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OPERATE INTELLIGENTLY

What to Know When it Comes to CMS K-Tag Compliance

Presented by Dude Solutions in partnership with MSL

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Thank you for joining us today!

Housekeeping:

- Phone lines have been muted
- Please do submit questions, though!
- You can use the chat feature to send us questions
- If we aren’t able to get to all questions today, we will follow up with you afterward
- Would you like a copy of the slides or recording?
  - Fill out the survey at the conclusion of the webinar

Outline

- **Presentation (40 minutes)**
  - Remember to submit questions during the webinar!
- **Pulling it all together (10 minutes)**
  - Company profile: Dude Solutions/MSL
- **Live Q&A (10 minutes)**
- Post Webinar: Survey from DSI via email – complete to receive copy or recording of presentation

Today's Speaker

Wayne Klingelsmith, **CHFM, FASHE, MBA**

Principal, MSL Healthcare Partners

- 30 years in healthcare facility management
- 12 years in healthcare regulatory compliance consulting
- Former president of American Society for Healthcare Engineering
- Former president of Florida Healthcare Engineering Association
- Former chairman of AHA Certification Center CHFM program

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Webinar Agenda

- Excerpts from the 2012 CMS K-tag document
- “New” versus “Existing” healthcare
- Locking for “clinical” versus “safety” needs
- Interesting new K-tags
- NFPA 99-2012 K-tags
- Required risk assessments
- Questions & Answers

FIRE SAFETY SURVEY REPORT 2012 CODE – HEALTH CARE
Medicare – Medicaid

1. (A) PROVIDER NUMBER	1. (B) MEDICAID I.D. NO.
K1	K2

PART I — Life Safety Code, New and Existing
PART II — Health Care Facilities Code, New and Existing
PART III — Recommendation for Waiver
PART IV – Crucial Data Extract
OPTIONAL — Chapter 4 – NFPA 101A - Fire Safety Evaluation System for Health Care Occupancies – CMS-2786T

Identifying information as shown in applicable records. Enter changes, if any, alongside each item, giving date of change.

2. NAME OF FACILITY	2. (A) MULTIPLE CONSTRUCTION (BLDGS)	2. (B) ADDRESS OF FACILITY (STREET, CITY, STATE, ZIP CODE)	
	A. BUILDING _____ B. WING _____ C. FLOOR _____ K3		A. ☐ Fully Sprinklered (All required areas are sprinklered) B. ☐ Partially Sprinklered (Not all required areas are sprinklered) C. ☐ None (No sprinkler system) K0180

3. SURVEY FOR	4. DATE OF SURVEY	DATE OF PLAN APPROVAL	SURVEY UNDER
☐ MEDICARE ☐ MEDICAID	K4	K6	5. ☐ 2012 EXISTING 6. ☐ 2012 NEW K7

5. SURVEY FOR CERTIFICATION OF

1. ☐ HOSPITAL 2. ☐ SKILLED/NURSING FACILITY 4. ☐ ICF/IID UNDER HEALTH CARE 5. ☐ HOSPICE

IF "2" OR "5" ABOVE IS MARKED, CHECK APPROPRIATE ITEM(S) BELOW	3. ☐ IF DISTINCT PART OF HOSPITAL, IS HOSPITAL ACCREDITED?
1. ☐ ENTIRE FACILITY 2. ☐ DISTINCT PART OF (SPECIFY) _____	a. ☐ YES b. ☐ NO

6. BED COMPOSITION a. TOTAL NO. OF BEDS IN THE FACILITY ____	b. NUMBER OF HOSPITAL BEDS CERTIFIED FOR MEDICARE ____	c. NUMBER OF SKILLED BEDS CERTIFIED FOR MEDICARE ____	d. NUMBER OF SKILLED BEDS CERTIFIED FOR MEDICAID ____	e. NUMBER OF NF or ICF/IID BEDS CERTIFIED FOR MEDICAID ____

7. A. ☐ THE FACILITY MEETS THE STANDARD, BASED UPON (CHECK ALL APPROPRIATE BOXES)

1. ☐ COMPLIANCE WITH ALL PROVISIONS 2. ☐ ACCEPTANCE OF A PLAN OF CORRECTION 3. ☐ RECOMMENDED WAIVERS 4. ☐ FSES 5. ☐ PERFORMANCE BASED DESIGN

B. ☐ THE FACILITY DOES NOT MEET THE STANDARD

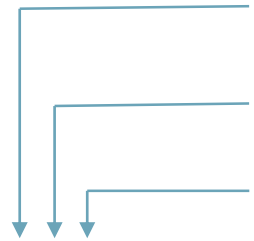
K9

SURVEYOR *(Signature)*	TITLE	OFFICE	DATE
SURVEYOR ID K10			
FIRE AUTHORITY OFFICIAL *(Signature)*	TITLE	OFFICE	DATE

CMS FORMS SHALL BE COMPLETED AND RETAINED AS PART OF THE SURVEY RECORD.

Layout of the document

- Part 1 – Life Safety Code Requirements
  - NFPA 101-2012 Chapter 18/19 Section
  - NFPA 101-2012 Chapter 18/19 Sub-section
  - Numerical sequence of K-Tags

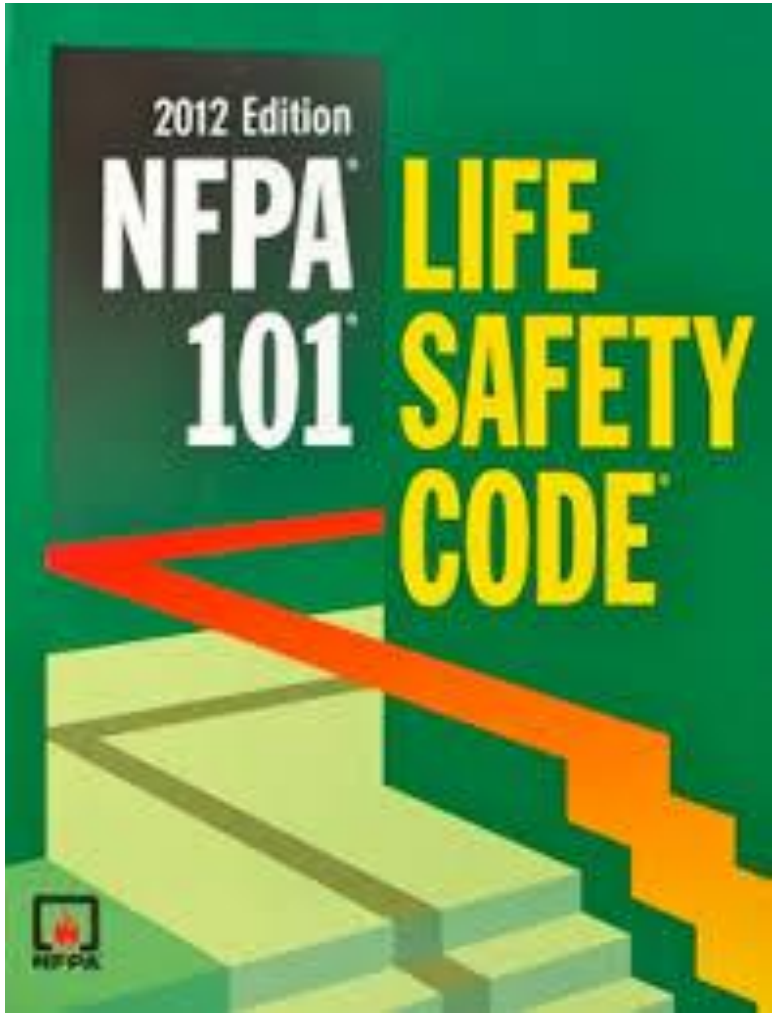


K-XXX

- Part 2 – Healthcare Facility Code Requirements
  - K-900 Series NFPA 99-2012

Adoption of NFPA 101-2012

- The Centers for Medicare & Medicaid Services (CMS) adopted the 2012 edition of the National Fire Protection Association's ***Life Safety Code***® effective **July 5, 2016.**
- Facilities that were approved for construction PRIOR to this date are considered "**EXISTING HEALTHCARE"** subject to chapter 19.
- Facilities approved for construction AFTER this date are **"NEW HEALTHCARE"** subject to chapter 18.



Definition of Major Renovation

K112	**Sprinkler Requirements for Major Rehabilitation** If a nonsprinklered smoke compartment has undergone major rehabilitation the automatic sprinkler requirements of 18.3.5 have been applied to the smoke compartment. In cases where the building is not protected throughout by a sprinkler system, the requirements of 18.4.3.2, 18.4.3.3, and 18.4.3.8 are also met. Note: Major rehabilitation involves the modification of more than 50 percent, or more than 4500 ft² of the area of the smoke compartment. 18.1.1.4.3.3, 19.1.1.4.3.3

Special Locking Arrangements

K222	**Egress Doors** Doors in a required means of egress shall not be equipped with a latch or a lock that requires the use of a tool or key from the egress side unless using one of the following special locking arrangements: ☐ CLINICAL NEEDS OR SECURITY THREAT LOCKING Where special locking arrangements for the clinical security needs of the patient are used, only one locking device shall be permitted on each door and provisions shall be made for the rapid removal of occupants by: remote control of locks; keying of all locks or keys carried by staff at all times; or other such reliable means available to the staff at all times. 18.2.2.2.5.1, 18.2.2.2.6, 19.2.2.2.5.1, 19.2.2.2.6 ☐ SPECIAL NEEDS LOCKING ARRANGEMENTS Where special locking arrangements for the safety needs of the patient are used, all of the Clinical or Security Locking requirements are being met. In addition, the locks must be electrical locks that fail safely so as to release upon loss of power to the device; the building is protected by a supervised automatic sprinkler system and the locked space is protected by a complete smoke detection system (or is constantly monitored at an attended location within the locked space); and both the sprinkler and detection systems are arranged to unlock the doors upon activation. 18.2.2.2.5.2, 19.2.2.2.5.2, TIA 12-4

Back door to Psych

Sliding Doors

K224	**Horizontal-Sliding Doors** Horizontal-sliding doors permitted by 7.2.1.14 that are not automatic-closing are limited to a single leaf and shall have a latch or other mechanism to ensure the door will not rebound.
	Horizontal-sliding doors serving an occupant load fewer than 10 shall be permitted, providing all of the following criteria are met: • Area served by the door has no hazards. • Door is operable from either side without special knowledge or effort. • Force required to operate the door in the direction of travel is ≤ 30 lbf to set the door in motion and ≤ 15 lbf to close or open to the required width. • Assembly is appropriately fire rated, and where rated, is self-or automatic-closing by smoke detection per 7.2.1.8, and installed per NFPA 80. • Where required to latch, the door has a latch or other mechanism to ensure the door will not rebound.
	18.2.2.2.10, 19.2.2.2.10

Corridor Width

K232	**Aisle, Corridor or Ramp Width** 2012 EXISTING The width of aisles or corridors (clear or unobstructed) serving as exit access shall be at least 4 feet and maintained to provide the convenient removal of nonambulatory patients on stretchers, except as modified by 19.2.3.4, exceptions 1-5. 19.2.3.4, 19.2.3.5
	2012 NEW The width of aisles or corridors (clear and unobstructed) serving as exit access in hospitals and nursing homes shall be at least 8 feet. In limited care facility and psychiatric hospitals, width of aisles or corridors shall be at least 6 feet, except as modified by the 18.2.3.4 or 18.2.3.5 exceptions. 18.2.3.4, 18.2.3.5

Dead-End Corridor

K251	**Dead-End Corridors and Common Path of Travel** 2012 EXISTING Dead-end corridors shall not exceed 30 feet. Existing dead-end corridors greater than 30 feet shall be permitted to be continued to be used if it is impractical and unfeasible to alter them. 19.2.5.2
K251	2012 NEW Dead-end corridors shall not exceed 30 feet. Common path of travel shall not exceed 100 feet. 18.2.5.2, 18.2.5.3

Sleeping Suites

K256	**Sleeping Suites** Occupants shall have exit access to a corridor or direct access to a horizontal exit. Where ≥ 2 exits are required, one exit access door may be to a stairway, passageway or to the exterior. Suites shall be provided with constant staff supervision. Staff shall have direct visual supervision of patient sleeping rooms, from a constantly attended location or the room shall be provided with an automatic smoke detection system. Suites more than 1,000 ft² shall have 2 or more remote exits. One means of egress from the suite shall be to a corridor and one may be into an adjacent suite separated in accordance with corridor requirements. Suites shall not exceed the following size limitations: • 5,000 square feet if the suite is not fully smoke detected or fully sprinklered. • 7,500 square feet if the suite is either fully smoke detected or fully sprinklered. • 10,000 square feet if the suite is both fully smoke detected and fully sprinklered and the sleeping rooms have direct supervision from a constantly attended location. Travel distance between any point in a suite to exit access shall not exceed 100 feet and distance to an exit shall not exceed 150 feet (200 feet if building is fully sprinklered).

Non-Sleeping Suites

K257	**Non-Sleeping Suites** Occupants shall have exit access to a corridor or direct access to a horizontal exit. Where ≥ 2 exits are required, one exit access door may be to a stairway, passageway or to the exterior. Suites more than 2,500 ft² shall have 2 or more remote exits. One means of egress from the suite shall be to a corridor and one may be into an adjacent suite separated in accordance with corridor requirements. Suites shall not exceed 10,000 ft². Travel distance between any point in a suite to exit access shall not exceed 100 feet and distance to an exit shall not exceed 150 feet (200 feet if building is fully sprinklered). 18.2.5.7.3, 19.2.5.7.3

Hazardous Areas

K321	**Hazardous Areas – Enclosure** 2012 EXISTING Hazardous areas are protected by a fire barrier having 1-hour fire resistance rating (with ¾ hour fire rated doors) or an automatic fire extinguishing system in accordance with 8.7.1. When the approved automatic fire extinguishing system option is used, the areas shall be separated from other spaces by smoke resisting partitions and doors in accordance with 8.4. Doors shall be self-closing or automatic-closing and permitted to have nonrated or field-applied protective plates that do not exceed 48 inches from the bottom of the door.
K321	2012 NEW Hazardous areas are protected in accordance with 18.3.2.1. The areas shall be enclosed with a 1-hour fire-rated barrier, with a ¾ hour fire-rated door without windows (in accordance with 8.7.1.1). Doors shall be self-closing or automatic-closing in accordance with 7.2.1.8. Hazardous areas are protected by a sprinkler system in accordance with 9.7, 18.3.2.1, and 8.4.

K323	**Anesthetizing Locations** Areas designated for administration of general anesthesia (i.e., inhalation anesthetics) are in accordance with 8.7 and NFPA 99. Zone valves are: located immediately outside each anesthetizing location for medical gas or vacuum; readily accessible in an emergency; and arranged so shutting off any one anesthetizing location will not affect others. Area alarm panels are provided to monitor all medical gas, medical-surgical vacuum, and piped WAGD systems. Panels are at locations that provide for surveillance, indicate medical gas pressure decreases of 20 percent and vacuum decreases of 12 inch gauge HgV, and provide visual and audible indication. Alarm sensors are installed either on the source side of individual room zone valve box assemblies or on the patient/use side of each of the individual zone box valve assemblies. The EES critical branch supplies power for task illumination, fixed equipment, select receptacles, and select power circuits, and EES equipment system supplies power to ventilation system. Heating, cooling, and ventilation are in accordance with ASHRAE 170. Medical supply and equipment manufacturer's instructions for use are considered before reducing humidity levels to those allowed by ASHRAE, per S&C 13-58.

This Risk Assessment **IS** Required

- **If Relative Humidity 20-60% in anesthetizing locations**
- Must have written risk assessment if relative humidity is allowed to go below 30%
- Written assessment recommended in Joint Communication to Healthcare Delivery Organizations - January 2015 “Relative Humidity Levels in the Operating Room”
- Develop a written policy on temperature & relative humidity in anesthetizing locations

K343	**Fire Alarm – Notification** 2012 EXISTING Positive alarm sequence in accordance with 9.6.3.4 are permitted in buildings protected throughout by a sprinkler system. Occupant notification is provided automatically in accordance with 9.6.3 by audible and visual signals. In critical care areas, visual alarms are sufficient. The fire alarm system transmits the alarm automatically to notify emergency forces in the event of a fire. 19.3.4.3, 19.3.4.3.1, 19.3.4.3.2, 9.6.4, 9.7.1.1(1)
	2012 NEW Positive alarm sequence in accordance with 9.6.3.4 are permitted. Occupant notification is provided automatically in accordance with 9.6.3 by audible and visual signals. In critical care areas, visual alarms are sufficient. The fire alarm system transmits the alarm automatically to notify emergency forces in the event of a fire. Annunciation and annunciation zoning for fire alarm and sprinklers shall be provided by audible and visual indicators and zones shall not be larger than 22,500 square feet per zone.

Fire Watch

K354	**Sprinkler System – Out of Service** Where the sprinkler system is impaired, the extent and duration of the impairment has been determined, areas or buildings involved are inspected and risks are determined, recommendations are submitted to management or designated representative, and the fire department and other authorities having jurisdiction have been notified. Where the sprinkler system is out of service for more than 10 hours in a 24 hour period, the building or portion of the building affected are evacuated or an approved fire watch is provided until the sprinkler system has been returned to service.

Update your Interim Life Safety Assessment (ILSM) tool and FIRE WATCH procedure

High-rise Buildings Must be Sprinkled by 2028

K421	**High-Rise Buildings** 2012 EXISTING High-rise buildings are protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7 within 12 years of LSC final rule effective date. 19.4.2
	2012 NEW High-rise buildings comply with section 11.8. 18.4.2

Existing high-rise buildings fully sprinkled by July 5, 2028

Existing Elevators Must have Firefighter Service

K531	**Elevators** 2012 EXISTING Elevators comply with the provision of 9.4. Elevators are inspected and tested as specified in ASME A17.1, *Safety Code for Elevators and Escalators*. Firefighter's Service is operated monthly with a written record. Existing elevators conform to ASME/ANSI A17.3, *Safety Code for Existing Elevators and Escalators*. All existing elevators, having a travel distance of 25 feet or more above or below the level that best serves the needs of emergency personnel for firefighting purposes, conform with Firefighter's Service Requirements of ASME/ANSI A17.3. (Includes firefighter's service Phase I key recall and smoke detector automatic recall, firefighter's service Phase II emergency in-car key operation, machine room smoke detectors, and elevator lobby smoke detectors.) 19.5.3, 9.4.2, 9.4.3

Fire Drills Must Include Alarm Transmission

K712	**Fire Drills** Fire drills include the transmission of a fire alarm signal and simulation of emergency fire conditions. Fire drills are held at unexpected times under varying conditions, 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. Where drills are conducted between 9:00 PM and 6:00 AM, a coded announcement may be used instead of audible alarms. 18.7.1.4 through 18.7.1.7, 19.7.1.4 through 19.7.1.7

Hospital:			QUARTERLY HOSPITAL FIRE DRILLS													
Location:			Q1			Q2			Q3			Q4				
Day = Mo, Tu, We, Th, Fr, Sa or Su			JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Date	COMMENTS
1st Shift	Normal	Location														
		Day														
		Date														
		Time														
	ILSM	Location														
		Day														
		Date														
		Time														
2nd Shift	Normal	Location														
		Day														
		Date														
		Time														
	ILSM	Location														
		Day														
		Date														
		Time														
3rd Shift	Normal	Location														
		Day														
		Date														
		Time														
	ILSM	Location														
		Day														
		Date														
		Time														
4th Shift (if needed)	Normal	Location														
		Day														
		Date														
		Time														
	ILSM	Location														
		Day														
		Date														
		Time														

	oratory Exit Drill Date:		urgery Fire Drill Date:	
	Kitchen Fire Drill Date:		MRI Drill Date:	

Quarterly Ambulatory Fire Drills																
Building					Building					Building						
Day					Day					Day						
Date					Date					Date						
Time					Time					Time						

Annual Business Occupancy Fire Drills (2-years)																
Building			Building			Building			Building			Building				
Day			Day			Day			Day			Day				
Date			Date			Date			Date			Date				
Time			Time			Time			Time			Time				

Soiled Linen, Trash & Medical Waste NTE 32 gal.

K754	**Soiled Linen and Trash Containers** Soiled linen or trash collection receptacles shall not exceed 32 gallons in capacity. The average density of container capacity in a room or space shall not exceed 0.5 gallons/square feet. A total container capacity of 32 gallons shall not be exceeded within any 64 square feet area. Mobile soiled linen or trash collection receptacles with capacities greater than 32 gallons shall be located in a room protected as a hazardous area when not attended. Containers used solely for recycling are permitted to be excluded from the above requirements where each container is ≤ 96 gal. unless attended, and containers for combustibles are labeled and listed as meeting FM Approval Standard 6921 or equivalent.

Allowable?

Portable Space Heaters

K781	**Portable Space Heaters** Portable space heating devices shall be prohibited in all health care occupancies. Unless used in nonsleeping staff and employee areas where the heating elements do not exceed 212 degrees Fahrenheit (100 degrees Celsius). 18.7.8, 19.7.8

Daily (documented) Egress Inspection

K791	**Construction, Repair, and Improvement Operations** Construction, repair, and improvement operations shall comply with 4.6.10. Any means of egress in any area undergoing construction, repair, or improvements shall be inspected daily to ensure its ability to be used instantly in case of emergency and compliance with NFPA 241. 18.7.9, 19.7.9, 4.6.10, 7.1.10.1

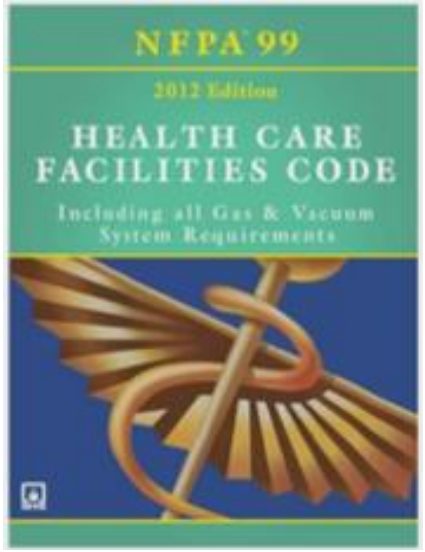
Update your ILSM review tool to ensure it includes daily inspection of the means of egress in construction areas.

Part 2 NFPA 99-2012

K901	**Fundamentals – Building System Categories** Building systems are designed to meet Category 1 through 4 requirements as detailed in NFPA 99. Categories are determined by a formal and documented risk assessment procedure performed by qualified personnel. Chapter 4 (NFPA 99)

HFAP requires risk assessments for the following **existing systems**:

- Gas & Vacuum Systems
- Electrical Systems
- HVAC Systems
- Electrical Equipment and Gas Equipment



NFPA 99-2012 Risk Assessments

The NFPA 99 chapters that must be risk assessed are as follows:

- Chapter 5 - Piped Gas and Vacuum Systems
- Chapter 6 - Electrical Systems
- Chapter 9 - HVAC Systems
- Chapter 10 - Electrical Equipment
- Chapter 11 - Gas Equipment

NFPA 99-2012 Risk Assessments

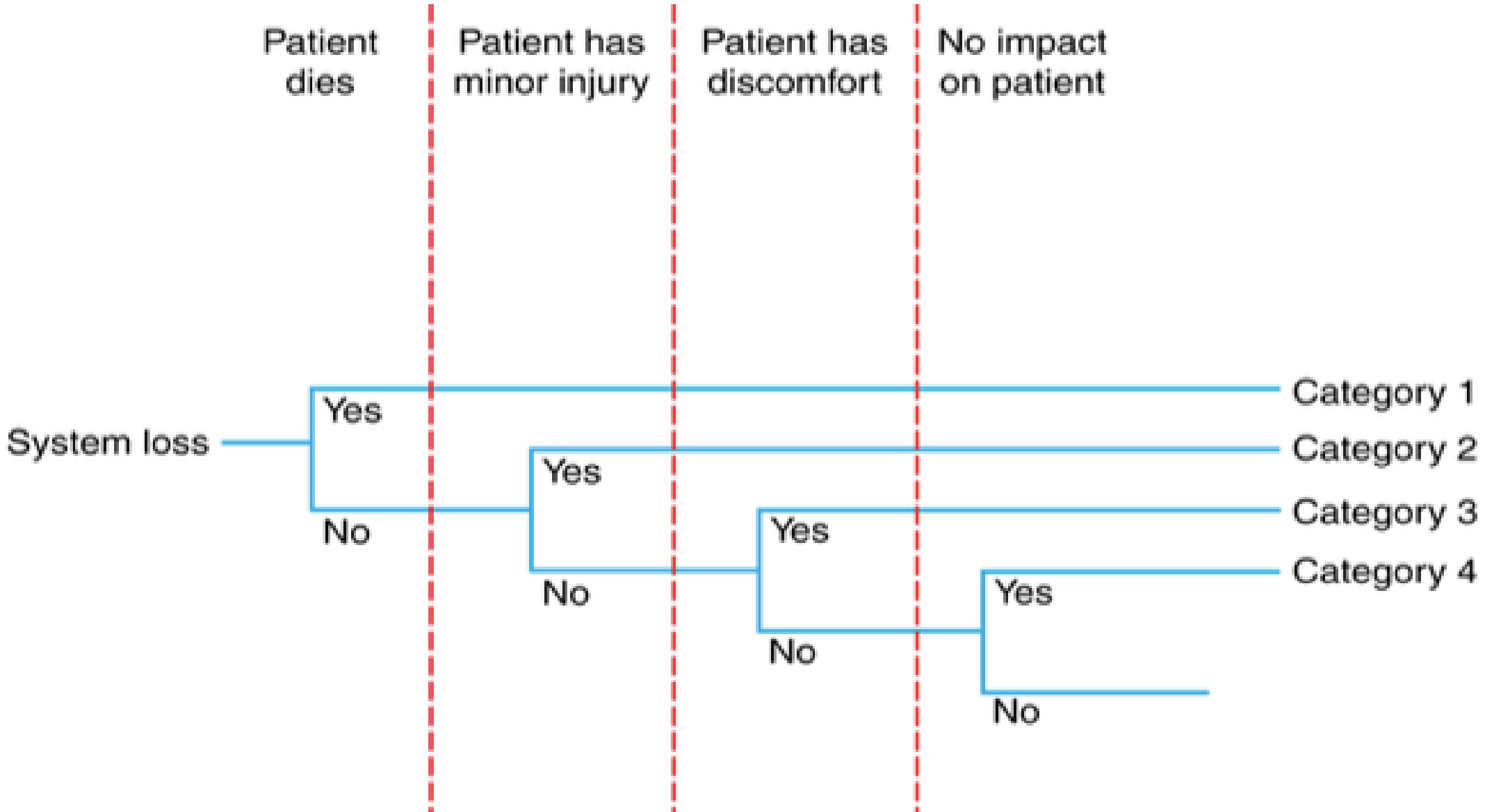
The following chapters were NOT adopted by CMS and these standards are not required to be assessed or utilized as a standard:

- Chapter 7 - IT and Communication Systems
- Chapter 8 - Plumbing Systems
- Chapter 12 - Emergency Management
- Chapter 13 - Security Management

Medical Gas & Vacuum Risk Assessment

K903	**Gas and Vacuum Piped Systems – Categories** Medical gas, medical air, surgical vacuum, WAGD, and air supply systems in which failure is likely to cause major injury or death are designated: ☐ Category 1. Systems in which failure is likely to cause minor injury to patients are designated. ☐ Category 2. Systems in which failure is not likely to cause injury, but can cause discomfort is designated. ☐ Category 3. Deep sedation and general anesthesia are not administered when using a Category 3 medical gas system. 5.1.1.1, 5.2.1, 5.3.1.1, 5.3.1.5 (NFPA 99)

Simple Assessment



Signage for Doors Where There is Gas Storage

K905	**Gas and Vacuum Piped Systems – Central Supply System Identification and Labeling** Containers, cylinders and tanks are designed, fabricated, tested, and marked in accordance with 5.1.3.1.1 through 5.1.3.1.7. Locations containing only oxygen or medical air have doors labeled with "Medical Gases, NO Smoking or Open Flame". Locations containing other gases have doors labeled "Positive Pressure Gases, NO Smoking or Open Flame, Room May Have Insufficient Oxygen, Open Door and Allow Room to Ventilate Before Opening." 5.1.3.1, 5.2.3.1, 5.3.10 (NFPA 99)

NFPA 99-2012 – Medical Gas Signage

5.1.3.1.8 Locations containing positive pressure gases other than oxygen and medical air shall have their door(s) labeled as follows:

Positive Pressure Gases
NO Smoking or Open Flame
Room May Have Insufficient Oxygen
Open Door and Allow Room to Ventilate Before Entering

5.1.3.1.9 Locations containing central supply systems or cylinders containing only oxygen or medical air shall have their door(s) labeled as follows:

Medical Gases
NO Smoking or Open Flame

Electrical System Risk Assessment

K915	**Electrical Systems – Essential Electric System Categories** ☐ Critical care rooms (Category 1) in which electrical system failure is likely to cause major injury or death of patients, including all rooms where electric life support equipment is required, are served by a Type 1 EES. ☐ General care rooms (Category 2) in which electrical system failure is likely to cause minor injury to patients (Category 2) are served by a Type 1 or Type 2 EES. ☐ Basic care rooms (Category 3) in which electrical system failure is not likely to cause injury to patients and rooms other than patient care rooms are not required to be served by an EES. Type 3 EES life safety branch has an alternate source of power that will be effective for 1 1/2 hours. 3.3.138, 6.3.2.2.10, 6.6.2.2.2, 6.6.3.1.1 (NFPA 99), TIA 12-3

NFPA 99 2012 Risk Assessment Tool

		Chapter 5				Chapter 6	Chapter 7				Chapter 8								Chapter 9			Chapter 10	Chapter 12	
Room Name	Space	Oxygen	Medical Air	Vacuum	WAGD	Electrical	Data	Phone	Nurse Call	Cable TV	Potable Water	Non-potable Water	Water Heating	Water Conditioning	Non-medical Compressed Air	Black Waste Water	Grey Waste Water	Clear Waste Water	Heating	Ventilation	Air Conditioning	Equipment (See Equipment Tab)	Emergency Management (See Emergency Management Tab)	
OR 1																								
OR 2																								
OR 3																								
OR 4																								
OR 5																								
OR 6																								
OR Workroom																								
OR Storage Room																								
Soiled Storage																								
Decon Room																								
Trauma 1																								
Trauma 2																								
Trauma 3																								
Trauma 4																								
Trauma X-Ray																								
Holding Room	1																							

Sample Existing System & Space Risk Assessment

MSL – “Short Form”

STEP #1	WHAT CATEGORY IS THE SYSTEM AS CURRENTLY INSTALLED?					HIGHLIGHT YELLOW			
STEP #2	WHAT AREAS OF FACILITY FALL IN CATEGORY 1,2,3 & 4 FOR EACH CHAPTER?					LIST UNDER APPROPRIATE CATEGORY			
EXISTING SYSTEM/EQUIP. RISK ASSESSMENT	SYSTEM	CATEGORY #1 MAJOR INJURY OR DEATH	CATEGORY #2 MINOR INJURY	CATEGORY #3 DISCOMFORT	CATEGORY #4 NO IMPACT	COMMENTS			
CHAPTER 5 GAS & VACUUM SYSTEMS	OXYGEN	OR, C-Section Transplant, Cath, Interventional Rad Intensive Care (all)	ED, Clinical Obs., Endo Oncology, Progressive Care, Clinical Obs. Uni	Breast Ctr., EKG, EEG, Ultrasound Patient Ca Units, Radiology	Ambulatory Care (physician offices) an all other areas	Designed/installed for healthcare occupancy Must implement recommended mitigtion			
	MEDICAL AIR	OR, C-Section Transplant, Cath, Interventional Rad Intensive Care (all)	ED, Clinical Obs., Endo Oncology, Progressive Care, Clinical Obs. Uni	Breast Ctr., EKG, EEG, Ultrasound Patient Ca Units, Radiology	Ambulatory Care (physician offices) an all other areas	Designed/installed for healthcare occupancy Must implement recommended mitigtion			
	VACUUM	OR, C-Section Transplant, Cath, Interventional Rad Intensive Care (all)	ED, Clinical Obs., Endo Oncology, Progressive Care, Clinical Obs. Uni	Breast Ctr., EKG, EEG, Ultrasound Patient Ca Units, Radiology	Ambulatory Care (physician offices) an all other areas	Designed/installed for healthcare occupancy Must implement recommended mitigtion			
	WAGD	OR, C-Section			All other areas	Designed/installed for healthcare occupancy Must implement recommended mitigtion			
CHAPTER 6 ELECTRICAL SYSTEMS	ELECTRICAL SYSTEMS	OR, C-Section Transplant, Cath, Interventional Rad Intensive Care (all)	ED, Clinical Obs., Endo Oncology, Progressive Care, Clinical Obs. Uni	All other clinical and st areas		Designed/installed for healthcare occupancy Must implement recommended mitigtion			
CHAPTER 9 HVAC SYSTEMS	HEATING			All patient care and st areas		Designed/installed for healthcare occupancy			
	VENTILATION	OR, C-Section Transplant, Cath, Infectious isolation	ER, Lab, Pharmacy, Oncology	Kitchen and all other areas		Designed/installed for healthcare occupancy			
	AIR-CONDITIONING			All patient care and st areas		Designed/installed for healthcare occupancy			
CHAPTER 10 ELECTRICAL EQUIPMENT	See Biomed List	All high risk equipment		Non-high risk equipment					
CHAPTER 11 GAS EQUIPMENT	See Respiratory Therapy	All high risk equipment		Non-high risk equipment					
STEP #3	MITIGATION REQUIREMENTS:								
CHAPTER 5:	Mitigation Requirements	**Gas and Vacuum Systems**							
1	5.1.3.1.8: Indoor storage locations for cylinders of oxygen and nitrous oxide must have signage (legible from 5 feet) on doors stating:								
	Medical Gases								
	No Smoking or Open Flame								
2	5.1.3.1.9: Indoor storage locations for gas cylinders other than oxygen and nitrous oxide must have signage on doors stating:								
	Positive Pressure Gases								
	No Smoking or Open Flame								

This Risk Assessment IS Required If…

K913	**Electrical Systems – Wet Procedure Locations** Operating rooms are considered wet procedure locations, unless otherwise determined by a risk assessment conducted by the facility governing body. Operating rooms defined as wet locations are protected by either isolated power or ground-fault circuit interrupters. A written record of the risk assessment is maintained and available for inspection. 6.3.2.2.8.4, 6.3.2.2.8.7, 6.4.4.2

You do NOT have either isolated power or ground fault interrupters in ORs

NFPA 99 – Wet Procedure Locations

Receptacles in Pediatric Locations

K912	**Electrical Systems – Receptacles** Power receptacles have at least one, separate, highly dependable grounding pole capable of maintaining low-contact resistance with its mating plug. In pediatric locations, receptacles in patient rooms, bathrooms, play rooms, and activity rooms, other than nurseries, are listed tamper-resistant or employ a listed cover. If used in patient care room, ground-fault circuit interrupters (GFCI) are listed. 6.3.2.2.6.2 (F), 6.3.2.4.2 (NFPA 99)

Power Strips (no longer a categorical waiver)

K920	**Electrical Equipment – Power Cords and Extension Cords** Power strips in a patient care vicinity are only used for components of movable patient-care-related electrical equipment (PCREE) assembles that have been assembled by qualified personnel and meet the conditions of 10.2.3.6. Power strips in the patient care vicinity may not be used for non-PCREE (e.g., personal electronics), except in long-term care resident rooms that do not use PCREE. Power strips for PCREE meet UL 1363A or UL 60601-1. Power strips for non-PCREE in the patient care rooms (outside of vicinity) meet UL 1363. In non-patient care rooms, power strips meet other UL standards. All power strips are used with general precautions. Extension cords are not used as a substitute for fixed wiring of a structure. Extension cords used temporarily are removed immediately upon completion of the purpose for which it was installed and meets the conditions of 10.2.4.

K923	**Gas Equipment – Cylinder and Container Storage** **≥ 3,000 cubic feet** Storage locations are designed, constructed, and ventilated in accordance with 5.1.3.3.2 and 5.1.3.3.3. **> 300 but <3,000 cubic feet** Storage locations are outdoors in an enclosure or within an enclosed interior space of non- or limited- combustible construction, with door (or gates outdoors) that can be secured. Oxidizing gases are not stored with flammables, and are separated from combustibles by 20 feet (5 feet if sprinklered) or enclosed in a cabinet of noncombustible construction having a minimum 1/2 hr. fire protection rating. **≤ 300 cubic feet** In a single smoke compartment, individual cylinders available for immediate use in patient care areas with an aggregate volume of ≤ 300 cubic feet are not required to be stored in an enclosure. Cylinders must be handled with precautions as specified in 11.6.2. A precautionary sign readable from 5 feet is on each door or gate of a cylinder storage room, where the sign includes the wording as a minimum "CAUTION: OXIDIZING GAS(ES) STORED WITHIN NO SMOKING". Storage is planned so cylinders are used in order of which they are received from the supplier. Empty cylinders are segregated from full cylinders. When facility employs cylinders with integral pressure gauge, a threshold pressure considered empty is established. Empty cylinders are marked to avoid confusion. Cylinders stored in the open are protected from weather. 11.3.1, 11.3.2, 11.3.3, 11.3.4, 11.6.5 (NFPA 99)

Oxygen E-cylinder Storage (TJC 2/10/17)

"In accordance with NFPA 99-2012 11.3.3, if a cylinder is outside of protected storage, but being stored, there is an allowance of 300 cubic-feet, or no more than 12 E-cylinders, per smoke compartment. 11.6.5.2 requires segregation of empty and full cylinders when stored within the same enclosure. **Since they are not in an enclosure, cylinders outside of protected storage are not considered empty. Therefore all cylinders stored outside of protected storage are to be counted in the 300 cu-ft. calculation.** Note that 11.3.3.4 allows individual cylinders available for immediate use in a patient care area to not be considered in storage. For example, on a crash cart."

James Woodson , P.E., CHFM 2/10/17

Written Policy and Documented Training

K926	**Gas Equipment – Qualifications and Training of Personnel** Personnel concerned with the application, maintenance and handling of medical gases and cylinders are trained on the risk. Facilities provide continuing education, including safety guidelines and usage requirements. Equipment is serviced only by personnel trained in the maintenance and operation of equipment. 11.5.2.1 (NFPA 99)

OR Fire Safety - including the “time-out”!

K933	**Features of Fire Protection – Fire Loss Prevention in Operating Rooms** Periodic evaluations are made of hazards that could be encountered during surgical procedures, and fire prevention procedures are established. When flammable germicides or antiseptics are employed during surgeries utilizing electrosurgery, cautery or lasers: • packaging is non-flammable. • applicators are in unit doses. • Preoperative "time-out" is conducted prior the initiation of any surgical procedure to verify: ○ application site is dry prior to draping and use of surgical equipment. ○ pooling of solution has not occurred or has been corrected. ○ solution-soaked materials have been removed from the OR prior to draping and use of surgical devices. ○ policies and procedures are established outlining safety precautions related to the use of flammable germicide or antiseptic use.

OR Fire Safety – K-933 Continued…

Procedures are established for operating room emergencies including alarm activation, evacuation, equipment shutdown and control operations. Emergency procedures include the control of chemical spills, extinguishment of drapery, clothing and equipment fires. Training is provided to new OR personnel (including surgeons), continuing education is provided, incidents reviewed monthly, and procedures are reviewed annually. 15.13 (NFPA 99)

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Q&A Session: *What to Know When it Comes to CMS K-Tag Compliance*

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