur: (1) The dry chemical has been discharged; (2) the dry chemical has been hydrostatically retested; or (3) new cooking appliances have been installed. Lastly, some new UL300 systems have been installed; yet the new extinguishment system is not connected to the building's fire alarm system, the existing hood has mesh filters, or the existing hood construction has seams that are not liquid-tight.

**K76:** Compressed gas storage and administration areas shall be protected in accordance with NFPA 99 Standard for Health Care Facilities section 8-3.1.11.2.

- (a) Oxygen storage locations of greater than 3,000 cu. ft. are enclosed by a one-hour fire resistance barrier.
- (b) Oxygen storage locations less than 3,000 cu. ft.
  1. A minimum distance of 20 feet from combustibles or incompatible materials in a non-sprinkler protected oxygen storage room, or
  2. A minimum distance of 5 feet. from combustible or incompatible materials in a fully sprinkler protected oxygen storage room.

• Scenario: Oxygen storage exceeding the 300 cubic feet incidental amounts specified in CMS Memo S&C 07-10 in a fully sprinkler building is found within five feet of non-respiratory therapy combustibles. Additionally, oxygen bottles are not secured or full, and empty bottles are not adequately separated.

**K143:** Liquid oxygen transferring shall be:

- (a) separated from any portion of a facility wherein residents are housed, examined, or treated by a separation of a fire barrier of 1-hour fire-resistance construction. Note the fire rated door to this room shall be in the closed position while transferring, so residents are not exposed to this hazard; and
- (b) the area or room formed by the fire barrier is served by functioning mechanical ventilation, and
- (c) the area or room formed by the fire barrier is fully sprinkler protected, and
- (d) the area or room formed by the fire barrier has a ceramic or concrete floor, and
- (e) the area or room formed by the fire barrier is posted with signs indicating that transferring is occurring, and that smoking in the immediate area is not permitted, and
- (f) combustible or incompatible materials are a minimum of 5 feet distance from the transferring operation, and
- (g) ignition sources are a minimum of 5 feet distance from the transferring operation.

Source: Health Care Facilities standard NFPA 99 section 8-6.2.5.2 and Compressed Gas Association (CGA) Pamphlet P-2.6 and P-2.7.

• Scenario: The door and frame assembly is not a 45-minute fire-rated assembly, staff transfer liquid oxygen with the rated door open to patients/residents, or disposable oxygen supplies in excess of a one-week supply are stored in the oxygen supply room.

**K144:** Generators are tested monthly and exercised under load for 30 minutes per month in accordance with NFPA 110 section 6-4.2, or the generators are tested annually under a two-hour load bank test in

accordance with NFPA 110 section 6-4.2.2. The emergency power system, including all appurtenant components, shall be inspected weekly in accordance with NFPA 110 section 6-4.1.

- Scenario: The emergency generator lacks substantiation that it is tested under 30% nameplate loading, or lacks testing for continuous testing for 30 minutes under load. The system lacks substantiation that it and all components are inspected weekly. Additionally, an emergency generator located in a building does not have task lighting to illuminate the work area around the generator in the event of a normal power outage. Lastly, for systems permitted to use natural or synthetic gas, the facility lacks substantiation that the utility supply is reliable, e.g., on a non-interruptible agreement.

**K154/K155:** Where a required sprinkler system or fire alarm system is out of service for more than 4 hours in a 24-hour period, the authority having jurisdiction shall be notified, and the building shall be evacuated, or an approved fire watch system shall be provided for all parties left unprotected by the shutdown until the sprinkler/fire alarm system has been returned to service. 9.7.6.1, 9.6.1.8

- Scenario: The facility has a sprinkler or fire alarm system, but it does not have a fire watch policy in how to address one or both systems being out of service for more than 4 hours in a 24-hour period.

**K211:** Where Alcohol Based Hand Rub (ABHR) dispensers are installed in a corridor:

The corridor is at least 6 feet wide;

The maximum individual fluid dispenser capacity shall be 1.2 liters;

The dispensers shall have a minimum spacing of 4 feet from each other;

Not more than 10 gallons are used in a smoke compartment outside a storage cabinet;

Dispensers are not installed over or adjacent to an ignition source; and

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

LSC reference 19.3.2.7

- Scenario: The ABHR dispenser center is located within 6 inches or over an ignition source.

### Summary:

As stated above, compliance with the above listed K-tags does not constitute a deficiency-free survey. This memorandum is motivated by the mutual concern of the Department and facilities for compliance with the requirements, and to maximize safety for all residents. All LSC tags are subject to review at each survey. If you have any questions, the following resources are available:

### Long Term Care Facilities:

- Eau Claire Region (WRO): Joe Bronner (715) 836-4753

- Green Bay Region (NERO): Joanne Powell (920) 448-5249

- Madison Region (SRO): Juan Flores (608) 266-9422

- Milwaukee Region (SERO): Katherine Friend (414) 227-4908

- Rhinelander Region (NRO): Joe Bronner (715) 365-2802

### Non-Long Term Care Facilities:

- Northern Region (WRO, NRO, NERO): Jan Heimbruch (608) 266-0371

- Southern Region (SERO, SRO): Mark Andrews (608) 266-0269