

# Division of Health Care



## Life Safety Code Guidance *for* Certified Long Term Care Facilities



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# Life Safety Code Guidance for Certified Long Term Care Facilities

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## **1. Acknowledgement**

The Kentucky Office of Inspector General Health Care Division would like to thank the following agencies for their life safety code contributions in the creation of this document: Minnesota Department of Health, Indiana State Department of Health and Ohio Department of Health.

## **2. Introduction**

The Life Safety Code Guidance was developed to assist certified long term care facilities in the Commonwealth of Kentucky with compliance issues commonly encountered during a federal life safety code certification survey. The intent is to provide guidance and helpful information for navigating through the NFPA 101, Life Safety Code ©, 2000 Edition codes (NFPA 101, (00)) that the Centers for Medicare and Medicaid Services (CMS) adopted on January 10, 2003 with an effective date of September 11, 2003. The purpose of the code is to provide a reasonable degree of safety from fire.

This document is not all inclusive of adopted codes and does not address state and local building codes. The facility is ultimately responsible for ensuring compliance with all applicable codes and standards.

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## 3. Centers for Medicare & Medicaid Services (CMS)

In order to meet federal Medicare/Medicaid certification requirements, healthcare facilities must be in compliance with National Fire Protection Association (NFPA) Standard 101, *Life Safety Code*®, 2000 Edition. The life safety code is applied under the authority of the Social Security Act and Code of Federal Regulations (CFR). Skilled nursing facilities (SNF) and nursing facilities (NF) must both meet 42 Code of Federal Regulation 483.70(a). In the Social Security Act, SNF fall under Title XVIII, Section 1819(d)(2) and NF under Title XIX, Section 1919(c)(2). Please go to [http://146.123.140.205/CertificationandCompliance/11\\_LSC.asp](http://146.123.140.205/CertificationandCompliance/11_LSC.asp) for more information about the Centers for Medicare & Medicaid Services life safety code requirements.

Federal Medicare/Medicaid certification requirements of healthcare facilities for life safety code fall into one of two categories (new or existing). Buildings/facilities constructed or for which plans were reviewed or a permit issued on or after March 11, 2003 are considered NEW and must comply with NFPA 101 Life Safety Code © 2000 Edition Chapter 18 (this would include additions to and/or major renovations of existing buildings/facilities). Buildings/facilities constructed or for which plans were reviewed or a permit issued prior to March 11, 2003 are considered EXISTING and must comply with NFPA 101 Life Safety Code © 2000 Edition Chapter 19.

## 4. Survey Process/Documents

The State Operations Manual (SOM) Appendix I describes the procedures and interpretive guidelines for the LSC survey process. Please go to [http://146.123.140.205/GuidanceForLawsAndRegulations/11\\_LSC.asp](http://146.123.140.205/GuidanceForLawsAndRegulations/11_LSC.asp) for more information about the Centers for Medicare & Medicaid Services life safety code survey process.

The Life Safety Code (LSC) surveyor will be using CMS Form - 2786R (06/07) Fire Safety Survey Report 2000 Code-Health Care to document the survey process. This document is to be used as a guide and is not all inclusive of what the surveyor will be looking for during the LSC survey process. Please go to <http://www.cms.gov/cmsforms/cmsforms/itemdetail.asp?itemid=CMS009335> for a copy of the 2786R. This document lists the CMS LSC K tags and gives the location of where the K tag can be found in the NFPA 101 Life Safety Code © 2000 Edition.

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## 5. Facility Documents

It is recommended that all documentation needed for the LSC record review be kept in an organized manner and be labeled by subject area. The standardization process will speed up the documentation review and lessen the chance of documents being misplaced or lost.

Suggested subject areas are:

Battery-operated Emergency Lights/EXIT Signs  
Battery-operated Smoke Alarm Testing  
Building information  
Emergency Generator  
Emergency Plan and In-service Records  
Fire Alarm System/Automatic Dialer  
Fire Drills  
Fire Sprinkler System/Fire Pump  
Fire/Smoke Dampers  
Interior Finishes/Decorations/Drapes & Curtains  
Kitchen Hood System  
Lab Procedures/Incidents  
Portable Fire Extinguishers  
Smoke Detector Sensitivity Testing  
Smoking Policy  
Systems Out of Service (Fire Watch)  
Upholstered Furniture/Mattresses

The list below contains the documents to be reviewed and information that will be needed prior to the start of the LSC survey.

1. Up to date 8 1/2" x 11" floor plan of all levels of the building.
2. Date(s) of construction of the original building and any subsequent additions.
3. Construction type(s) of the original building and any subsequent additions.
4. Number of stories for each type of construction listed.
5. Interior Finish Flame Spread Ratings for wallpaper, paneling, etc.
6. Fire Drills and Evidence of Activation of the Fire Alarm System.
7. Annual Fire Alarm Testing and Maintenance.
8. Smoke Detector Sensitivity Testing.
9. Automatic Sprinkler System-Annual and Quarterly Inspection and Testing including 5 year Internal Inspection and Annual Private Hydrant Testing.
10. Kitchen Range Hood Exhaust Cleaning & Inspection.
11. Kitchen Extinguishing System Inspection.
12. Weekly Generator Inspection & Monthly Generator Load Test or Annual Load Bank Test.
13. Battery-operated Emergency Lighting Monthly & Annual Inspection & Testing.
14. Drapery, Curtain, Hanging Fabric, Flame Retardancy Documentation.
15. Fire Extinguisher Annual, Monthly and Six-year Maintenance & Inspection.
16. Fire Damper Testing.
17. Boiler/Water Heater Inspections.
18. Smoking Policy.
19. Fire & Disaster Plan & Procedure.
20. Fire Watch Plan & Procedure.
21. Policy on Admission of Residents who require Life Support.
22. Policies regarding Oxygen Transfilling, Power Strips, Portable Heaters and Generator Malfunction.
23. Annual Rolling Fire Door Test and Inspection.

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## 6. Life Safety Code Requirements

### A. Alcohol Based Hand Rub Dispensers

- ✓ Ensure that corridors are at least 6 feet wide before installing dispensers.
- ✓ There is a minimum spacing of 4 feet from each other.
- ✓ Dispensers are not installed over or adjacent to an ignition source such as an electrical switch or outlet.
- ✓ Ensure that the maximum individual fluid dispenser capacity is 1.2 liters (2 liters in suites of rooms)
- ✓ There are not more than 10 gallons in a single smoke compartment outside a storage cabinet.
- ✓ If the floor is carpeted the building must be fully sprinklered.

### B. Automatic Sprinkler System

#### Maintenance and testing of fire sprinkler systems

When properly installed and maintained, automatic fire sprinkler systems have proven to be **the** most effective means for protecting life and property against fire. In recognition of their excellent track record in controlling the spread of fire, both state codes and national standards offer fire sprinklers as a cost-effective alternative to meeting many of their base code requirements. A lot is riding, therefore, on a sprinkler system's ability to operate and function properly. In order to meet federal certification requirements, automatic fire sprinkler systems are required to be inspected, tested and maintained in accordance with NFPA 25(98), *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*. For federal certification, NFPA 101(00), Sec. 2.1.1 references the 1998 edition of NFPA 25.

#### Application

It must be noted that this document is intended to serve as a quick-reference guide only and is **not** intended to be all-inclusive. It covers most, but not all, of the inspection, testing and maintenance requirements applicable to fire sprinkler systems. Some facilities may have additional equipment not covered in this guide. It is important, therefore, that the users have access to, and become familiar with all the requirements found in, NFPA 25(98).

#### System types

The requirements contained in NFPA 25(98) are based on the type of sprinkler system installed. The two types most commonly found in healthcare occupancies are wet pipe and dry pipe sprinkler systems. Some buildings contain both types of systems – a wet pipe system in heated areas and a dry-pipe system in unheated areas. Simply put, a *wet pipe sprinkler system* is a piping system containing water so arranged that water discharges immediately from sprinklers activated by heat from a fire. A *dry pipe sprinkler system* is a piping system containing air or nitrogen under pressure so arranged that upon activation of a sprinkler, the water pressure opens a valve allowing water to flow into the pipe and out the opened sprinkler.

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## Definitions

In order to follow the requirements of the standard, it's important to have a good understanding of what is meant by "inspection", "testing" and "maintenance". Those terms are defined in NFPA 25(98), Sec. 1-5 as follows:

- *Inspection.* A visual examination of a system or portion thereof to verify that it appears to be in operating condition and is free of physical damage.
- *Testing.* A procedure used to determine the status of a system as intended by conducting periodic physical checks such as water flow tests, fire pump tests, alarm tests, and trip tests of dry-pipe valves. These tests follow up on the original acceptance test at intervals specified in the appropriate chapter of NFPA 25(98).
- *Maintenance.* Work performed to keep equipment operable or to make repairs.

## Personnel qualifications

It is the facility's responsibility to ensure that only properly trained and competent persons perform inspections, testing and maintenance on its fire sprinkler system. NFPA 25(98) simply states, "These tasks shall be performed by personnel who have developed competence through training and experience."

[See NFPA 25(98), Sec. 1-4.2].

## System history

A number of requirements applied to a healthcare facility's fire protection systems are based on the age and date of installation of those systems. Without an accurate written history of the fire protection system(s) in your facility, it can be difficult to prove to a state or federal life safety surveyor that those systems are being maintained in accordance with applicable state and federal standards. This can result in fire/life safety deficiencies being cited. Turnover of administrative and/or maintenance personnel only serve to compound the problem. One of the best ways to deal with this is to create and maintain an historical log on your system(s). As with just about anything, the hardest part of creating an historical log is getting started after that, it's a matter of keeping it up-to-date. Basic questions that need to be answered include:

- ✓ When was the system initially installed? Who installed it?
- ✓ Were any additions, modifications or repairs made to the system? When? Who did the work?

It's important to note that certain changes made to your building could necessitate modifications to your fire protection system. Things to watch for include: construction or removal of walls and installation of such things as drop-in ceilings, new suspended light fixtures, tracks for lift systems and new cubicle curtains.

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## Applicable standards

1. Specific requirements relating to the inspection, testing and maintenance of fire sprinkler systems can be found in:
  - Chapters 2 and 9 of the 1998 edition of NFPA 25
2. Specific requirements relating to the inspection, testing and maintenance of fire pumps can be found in:
  - Chapter 5 of the 1998 edition of NFPA 25

## Specific Requirements

The inspection, testing and maintenance requirements that apply to your building's fire sprinkler system start from the date of initial installation and continue on at specific intervals throughout the life of the system. What follows is a brief synopsis of some of the major requirements you need to be aware of.

## New installations

In order to meet federal certification requirements, automatic fire sprinkler systems are required to be installed in accordance with NFPA 13(99), *Standard for the Installation of Sprinkler Systems*. NFPA 101(00), Sec. 2.1.1 references the 1999 edition of NFPA 13. For purposes of this guide, all code references will be based on the 1999 edition of NFPA 13. All newly installed fire sprinkler systems are required to meet specific acceptance requirements, such as flushing of fire service mains and testing of both underground and aboveground piping see NFPA 13(99). These services must be provided by licensed contractors.

## Monthly

The following monthly inspections can be performed by facility staff:

- Visually inspect control valves to ensure that they are:
  - ✓ In the normal open position
  - ✓ Accessible
  - ✓ Properly sealed
  - ✓ Locked and/or supervised
  - ✓ Free from leaks
  - ✓ Provided with appropriate signage identifying the portion of the system they control
- Visually inspect gauges on wet pipe systems to verify that they are in good condition and that normal water pressure is being maintained.
- Visually inspect gauges on dry pipe systems to verify that they are in good condition and that normal air and water pressure are being maintained. Note: Where air pressure is not supervised at a constantly attended location, these gauges need to be inspected on a weekly basis.

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## Quarterly

- The following quarterly inspections are in addition to those required monthly and can be performed by facility staff:
  - ✓ For hydraulically designed sprinkler systems, inspect the hydraulic nameplate to verify that it's securely attached to the sprinkler riser and is legible. Note: Most newly installed fire sprinkler systems are now hydraulically designed. When in doubt, ask your sprinkler contractor.
- Inspect alarm devices to verify that they are free of physical damage.
- Inspect fire department connections to verify that:
  - ✓ They are visible and accessible.
  - ✓ Couplings or swivels are not damaged and rotate smoothly.
  - ✓ Plugs or caps are in place and not damaged.
  - ✓ Gaskets are in place and in good condition.
  - ✓ Identification signs are in place.
  - ✓ The check valve is not leaking.
  - ✓ The automatic drain valve is in place and operating properly.
- With proper training the following quarterly tests can be performed by facility staff:
  - ✓ Test the water flow alarm on wet pipe sprinkler systems by opening the inspector's test connection. This simulates the opening of a sprinkler head. Note: Where freezing weather conditions or other circumstances prohibit the use of the inspector's test connection; the bypass connection is allowed to be used.
  - ✓ Test the water flow alarm on dry pipe sprinkler systems *by using the bypass connection.*  
**Caution:** *Opening the inspector's test connection can cause the system to trip accidentally, allowing the pipes to fill with water and creating a potential for a serious freeze problem.*

## Annually

- In addition to the monthly and quarterly inspections and tests, NFPA 25(98) has very detailed and specific inspection, testing and maintenance services that need to be performed on an annual basis. Because of their complexity, these services must be performed by a licensed sprinkler contractor and would include such things as:
  - ✓ An inspection of the facility's supply of spare sprinkler heads to ensure that there are a minimum of two sprinklers of each type and temperature rating and that there is a sprinkler wrench for each type of sprinkler.
  - ✓ A check of all sprinklers, hangers, pipe and fittings.
  - ✓ Testing of the main drain.
  - ✓ Testing of any antifreeze solution used.
  - ✓ Testing and maintenance of valves.
- Dry pipe sprinkler systems require some additional testing and maintenance. Priming water level, low pressure alarms and quick-opening devices must be tested. An annual trip test is also required.

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## Long term

- A full flow trip test is required for dry pipe sprinkler systems every 3 years [see NFPA 25(98), Sec. 9-4.4.2.2.1].
- Sprinkler system gauges typically have a life expectancy of 10 to 15 years. As a result, these gauges must be replaced every 5 years or tested every 5 years by comparison to a calibrated gauge. Gauges not accurate to within 3 percent of the full scale must be recalibrated or replaced [see NFPA 25(98), Sec. 2-3.2].
- System check valves must be inspected internally every 5 years to verify that all components operate properly, move freely and are in good condition [see NFPA 25(98), Sec. 9-4.2.1].
- The 1998 edition of NFPA 25 has specific requirements dealing with testing of sprinkler heads that have been in service for an extended period of time [see NFPA 25(98), Sec. 2-3.1]. The requirements, which emphasize the importance of knowing the history of your facility's fire sprinkler system, would include:
  - Sprinklers manufactured prior to 1920 must be replaced.
  - Representative samples of solder-type, extra-high temperature sprinklers (i.e. 325-375° F) that are exposed to semi-continuous or continuous maximum allowable ambient temperature conditions are required to be tested at 5 year intervals. These would be sprinklers you might find, for example, in your boiler room and would have red-colored frame arms.
  - Sprinklers manufactured using fast response elements that have been in service for 20 years are required to be tested. Retesting is required at 10-year intervals.
- Note: The first residential sprinkler was listed for service in 1981 and the first quick response sprinkler was listed for service in 1983.
  - Sprinklers that have been in service for 50 years must be replaced. An alternative is to submit representative samples from one or more sample areas to a recognized testing laboratory acceptable to the AHJ for testing. Such tests are required to be repeated at 10-year intervals.
  - Sprinklers in service for 75 years are required to be replaced or representative samples submitted for testing. Retesting is then required at 5-year intervals.

## Fire Pumps

- Fire pumps, where present, are also subject to very specific inspection, testing and maintenance requirements to help ensure that they will function properly when needed. Some of the basics include:
  - ✓ Fire pumps must be inspected weekly to verify that the pump assembly appears to be in operating condition and is free from physical damage [see NFPA 25(98), Sec. 5-2 for specific conditions that must be checked].
  - ✓ Fire pump assemblies must be tested weekly [see NFPA 25(98), Sec. 5-3.2 for specific observations and adjustments that need to be made while the pump is running].
  - ✓ An annual test of the fire pump assembly is required. This test must be conducted under minimum, rated and peak flows of the pump [see NFPA 25(98), Sec. 5-3.3 for specific visual observations, measurements and adjustments that need to be made while the pump is running and flowing water under the specified output condition].

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- NFPA 25 requires that a preventive maintenance program be established on all components of the pump assembly in accordance with manufacturer's recommendations [see NFPA 25(98), Sec. 5-5].
- Note: NFPA 25 provides a helpful table to use in the absence of manufacturer's recommendations for preventive maintenance [see NFPA 25(98), Table 5-5.1].

## *Documentation Requirements*

Just as important as conducting required inspections, testing and maintenance is documenting the fact that they occurred. Both NFPA 13(99) and NFPA 25(98) require that these services be properly recorded. What follows is a brief synopsis of some of the major documentation requirements you need to be aware of.

### **Initial installation records**

The AHJ will want proof that all underground and aboveground piping related to the fire sprinkler system has been properly tested, including flushing of underground piping and hydrostatic testing of aboveground piping [see NFPA 13(99), Sec. 10-2]. Proper documentation serves as evidence that this has occurred.

- Initial records must, at a minimum, include:
  - ✓ Name of installation contractor
  - ✓ *Contractor's Material and Test Certificate for Aboveground Piping* [see NFPA 13(99), Figure 10-1(a)]
  - ✓ *Contractor's Material and Test Certificate for Underground Piping* [see NFPA 13(99), Figure 10-1(b)]
- In addition, the installing contractor is required to provide you with the following [see NFPA 13(99), Sec. 10-4]:
  - ✓ All literature and instructions provided by the manufacturer describing proper operation and maintenance of all equipment and devices installed, and
  - ✓ A copy of NFPA 25 (Be aware that you very likely will **not** receive a copy of the 1998 edition of NFPA 25, but rather the latest edition of the standard adopted by NFPA).
- The installing contractor is required to identify hydraulically designed systems with a permanently marked weatherproof sign properly secured near the valve controlling the corresponding hydraulically designed area [see NFPA 13(99), Sec. 10-5]. This sign must include the following information:
  - ✓ Location of the design area(s).
  - ✓ Discharge densities over the design area(s).
  - ✓ Required flow and residual pressure demand at the base of the riser.
  - ✓ Occupancy classification or commodity classification and maximum permitted storage height and configuration.
  - ✓ Hose stream demand included in addition to the sprinkler demand.
- Note: A sample information sign can be found in Appendix A to [see NFPA 13(99) Figure A-10-5].

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## Monthly, quarterly, annual and long term records

- Sample forms for inspection, testing and maintenance of fire sprinkler systems can be found in Appendix B of the 1998 edition of NFPA 25. These forms should be available through your local fire sprinkler contractor. Sample reports are also available for dry pipe sprinkler systems and fire pumps:
  - ✓ Inspection, testing and maintenance of dry pipe sprinkler systems [see NFPA 25(98), Appendix B, and Figure B-5].
  - ✓ Inspection, testing and maintenance of fire pumps [see NFPA 25(98), Appendix B, Figure B-11 or National Sprinkler Association Form 25-20.

## Dry Pipe System Strip test

- A tag or card showing the following must be attached to dry pipe system valves [see NFPA 25(98), Sec. 9-4.4.2.5]:
  - ✓ Date dry pipe valve last tripped; and
  - ✓ Name of person and organization conducting the test.
- Separate records of initial air and water pressure, tripping air pressure and dry pipe valve operating condition must be maintained on the premises for comparison with previous test results. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection.

## Additional Information

- Inspect and maintain sprinkler system in accordance with *NFPA 25(98)*. 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 than two sprinkler heads may be required depending on the number of heads used in a facility). Keep the sprinkler wrench with the spare sprinkler heads.
- Ensure that the same type of sprinkler head is used throughout each compartment. (Note there are exceptions for special areas such as boiler rooms which may have higher than normal temperatures.)
- According to NFPA 13(99), 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.
- Maintain sprinkler heads clean, dust free, and paint free.

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## C. Building Construction

Building construction consists of the materials used to construct a building and their arrangement. Federal certification requirements applicable to building construction are:

- If the building has a common wall with a nonconforming building, the common wall is a fire barrier having at least a 2 hour fire resistance rating constructed of materials as required for the addition. Communicating openings occur only in corridors and shall be protected by approved self-closing fire doors [see NFPA 101(00), Sec. 18.1.1.4.1 & 4.2 and Sec. 19.1.1.4.1 & 4.2]
- New health care occupancies - Building construction type and height must meet one of the following. [See NFPA 101(00), Sec. 18.1.6.2, 18.1.6.3, and 18.3.5.1].

**Table 18.1.6.2 Construction type limitations**

<i>Construction Type</i>	<i>Stories</i>
I(443), I(332), II(222)	Any height with complete automatic sprinkler system
II(111)	Not over 3 stories with complete automatic sprinkler system
III(211)	Not over 1 story with complete automatic sprinkler system
V(111)	
IV(2HH)	
II(000)	
III(200)	Not permitted
V(000)	

- Existing health care occupancies - Building construction height meets one of the following. [see NFPA 101(00), [Sec. 19.1.6.2, 19.1.6.3, 19.1.6.4 and 19.3.5.1]

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**Table 19.1.6.2 Construction type limitations**

<i>Construction Type</i>	<i>Stories</i>
I(443), I(332), II(222)	Any height
II(111)	1 story only (non-sprinklered)
II(111)	Not over 3 stories with complete automatic sprinkler system
III(211)	Not over 2 stories with complete automatic sprinkler system
V(111)	
IV(2HH)	
II(000)	
III(200)	Not over 1 story with complete automatic sprinkler system
V(000)	

## **D. Corridors Walls/Width/Means of Egress**

- ✓ 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.
- ✓ Seal all penetrations with rated materials. Do not use expanding foams to seal penetrations unless they are fire rated.
- ✓ Replace damaged fire rated ceiling tiles with fire rated ceiling tiles. [See NFPA 101 (00) 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.
- ✓ Monitor corridors serving as exit access to ensure that they are clear and unobstructed of linen carts, soiled utility carts, wheelchairs and lifts may not be stored in hallways. [See NFPA 101(00) Sec. 18.2.3.3, 18.2.3.4 and 19.2.3.5 for width requirements].
  - 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.
  - 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.
- ✓ Monitor the facility to ensure that the facility does not have combustible decorations in corridors 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.

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## E. Doors

- 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.
  - ✓ 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 is in the path of travel.
  - ✓ Doors with magnetic locking devices unlock upon activation of the complete fire alarm system and loss of power. (Doors may not reactivate if the fire alarm system is placed in silent mode and the doors should not relock without the system being reset.)
  - ✓ Check door systems after performance of maintenance to assure systems are returned to working order.

## F. Elevators & Dumbwaiters

- Elevators are subject 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 (00)* 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*

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## G. Emergency plans and fire drills

### Fire safety and evacuation plans

NFPA 101(00), Sec. 18.7.1.1/19.7.1.1 requires that the administration of every healthcare occupancy have in effect and available to all supervisory personnel, written copies of a plan 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 where necessary. Further, the code requires that all employees receive periodic instruction and be kept informed with respect to their duties under the plan [see related requirement in [see NFPA 101(00), Sec. 18.7.1.3/19.7.1.3] and that a copy of the plan be available on-site at all times. At a minimum, the fire safety plan must make provisions for the duties and responsibilities outlined in NFPA 101(2000), Sections 18.7.2.1/19.7.2.1, 18.7.2.2/19.7.2.2 and 18.7.2.3/19.7.2.3. The basic response expected of staff can be found in Sec. 18.7.2.1/19.7.2.1 and includes the following:

- Removal of all occupants directly involved with the emergency.
- Transmission of an appropriate fire alarm signal to warn other building occupants and summon additional staff.
- Confinement of the fire (i.e. close doors to isolate the fire area).
- Relocation of patients/residents as detailed in the fire safety plan as outlined in NFPA 101(00), Sec. 18.7.2.2/19.7.2.2, a facility's fire safety plan must, at a minimum, provide for the following:
  - Use of alarms (e.g. manual fire alarm boxes) The plan should also include a code phrase to be used when the individual discovering a fire must immediately go to the aid of an endangered person, or the fire alarm system malfunctions or is out of service [see NFPA 101(00), Sec. 18.7.2.3/19.7.2.3].
- Transmission of alarm to the fire department – Although this transmission should occur automatically, it should be confirmed with a follow-up 9-1-1 call to the fire department. This not only serves to confirm receipt of the alarm, but is an opportunity to provide the fire department with critical information about the building, the fire and the location of occupants.
- Response to alarms – The plan should address the type of response expected by not only staff in the immediate area of origin, but also staff in other smoke compartments and/or on other floors. Some plans assign emergency responsibilities by staff position (e.g. nursing staff, maintenance personnel, housekeeping staff, administrator, etc.).
- Isolation of fire – It has been shown that the single most effective action staff can take to limit the spread of fire and smoke is to close the door to the area of fire origin.
- Evacuation of immediate area – Rescue of persons in immediate danger should always be a number one priority.
- Evacuation of smoke compartment – It's important that the fire safety plan make provisions for evacuation of the **entire** smoke compartment in case of fire, as it is no longer acceptable to just evacuate the room of fire origin, the rooms immediately adjacent and the rooms across the corridor.
- Preparation of floors and building for evacuation – This would include removal of any obstructions in the corridors and/or other portions of the means of egress to ensure a clear path to exit the smoke compartment and, if necessary, the building.
- Extinguishment of fire – This should be attempted only if safe to do so and only by staff properly trained in the use of portable fire extinguishers.

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## Plan availability

*It's extremely important that staff have immediate access to your plan in case of emergency.* For that reason, a complete copy of your plan, including floor plan drawings, should be kept at each nurse station in your facility.

## Developing your plan...

The sample plans are, therefore, merely intended to serve as guides that should be adapted as appropriate to the individual characteristics of your facility. Failure to have a plan specifically tailored to your facility could result in a federal deficiency.

## Fire drills

Fire safety and evacuation plans outline staff duties and responsibilities in time of emergency. Ongoing training is required to help ensure that staff is aware of those duties and responsibilities. Fire drills serve as an opportunity for staff members to demonstrate, under simulated fire conditions, that they can perform those duties and responsibilities safely and efficiently. It's also a time for them to show that they are aware of *defend-in-place* strategies and can take advantage of your facility's fire safety features and egress facilities to protect the people in their care. Fire drills are more than an exercise designed to evaluate staff response to a simulated emergency. They are also a test of your facility's fire safety/evacuation plans and staff training programs. Not all fire drills run smoothly. That's okay, so long as staff and management learn from them and correct mistakes made. It's important, therefore, that there be a critique of each drill so that any problems encountered can be addressed. Perhaps the problems are due to incomplete or outdated fire safety/evacuation plans. Perhaps there's a need for additional staff training.

## Certification requirements

NFPA 101(00), Sec. 18.7.1.2/19.7.1.2 requires that fire drills be conducted quarterly on each shift.

## Fire drills – The basics

Guidance and direction in the conduct of fire drills can be found in NFPA 101 (00), Sections 4.7 and 18.7.1.2/19.7.1.2. Some important points to remember:

- Responsibility for the planning and conduct of fire drills must be assigned to a competent person.
- Periodic meetings (at least annually) should be held with the local fire code official. This presents an opportunity to not only discuss fire drill procedures, but also to review your facility's fire safety/evacuation plans and staff training programs. Local emergency services will need to participate in one of the annual drills. This drill will simulate a mass casualty incident (such drills must, however, be carefully planned – advance notice should be given to residents to avoid upsetting or exciting them).
- It is expected that all persons subject to the drill will participate (if some staff members are allowed to be excused from drills, there is a danger that, in an actual emergency, the evacuation and relocation process will be compromised). Nursing home residents should participate in drills *to the extent possible*. Infirm or bedridden residents are not required to be moved during drills; however, relocation of such residents should be practiced using simulated residents or empty wheelchairs

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- (e.g. a staff member can be used to pose as a resident, so that staff must physically remove a person from the room of fire origin, as they would during an actual fire situation).
- Drills must be scheduled on a random basis – they need to be held at unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual fire. Fire is unpredictable. Staff must be able to react to the conditions present and adjust their actions accordingly to ensure a safe and orderly evacuation. Conducting drills at varying times using different locations and scenarios not only tests their ability to do so, but makes them confident enough that the potential for confusion or panic under actual fire conditions is significantly reduced. If staff can remain calm and self-assured under emergency conditions, there is less likelihood of upsetting or exciting the facility's residents and visitors.
  - There are a number of ways that can be used to alert staff of a fire in a fire drill scenario including:
    - Place a sign, flashing light, picture of a fire or red-colored cloth in the area of simulated fire origin.
    - Hand a note to a staff person outlining a fire scenario they've just discovered.
    - Activate a manual fire alarm pull box and have staff respond accordingly.
    - Activate a nurse call light to simulate a resident discovering a fire in their sleeping room.
  - Fire drills must include the transmission of a fire alarm signal. A coded announcement is allowed to be used instead of audible alarms when drills are conducted between 9:00 P.M. and 6:00 A.M.
    - If the fire alarm system hasn't already been activated, staff should be expected to activate the nearest fire alarm box. Because the alarm is to be sounded during drills, it's important that the company or agency monitoring the fire alarm system be notified in advance of the drill to avoid dispatching the fire department.
    - It's equally important that the monitoring company/agency be contacted after the drill to verify the time that an alarm signal was received and to serve notice that the drill has been completed.
  - The drill must include complete evacuation of the smoke compartment containing the area of simulated fire origin and all occupants moved to a safe location (e.g. an adjacent smoke compartment or another floor). The emphasis when conducting drills needs to be on safe and orderly evacuation rather than speed.
  - An important part of each drill is the practicing of your facility's procedures for accounting for employees and occupants (including visitors) after evacuation has been completed. If a method isn't in place to account for everyone once evacuation or relocation is complete, it is difficult to measure the success of your fire safety/evacuation plan. It also makes search, rescue and fire attack activities more difficult for emergency responders.
  - The drill isn't complete until an ALL CLEAR signal has been given by the person in charge of the drill. Specific requirements dealing with recall and reentry:
    - Any electrically or mechanically operated signal used to recall occupants after an evacuation should be separate and distinct from the signal used to initiate the evacuation.
    - Using similar signals can cause confusion that can lead to a slowing or even halting of evacuation under actual emergency conditions.
  - The recall signal initiation means should be manually operated and under the control of the person in charge of the drill.

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- No one may reenter the area evacuated until authorized to do so by the person in charge of the drill. This is to help ensure that occupants do not reenter prematurely under actual emergency conditions.

## **DOCUMENT your drills**

Almost as important as conducting the drill is documenting the fact that it occurred. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that these records be maintained for at least three years.

## **H. Emergency Power/Electrical**

### **Inspection and testing of emergency generators**

NFPA 101(00), Sec.7.9.2.3 requires that emergency generators be installed, tested and maintained in accordance with NFPA 110, *Standard for Emergency and Standby Power Systems*. Chapter 2 of NFPA 101(00) references the 1999 edition of NFPA 110. Buildings that fall under Chapter 18 of NFPA 101(00) and are equipped with or in which patients require the use of life-support systems (e.g. hospitals, nursing homes with residents on ventilators) must also meet the maintenance and testing provisions of the 1999 edition of NFPA 99, *Standard for Health Care Facilities* [see NFPA 101(00), Sections 18.2.9.2, 18.2.10.2, 18.5.1.2 and 18.5.1.3]. Provisions dealing with maintenance and testing of emergency generators can be found in NFPA 99(99), Sec. 3-4.4. This section starts out by referencing NFPA 110 (99), but also deals with such issues as:

- Testing intervals
- Test conditions
- Personnel qualifications
- Maintenance and testing of circuitry
- Maintenance of batteries

Each facility should have a copy of these standards. They can be ordered from NFPA at 1-800-344-3555 or <http://www.nfpa.org/categoryList.asp?categoryID=124&URL=Codes%20&%20Standards>.

### **Generator classifications**

In order to follow the requirements in NFPA 99(99) and NFPA 110(99), you need to know the classification systems used by those standards.

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## NFPA 99(99)

- NFPA 99(99) treats emergency generators as part of an essential electrical system (EES), which is defined as, “A system comprised of alternate sources of power and all connected distribution systems and ancillary equipment, designed to ensure continuity of electrical power to designated areas and functions of a health care facility during disruption of normal power sources, and also to minimize disruption within the internal wiring system.” [see NFPA 99(99), Chapter 2, *Definitions*].
- NFPA 99 (99) breaks essential electrical systems down into three categories – Type 1, Type 2 and Type 3. Basically, the services provided by a facility determine the type of EES required as follows:
  - NFPA 99(99), Sec. 12-3.3.2 requires essential electrical systems in hospitals to conform to Type 1 system requirements.
  - NFPA 99(99), Sec. 16-3.3.2 requires essential electrical systems in nursing homes to conform to Type 2 system requirements. By exception, however, Type 3 systems are allowed in nursing homes that do not provide life support (e.g. ventilators).
- For a more detailed description of these three types of systems, [see Chapter 3 of NFPA 99(99)].

If you're unsure about which type of system describes your generator, the vendor that installed and/or maintains your generator should be able to provide you with that information.

## NFPA 110(99)

- NFPA 110 (1999), on the other hand, treats emergency generators as part of an emergency power supply system (EPSS).
- There are two important definitions to keep in mind [see NFPA 110(99), Chapter 2]:
  - *Emergency Power Supply (EPS)*: “The source of electric power of the required capacity and quality for an emergency power supply system (EPSS), including all the related electrical and mechanical components of the proper size and/or capacity required for the generation of the required electrical power at the EPS output terminals.” A further explanation can be found in the Appendix [see NFPA 110(99), Sec. A-2-1]: “For rotary energy converters, components of an EPS include the following: prime mover, cooling system, generator, excitation system, starting system, control system, fuel system, and lube system, if required.”
  - *Emergency Power Supply System (EPSS)*: “A complete functioning system of an EPS coupled to a system that can consist of conductors, disconnecting means, and over current protective devices, transfer switches, and all control, supervisory, and support devices up to and including the load terminals of the transfer equipment needed for the system to operate as a safe and reliable source of electrical power.”
- NFPA 110 (1999) breaks emergency power supply system's down into two categories – Level 1 and Level 2. Once you know the NFPA 99(99) classification of your emergency generator (i.e. Type 1, Type 2 or Type 3), that standard tells you where your generator fits into NFPA 110(99)
- NFPA 99(99), Sec. 3-4.1.1.4 specifies that:
  - Type 1 and Type 2 essential electrical system power sources shall be classified as Level 1 generator sets per NFPA 110(99).
  - Type 3 essential electrical system power sources shall be classified as Level 2 generator sets per NFPA 110(99).

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## Maintenance and testing – Applicable standards

Requirements for routine maintenance and operational testing of emergency generators can be found in:

- Chapter 6 of NFPA 110 (99)
- Sections 3-4.4, 3-5.4 and 3-6.4 of NFPA 99(99)

## Maintenance and testing – General

- Maintenance and testing is critical to the continued reliability of your emergency generator and must be performed in accordance with manufacturer's recommendations, instruction manuals, and the minimum requirements of NFPA 110 (99) and the AHJ.
- Your facility should have at least two sets of instruction manuals for all major generator components. One set should be kept in a secure, convenient location near the equipment. The other set should be kept in a different secure location [see: NFPA 110 (99), Section 6-2.1]. These manuals must, at a minimum, contain the following:
  - ✓ A detailed explanation of the operation of the emergency power supply system.
  - ✓ Instructions for routine maintenance.
  - ✓ Detailed repair instructions.
  - ✓ An illustrated parts list and part numbers.
  - ✓ Illustrated and schematic drawings of electrical wiring systems, including operating and safety devices, control panels, instrumentation and annunciators.
- Special tools and testing devices necessary for routine maintenance must be available for use when needed [see: NFPA 110 (99), Section 6-2.3].
- Routine maintenance, inspection and operational testing of the emergency generator and associated components must be overseen by a properly trained person [see NFPA 99(99), Sec. 3-4.4.1.1]. Evidence of such training should be kept in the designated employees' personnel file. In the absence of a properly trained person on-site, an outside vendor may need to be contracted to oversee the performance of all or part of these services.
- The standards do not establish a specific date and time of day for required testing. Those are to be determined by management and are typically scheduled so as to provide minimum disruption of facility operations.

## Weekly inspections

To meet federal certification, healthcare facilities must inspect their emergency generators weekly [see NFPA 110(99), Sec. 6-4.1]. At a minimum, this weekly inspection should include a check of the following:

- ✓ Fuel (check main and day tank fuel supply levels; day tank float switch; piping, hoses and connectors; operating fuel pressure; and for any obstructions to tank vents and overflow piping).
- ✓ Oil (check for proper oil level and oil operating pressure; lube oil heater).
- ✓ Engine oil level can be checked with the unit stopped or running on many engines; otherwise, it should be checked with the unit stopped.
- ✓ Oil operating pressure should normally be above 40 psi.
- ✓ Cooling system (check coolant level, water pump(s), jacket water heater, belts, hoses, fan).
- ✓ Exhaust system (check drain condensate trap and for possible leakage).

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- ✓ Battery system (look for possible corrosion; check specific gravity, electrolyte level (a level between 1250 and 1275 is acceptable) and battery charger).
- ✓ Electrical (conduct a general inspection of wiring and connections; check circuit breakers/fuses).
- ✓ Prime Mover/Generator (Check for debris, foreign objects, loose or broken fittings; check guards and components; look for any unusual condition of vibration, leakage, noise, temperature or deterioration *NOTE: This is not an all-inclusive list. The equipment manufacturer may have additional maintenance requirements that will likely include monthly, quarterly, semi-annual and annual inspections and checks.*)

## Monthly testing

- To meet federal certification, healthcare facilities must exercise their emergency generators under load at least monthly [see NFPA 110(99), Sec. 6-4.1]. There are a number of ways to comply with this requirement.
    - The base requirement is that generators be exercised for a minimum of 30 minutes\* using one of the following methods [see NFPA 110(99), Sec. 6-4.2]:
      - ✓ Under operating temperature conditions and at not less than 30 percent of the generator's nameplate kW rating. A 100 kW generator, for example, would need to be exercised under a load of at least 30 kW to meet this requirement.
  - Normal operating temperatures are set by the manufacturer. Something to consider when scheduling your monthly tests is that your particular generator may not reach operating temperature in 30 minutes\* and that running the generator for short periods of time may be harmful to the engine.
    - You also want to make sure that the generator runs long enough to ensure that all engine parts are properly lubricated. Loading that maintains the minimum exhaust gas temperatures recommended by the manufacturer (it is unlikely that minimum exhaust gas temperatures will be reached if the generator isn't carrying a load equivalent to at least 30 percent of the generator's nameplate kW rating).
- \*Note: Warm-up and cool-down times do not count toward the required 30 minutes.*
- An alternate method is provided for diesel-powered generators that do not meet the testing requirements outlined above. This could occur when, for example, a large generator in relation to the load is installed (e.g. either to account for the largest motor connected to the generator or to accommodate future expansion of the facility).
    - Such generators can be exercised monthly with the available 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 [see NFPA 110(99), Sec. 6-4.2.2].
  - For gasoline-powered, natural gas-powered or propane-powered generators that do not meet the testing requirements outlined above, it will likely be necessary to add more load to the generator or conduct a load bank test to comply with testing requirements (a load bank is, typically, a mobile piece of equipment that simulates the actual electrical load the generator is intended to power). Where equivalent loads are used for testing, it's important to note that such loads are required to be automatically replaced with the emergency loads in case of failure of the normal power [see NFPA 110 (99), Sec. 6-4.2.1].

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- Where a generator set is used for peak load shaving or operated during a power outage, such use is allowed to be substituted for a routine monthly test, **provided** the generator is operated in accordance with the standards and the appropriate data are recorded.
- NFPA 99(99), Sec. 3-4.4.1.1(b) 1 requires a minimum 20-day and maximum 40-day interval between tests [see also NFPA 99 (99), Sections 3 5.4.1.1(b) and 3- 6.4.1.1(b)].
- Load tests must include complete cold starts [see NFPA 99 (99), Sec. 3-4.4.1.1(b) 2; NFPA 110 (99), Sec. 6-4.3. 3.
- Time delays must be set as follows [see NFPA 110 (99), Sec. 6-4.]:
  - Time delay on start: 1 second minimum.\* *Exception:* Gas turbine cycle: 0.5 second minimum.  
\*Note: NFPA 101(00), Sec. 7.9.1.2 requires that emergency loads be picked up within 10 seconds.
  - Time delay on transfer to emergency: none.
  - Time delay on restoration to normal power: 5 minutes minimum (to give the primary source sufficient time to stabilize before retransfer of the load, a delay of between 15 and 30 minutes is recommended).
  - Time delay on shutdown: 5 minutes minimum. It's important to be prepared in case something goes wrong during testing. It is strongly recommended that your facility have a policy in place that makes provisions for a portable generator or other alternate power source for situations in which the emergency generator malfunctions or, worse yet, is out of service.

## Transfer switches

- Transfer switches are required to be operated [see NFPA 110 (99), Sec. 6-4.5. 2]. This monthly test must consist of electrically operating the transfer switch from the normal/standard position to the alternate position and then a return to the normal/standard position [see NFPA 110(99)]. In many cases, a “Transfer Test” switch or button is provided and can be used to perform this test.
- Transfer switches must also be inspected monthly to ensure that they are maintained free from accumulated dust and dirt and to check for deterioration of the transfer switch contacts [see NFPA 110(99), Sec. 6-3.5. 4].

## Some words of caution on testing...

- Shutting off power, especially shutting off the main breaker can expose a person to possible shock, electrocution and/or arc flash hazards. It is important; therefore, that anyone performing a test in this fashion be adequately trained and take proper safety precautions, including the wearing of proper personal protective equipment (PPE). *To reduce the safety risks, it is strongly recommended that facilities not already so equipped consider adding a switch for testing of their transfer switches.*

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- The explanatory information in NFPA 99(99) *Health Care Facilities Handbook* to Sec. 3-4.4.1.1(b) 2, which addresses test conditions (including cold starts and appropriate automatic and manual transfer of essential electrical system loads), it is important to remember:
  - Testing procedures might range from manually disconnecting power to the power sensors on transfer switches to manually opening the main incoming feeder breakers. It is very important that each test method be fully understood by all staff through appropriate notification and that the consequences of each method (if something fails to function) be weighed carefully.
  - A procedure for returning to the normal power source should also be established in the event a failure occurred during testing.

## **DOCUMENT your inspections and tests**

- NFPA 110(99), Sec. 6-3.3 requires the establishment of a written schedule for routine generator maintenance and testing. A sample schedule may be available from the equipment manufacturer [see NFPA 99(99) *Health Care Facilities Handbook* Appendix C-3.2].
- Because there is a lot riding on the successful operation of a facility's emergency generator, it is strongly recommended that the schedule for Level 1 emergency power supply systems be followed when establishing your maintenance schedule.
- A written record of generator inspections, tests, exercising, operation and repairs must be maintained on the premises and be available for review by the fire inspector on request. This record must, at a minimum, include:
  - ✓ The date of the report
  - ✓ Name(s) of the person(s) providing the service
  - ✓ Identification of unsatisfactory conditions and corrective action taken (including parts replaced) and
  - ✓ Any testing of repairs recommended by the manufacturer [see NFPA 99(99), Sec. 3-4.4.2; NFPA 110 (99)].
- A sample inspection log can be found in Appendix A of NFPA 110(99) [see Figure A-6-3.1(b)] or may even be available from the equipment manufacturer. A sample testing log may be available from the equipment manufacturer. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that these logs be maintained for at least three years.

## **Additional information**

- Where additional outlets are needed in the patient vicinity they must be installed in accordance with NFPA 70(99) edition, of the National Electrical Code.
  - ✓ Inspect and monitor the 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.

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- ✓ Power strips may be used in non-wet, non-direct patient areas. Routine mopping does not constitute a wet area.
- ✓ Equipment such as televisions, DVD players, and clocks, may be plugged into a power strip with surge protection.
- ✓ Power strips are not allowed to be plugged into another power strip and extension cords cannot be plugged into them.
- ✓ Power strips cannot be covered with rugs or other material.
- ✓ Power strips should not be permanently attached to the wall.
- ✓ Maintain at least three foot of clearance around all electrical service panels.

## I. Exits and Exit Access

- Monitor facility egress to ensure that:
  - ✓ 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(00) sections 7.10., 18.2.10.1.
  - ✓ Exit accesses are 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).

## J. Fire alarm system/smoke detectors

### Inspection and testing of fire alarm systems

Early warning plays a key role in a healthcare facility's ability to safely evacuate its residents during a fire emergency. As a result, a lot is riding on your fire alarm system's ability to operate and function properly. In order to meet federal certification requirements, fire alarm systems are required to be inspected, tested and maintained in accordance with NFPA 72(99), *National Fire Alarm Code* and NFPA 101(00), Sec. 2.1.1.

### Application

It must be noted that this document is intended to serve as a reference guide only and is **not** intended to be all-inclusive. It covers most, but not all, of the inspection, testing and maintenance requirements applicable to fire alarm systems. Some facilities may have additional equipment not covered in this guide.

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## Definitions

In order to follow the requirements of the standard, it's important to have a good understanding of what's meant by "inspection", "testing" and "maintenance". The terms "inspection" and "testing" are not separately defined in the standard, but are instead considered part of "maintenance", which is defined as follows [see NFPA 72(99), Sec. 1-4]:

- *Repair service* - including periodic inspections and tests, required to keep the fire alarm system and its component parts in an operative condition at all times, and the replacement of the system or its components when they become undependable or inoperable for any reason.
- While undefined in the standard, *inspection* - typically means a visual examination of a system or portion thereof to verify that it appears to be in operating condition and is free of physical damage.
- *Testing* - on the other hand, is typically a procedure used to determine the status of a system as intended by conducting periodic physical checks. These tests follow up on the original acceptance test at intervals specified in Chapter 7 of NFPA 72(99).

## Personnel qualifications

It is the facility's responsibility to ensure that only properly trained and competent persons perform inspections, testing and maintenance on its fire alarm system [see NFPA 72(99), Sec. 7-1.2]. Typically, facility personnel are limited to performing inspection and some basic testing activities only. The amount of testing that can be performed will depend on the level of training received. One of the best sources for such training would be the fire alarm contractor that performs the facility's annual service. Evidence of any training received will need to be maintained in each employee's personnel file to prove competency.

## System history

NFPA 72 (1999), Sec. 7-5.2.2 requires that a permanent record be kept of all inspections, testing and maintenance performed on a fire alarm system. A number of requirements applied to a healthcare facility's fire protection systems are based on the age and date of installation of those systems. Without an accurate written history of the fire protection system(s) in your facility, it can be difficult to prove to a state or federal life safety surveyor that those systems are being maintained in accordance with applicable state and federal standards. This can result in fire/life safety deficiencies being cited. Turnover of administrative and/or maintenance personnel only serves to compound the problem. One of the best ways to deal with this is to create and maintain an historical record on your system(s). As with just about anything, the hardest part of creating an historical record is getting started – after that, it's a matter of keeping it up-to-date. You should find the fire alarm contractor that provides your annual service to be an excellent source of information about your system.

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Basic questions that need to be answered include:

- ✓ When was the system initially installed? Who installed it?
- ✓ Were any additions, modifications or repairs made to the system? When? Who did the work?
- ✓ What means of communication is used to transmit a fire alarm signal between your facility and the supervising station?
- ✓ What type of batteries, if any, serve as a secondary power supply for the fire alarm system?

It's important to note that certain changes made to your building could necessitate modifications to your fire alarm system. Things to watch for include construction or removal of walls, change in use of an area, and installation or removal of fire sprinkler protection.

## Specific Requirements

The inspection, testing and maintenance requirements that apply to your building's fire alarm system start from the date of initial installation and continue on at specific intervals throughout the life of the system.

## Notifications

In order to avoid unnecessary occupant response and potential injury to emergency response personnel, it is very important that all affected parties be notified **prior to** any scheduled testing of the fire alarm system [see NFPA 72(99), Sec. 7-1.3]. Those notified should include, but not be limited to, building occupants (e.g. visitors, staff and patients/residents) and the monitoring company or agency.

## New installations

In order to meet federal certification requirements, fire alarm systems are required to be installed in accordance with NFPA 72 and NFPA 101(00) Sections 18/19.3.4 and 9.6.1.4]. All newly installed systems are required to be acceptance tested in accordance with the requirements of Chapter 7 of NFPA 72 (99).

## System modifications

- Reacceptance testing is required after any of the following occur [see NFPA 72(99),Sec. 7-1.6.2]:
  - ✓ Addition or deletion of system components
  - ✓ Any modification, repair or adjustment to system hardware or wiring
  - ✓ Any change to site-specific software

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- The extent of testing necessary is determined as follows:
  - ✓ All components, circuits, system operations or site-specific software functions known to be affected by changes or modifications made to the system must be 100 percent tested.
  - ✓ Ten (10) percent of initiating devices that are not directly affected, up to a maximum of 50 devices, must also be tested and proper operation verified.
  - ✓ Whenever there are changes to control units connected or controlled by the system executive software, a 10 percent functional test of the system is required, including a test of at least one device on each input and output circuit to verify critical system functions such as notification appliances, control functions and off-premises reporting.

## Semiannually

- Certain fire alarm system components need to be visually inspected semiannually [see NFPA 72 (99), Table 7-3.1]. These visual inspections can be performed by facility staff and include:
  - ✓ Control unit trouble signals – verify that they are readily visible
  - ✓ Remote annunciators – verify that they are in proper operating condition and free of damage
  - ✓ Initiating devices – verify that they are in place, unobstructed and free of damage to include:
    - Manual fire alarm boxes
    - Heat detectors
    - Notification appliances – verify that they are unobstructed and free of damage
    - Magnetic hold-open devices – verify that they are free of damage and function properly
  - ✓ A visual inspection of fire alarm interconnect switches on kitchen hood extinguishing systems is also required.
  - ✓ By exception, where a listed addressable fire alarm system is present that performs at least weekly automatic inspections of system components, the visual inspections are allowed to be conducted annually. The system would need to be capable of producing a print-out documenting these weekly inspections.
  - ✓ Inspection and testing of batteries, smoke detectors (both hard-wired and battery operated) and equipment used to transmit signals to a supervising station are covered later on in this guide.

## Annually

- The entire system is required to be thoroughly inspected, tested and maintained each year by an approved servicing company in accordance with Chapter 7 of NFPA 72 (1999) [see NFPA 72 (99), Tables 7-2.2, 7-3.1 and 7-3.2; NFPA 90A (99), Sec. 4-4.1]. Testing must include:
  - ✓ Control equipment
  - ✓ Remote annunciators
  - ✓ Initiating devices
  - ✓ HVAC shutdown devices
  - ✓ Alarm notification appliances.

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- Fire alarm interconnect switches on kitchen hood extinguishing systems are also required to be tested annually.
- Inspection, testing and maintenance of batteries, smoke detectors (both system connected and battery-operated) and equipment used to transmit signals to a supervising station.

## Long term

- Non restorable fixed-temperature, spot-type heat detectors are required to be replaced after 15 years from initial installation [see NFPA 72(99), Table 7-2.2, Item 13.d.3]. As an alternate, 2 detectors per 100 must be laboratory tested. If these detectors fail when tested, additional detectors must be tested to determine if the problem is a general or localized one. If detectors are tested instead of replaced, tests must be repeated at 5-year intervals.
- For rate-of-rise heat detectors and restorable fixed-temperature, spot-type heat detectors, 2 or more detectors must be tested on each initiating circuit annually. [See NFPA 72(99), Sec. 7-3.2.3].
- Different detectors must be tested each year, with records kept specifying which detectors were tested. Within 5 years, each detector must have been tested.

## Batteries

- Batteries serving as a secondary power supply for fire alarm systems must be *visually inspected* at the following intervals to verify that they are free of damage\* [see NFPA 72(99), Table 7-3.1, Item 3]:
  - ✓ Lead-acid and primary (Dry Cell) batteries – monthly
  - ✓ Nickel-Cadmium and sealed lead-acid batteries – semiannually

(You'll also want to: check electrolyte (fluid) levels and tightness of connections; check for corrosion or leakage; and, if necessary, clean the terminals.)

- Batteries serving as a secondary power supply for fire alarm systems must be *tested* semiannually, to include [see NFPA 72(99), Table 7-3.2, Item 6]:
  - ✓ Load voltage tests on lead-acid, Nickel-Cadmium and sealed lead-acid type batteries.
  - ✓ Monthly load voltage tests are required on primary (Dry Cell) batteries 30-minute discharge tests on lead-acid type batteries
  - ✓ Testing of specific gravity on lead-acid type batteries
- An annual charger test, conducted in accordance with NFPA 72(99), Table 7-2.2, Item 6, is required for lead-acid, Nickel-Cadmium and sealed lead-acid type batteries (this involves the use of a voltmeter or ampere meter) [see NFPA 72(99), Table 7-3.2, Item 6]. Batteries must be replaced as needed, but typically last 3 years or more. Sealed lead-acid type batteries, however, are required to be replaced every 4 years.

## Smoke detectors

### Battery operated detectors

- Some facilities have had battery-operated smoke detectors installed to meet the federal certification requirements of NFPA 101(00), Sections 18/19.7.5.2 and 18/19.7.5.3 and/or 42 CFR Part 483.70(a)(7)(ii) requirements that apply to buildings that are either un-sprinklered or only partially sprinklered.

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- These detectors must be tested and maintained in accordance with manufacturer's instructions. This means that:
  - ✓ Detectors must be tested on a weekly or monthly basis as specified.
  - ✓ Detectors must be cleaned monthly in accordance with manufacturer's instructions [NOTE: Some manufacturers may recommend less frequent cleaning intervals].
  - ✓ Batteries must be replaced annually or semiannually as specified by the manufacturer.
- Based on regulations published in the August 13, 2008 *Federal Register*, battery operated smoke detectors will no longer be required in long-term care facilities effective August 13, 2013, as all such facilities will then be required to be protected throughout by an approved, supervised automatic fire sprinkler system by that date [see 42 CFR Part 483.70(a)(8)].

## Hard-wired detectors

- Hard-wired (including low voltage) automatic smoke detectors, including duct smoke detectors, must be visually inspected semiannually [see NFPA 72(99), Sec. 7-3.1 and Table 7-3.1].
  - *Exception:* For listed addressable fire alarm systems that perform automatic inspections at a frequency of not less than weekly, the visual inspections are allowed to be conducted annually.
- The system would need to be capable of producing a print-out documenting these weekly inspections.
- Hard-wired (including low voltage) smoke detectors must be sensitivity tested in accordance with NFPA 72(99), Sec. 7-3.2.1. This section requires that detector sensitivity be checked within 1 year after installation and every other year thereafter.
- Detectors found to have a sensitivity outside the listed and marked sensitivity range must be cleaned and recalibrated or be replaced.
- If, after the second test, detectors are found to have remained within their listed and marked sensitivity range (or 4 percent obscuration light gray smoke, if not marked), the length of time between sensitivity tests may be extended to a maximum of 5 years.
- Smoke entry tests are required for functional and sensitivity testing of smoke detectors. Magnet tests do **not** replace smoke entry tests.

## Alarm transmission equipment

- NFPA 101(00), Sec. 18/19.3.4.3.2 requires automatic fire department notification on activation of the building fire alarm system. This is typically accomplished by contracting with a company or agency that provides what's called a central supervising station service.
- On receipt of a fire alarm signal from your facility, operators at the supervising station turn around and retransmit the signal to the local 9-1-1 communications center.
- In some locations, the local 9-1-1 communications center will accept fire alarm signals directly (this is called remote supervising station service).

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- The means of communication between your facility and the supervising station is required to be inspected and tested to ensure its reliability. The kind of testing required is based on the method of communication employed. NFPA 72(99) allows the use of a number of transmission technologies [see NFPA 72(99), Sec. 5-5.2.1.1] to include:
  - Multiplex signaling systems
  - Digital alarm communicator systems, including digital alarm radio systems
  - McCulloh systems
  - Two-way radio frequency (RF) multiplex systems
  - One-way radio alarm systems
  - Directly-connected noncoded systems
- The method of communication most commonly employed at healthcare facilities is the Digital Alarm Communicator Transmitter (DACT) also called an automatic dialer. For that reason, this guide will not address the other transmission technologies except to say that: Information about them can be found in NFPA 72(99), Sec. 5-5, and Inspection and test intervals for other transmission technologies are outlined in NFPA 72(99), Tables 7-3.1 and 7-3.2. It's important to note that where technologies not specifically listed in Table 7-3.2 are employed, the transmission equipment must be tested quarterly as specified in NFPA 72 (1999), Table 7-3.2, Item 20 for *Off-Premises Transmission Equipment*.
  - The DACT is a component at the facility that, upon receipt of a signal from the fire alarm control panel, seizes a connected telephone line, dials one of two pre-selected numbers to connect to the supervising station and transmits the necessary alarm, trouble or supervisory signal.
  - One of the easiest ways to tell if you have a DACT is to check the communicator to see how many outgoing connections it has a DACT requires two paths for transmitting fire alarm signal information.
  - NFPA 72(99), Sec. 5-5.3.2.1.1 only allows a DACT to be connected to a “loop start telephone circuit”. Such circuits employ copper lines that allow the local phone company to provide back-up power in case of a failure of the public utility power. The use of fiber-optic cable is, however, becoming more and more common.
  - *A DACT cannot use fiber-optic cable and be code-compliant – in other words, if your facility's phone system employs fiber-optic cable only, a different transmission technology will need to be used to communicate with the supervising station. Depending upon the technology chosen, **quarterly** testing of the transmission equipment may be required [see NFPA 72(99), Table 7-3.2].*
  - *Inspection and testing* DACTs are required to be visually inspected semiannually to verify that they are free of obvious damage and tested annually [see NFPA 72(99), Tables 7-3.1 and 7-3.2]. DACT testing requirements are detailed in NFPA 72(99), Table 7-2.2, Item 16 and include:
    - ✓ Testing for line seizure capability.
    - ✓ Disconnect of the primary line from the DACT to confirm a trouble signal on-site and transmission of a trouble signal to the central station within 4 minutes of disconnect.
    - ✓ Disconnect of the secondary line (as above).
    - ✓ Simulation of a fault in the primary telephone number.

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## Documentation Requirements

Almost as important as conducting required inspections, testing and maintenance is documenting the fact that they occurred. NFPA 72(99) requires that these services be properly recorded.

### Initial installation records

- Before approving and accepting a fire alarm system, the AHJ will want written proof that operational acceptance tests have been completed. Proper documentation in the form of a Record of Completion serves as evidence that this has occurred. A sample Record of Completion form can be found in NFPA 72(99) – see *Figure 1-6.2.1*. NFPA 72(99), Sec. 1-6.2.1.1 requires that all fire alarm systems modified after the initial installation have the original record of completion revised to show all changes from the original information, including revision dates. The installing contractor is required, at a minimum, to provide you with the following [see NFPA 72(99), Sec. 1-6.2]:
  - ✓ Name of installation contractor.
  - ✓ Record of completion.
  - ✓ Owner’s manual and installation instructions covering all system equipment. This should include:
    - A detailed narrative description of the system.
    - Operator instructions for basic system operations.
    - A detailed description of routine maintenance and testing as required and recommended, including:
      - Listing of the individual system components that require periodic testing and maintenance.
      - Step-by-step instructions detailing the requisite testing and maintenance procedures, and the intervals at which these procedures need to be performed, for each type of device installed.
      - A testing and maintenance schedule.
      - Detailed troubleshooting instructions.
      - A service directory that includes a list of the names and telephone numbers of those who provide service for the system.
      - Record drawings

### Semiannual/annual records

A sample *annual inspection and testing form* can be found in NFPA 72 [see NFPA 72(99), Figure 7-5.2.2]. While some fire alarm companies simply photocopy this sample for use in documenting their annual visits, many others will create their own forms.

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## Smoke detector sensitivity testing

- Sensitivity tests must be properly documented to include:
  - ✓ Detector location.
  - ✓ The listed sensitivity range of the detector.
  - ✓ Tested sensitivity range, pass/fail.
  - ✓ Date of test.
  - ✓ Name of person performing the testing.

## Battery-operated smoke detectors – testing/maintenance

- Documentation must be provided to show that battery-operated smoke detectors are being tested and maintained in accordance with the manufacturer's instructions. This documentation should include:
  - ✓ A copy of the manufacturer's instructions that accompanied the detectors at time of purchase, and
  - ✓ A log showing the tests and maintenance performed in accordance with those instructions.
- Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection.

## K. Hazardous Areas

A hazardous area is defined as an area of a structure or building that poses a degree of hazard greater than that normal to the general occupancy of the building or structure, such as areas used for the storage or use of combustibles or flammables; toxic, noxious or corrosive materials; or heat-producing appliances.

Hazardous areas include:

- 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
- Gift shops shall be protected as hazardous areas when used for storage or display of combustibles in quantities considered hazardous.

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## Additional Information

- ✓ Ensure that any hazardous area is separated by a one-hour fire construction or is completely sprinklered.
- ✓ If the 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 (2000) 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.

## L. Heating, Ventilation, Air Conditioning, & Cooling (HVAC)

### Maintenance and testing of smoke dampers

#### Introduction

In order to ensure that they will operate properly when needed, federal certification requirements mandate that fire and smoke dampers in healthcare facilities undergo routine maintenance [see NFPA 101(00), Sections 18/19.5.2.1 and 9.2.1]. This guide, therefore, will focus on federal certification requirements.

#### Applicable standards

- NFPA 101(00), Sec. 9.2.1 requires that air conditioning, heating, ventilating ductwork and related equipment be in accordance with NFPA 90A(99), *Standard for the Installation of Air-Conditioning and Ventilating Systems*, or
- NFPA 90B (99), *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, as applicable. Since NFPA 90B(99) is intended to apply only to one- and two family dwellings and spaces not exceeding 25,000 ft<sup>3</sup> in volume, the information contained in this guide will be based on requirements found in NFPA 90A(99). The 1999 edition of that standard is referenced in NFPA 101(00), Sec. 2.1.1.

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## Air duct service openings

- NFPA 90A (99) requires that service openings be provided in air ducts adjacent to each damper [see Sec. 2-3.4.1]. Obviously, the openings need to be conveniently located and large enough to allow for maintenance and resetting of the devices. It's important to note that there could be times when it may be necessary to get two arms into the duct. While no specifics are spelled out in the standard, NFPA 90A(99), Sec. A-2-3.4.1 offers the following guidance relating to service openings:
  - ✓ Where the size of the duct permits, access doors should be at least 18 inches x 16 inches in size.
  - ✓ Where fire dampers are too large to allow them to be reset and the fusible link replaced from outside the duct, the access doors should be increased to at least 24 inches x 16 inches in size to allow a person to enter the duct.
  - ✓ The doors for fire dampers should be located so that the spring catch and fusible links are accessible when the damper is closed.
  - ✓ The doors should be located as close as practicable to the dampers.
  - ✓ It's recommended that access doors be located on the underside of ducts rather than on the side.
- NFPA 90A (99), Sec. 2-3.4.2 requires that service openings be identified with letters at least ½ inch in height indicating the location of the damper within. While inspection windows are allowed in air ducts (so long as they're glazed with wired glass), they do not replace the required access doors [see NFPA 90A (99), Sec. 2-3.4.4].
- Openings need to be provided in walls or ceilings to allow for access to the service openings in your air ducts [see NFPA 90A (99), Sec. 2-3.4.5].
- **CAUTION:** Care must be taken to ensure that any access panels or drop-in ceiling tiles used to provide this access do not reduce the fire resistance rating of your floor-ceiling or roof-ceiling assemblies.

## New installations

To ensure that they function as required, all fire dampers, smoke dampers and ceiling dampers must be operated prior to occupancy of any new construction [see NFPA 90A(99), Sec. 5-2]. You'll want to make sure that such testing is included in the contract with your installer, along with some kind of written confirmation that the testing took place and the dampers performed as required.

## Maintenance

NFPA 90A (99), Sec. 3-4.7 requires that fire and smoke dampers undergo maintenance at least every 4 years to include:

- ✓ Operation of the dampers to ensure that they fully close.
- ✓ Removal of fusible links (where applicable).
- ✓ A check of latches, if provided.
- ✓ Lubrication of all moving parts as necessary

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## **DOCUMENT your maintenance**

Whether performed by facility staff or an outside contractor, written documentation must be available for review showing that all dampers were properly tested and maintained and were found to function as required. Any repairs made should also be recorded.

## **Sample damper record**

A sample *damper maintenance record* has been developed to serve as a guide that you can use in creating your own record. A completed record is provided to serve as an example of how the record is expected to be filled out. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation should be maintained for the life of the dampers.

## **M. Illumination/Emergency Lighting**

### **Maintenance of battery operated emergency lighting**

In order to meet federal certification requirements, healthcare facilities must provide emergency lighting for all exits and designated portions of the exit access and exit discharge [see NFPA 101(00), Sections 18/19.2.9 and 7.9].

- Designated portions of the exit access and exit discharge” include stairs, aisles (in rooms or spaces that require two or more means of egress), corridors, ramps, escalators and passageways.
- Emergency lighting outside the building must be provided to either a public way or a distance away from the building that is considered safe (typically defined as 50 ft away from the building), whichever is closest.
- A minimum of 90 minutes of illumination is required.
- Emergency lighting can be supplied by storage batteries, unit equipment or an on-site generator.

This guide is only intended to cover unit equipment (also known as battery-operated emergency lights) and EXIT signs provided with a battery-operated emergency illumination source.

### **Testing requirements**

- To help ensure their reliability, battery-operated emergency lights must undergo the following tests [see NFPA 101(00), Sec. 7.9.3]:
  - ✓ A 30-second monthly functional test, and
  - ✓ A 90-minute annual test.
- By exception, self-testing/self-diagnostic, battery-operated emergency lighting equipment that automatically performs a test for not less than 30 seconds and a diagnostic routine not less than once every 30 days and indicates failures by a status indicator are exempt from the monthly functional test, *provided a monthly visual inspection is conducted*.
- These requirements also apply to EXIT signs provided with a battery-operated emergency illumination source [see NFPA 101(00), Sec. 7.10.9.2].

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## Test methods

Manufacturers' documentation should include instructions for proper maintenance and testing of their equipment. That said there are several ways to perform the required tests.

- Many battery-operated emergency lights and EXIT signs are equipped with a test switch or test button that simulates a power outage and activates the battery. The downside of using this method, however, is that, on older lighting units, the circuitry that's supposed to interrupt the normal AC power can fail. In such cases, the use of the test switch or test button really only serves to test the lamps, but does not serve as a valid test of the batteries.
- The *Electrical Code* allows flexible cord-and-plug connections for battery-operated emergency lights, provided the cord doesn't exceed 3 feet in length. Testing of this kind of installation can be performed by simply unplugging the unit for the required amount of time. Obviously, care needs to be taken to ensure that the units are plugged in again immediately after the test, so as to avoid what's called a "deep discharge" of the batteries (i.e. a discharge below 80% of the batteries' initial rated voltage), which can be damaging to the life of the batteries.
- Another option is to shut off the breaker controlling the normal AC power to the emergency lights and/or EXIT signs. While probably the most effective way to test both the lamps and batteries, the downside here is obvious – *throwing the breaker will also cut power to everything else on that circuit.*
- While holding a test switch or test button for 30 seconds isn't much of a problem, holding it for 90 minutes is a completely different matter. This has led to inquiries about whether or not it's acceptable to install a switch at each individual light that can be used to interrupt the normal AC power for the required 90 minutes. Installing an individual switch is not acceptable.

## Electrical Code

- The *Electrical Code* requires that the branch circuit feeding unit equipment be the same circuit as that serving the normal lighting in the area *and that it be connected ahead of any local switches.* For example, units located in a corridor or stair enclosure must be connected to the branch circuit supplying the normal corridor or stair enclosure lighting ahead of, or on the line side of, any switches. If power is lost to the branch circuit for any reason, the batteries automatically take over and restore illumination to the corridor or stair enclosure.
- It must be further noted that it is **not** acceptable to provide a separate branch circuit for unit equipment. This is because, in the example given above, failure of the normal corridor or stair enclosure branch circuit wouldn't necessarily affect the unit equipment, leaving the corridor or stair enclosure in darkness.
- That leaves it up to facility personnel to devise a way to hold the test switch/button in the test position for the required 90-minute test period. It is recommended that the equipment manufacturer be contacted for guidance on acceptable ways to accomplish this without damaging the equipment.

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## Batteries

- Like automobile batteries, which are continually discharged and recharged during normal vehicle operation, proper testing extends the life of batteries serving emergency lights or EXIT signs. Still, it must be remembered that these batteries have a limited service life. Because there are many factors that affect battery life (e.g. changing temperatures), it's not possible to set a hard and fast rule on how long a specific battery should last.
- The two most commonly used battery types for emergency lighting are lead acid and nickel cadmium. While the equipment manufacturer would be the best source for information on battery life, a maintenance-free lead acid battery might be expected to have a service life somewhere between 5 – 10 years and a maintenance-free nickel cadmium battery an estimated service life of between 10 – 15 years.
- It is important to note that some dimming of the lamps may occur during testing. However, the minimum lighting levels specified in the code [see NFPA 101(2000), Sec. 7.9.2.1] must be maintained for a minimum of 90 minutes.

## **DOCUMENT your tests and battery replacements**

NFPA 101(00), Sec. 7.9.3 requires that written records of the testing of your battery-operated emergency lights and EXIT signs be kept for inspection by the AHJ. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that these logs be maintained for at least three years.

## **N. Interior finishes, furnishings and decorations**

Because of the significant impact wall and ceiling finishes and furnishings, such as drapes, curtains and decorations, have on flame spread, federal code and standards contain fairly stringent requirements intended to either inhibit their ignition (in the case, for example, of drapes, curtains and decorations) or control the speed with which flame will travel across their surfaces (in the case of wall and ceiling finishes). While providing an obvious property protection benefit, the main purpose of such protections is to buy time for staff to safely evacuate residents under fire conditions.

The purpose of this guide is to outline the major requirements, both state and federal, that apply to:

- Interior wall and ceiling finishes
- Interior floor finishes
- Drapes, curtains and decorations
- Upholstered furniture
- Mattresses

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## Interior Wall and Ceiling Finishes

Federal certification requirements applicable to interior wall and ceiling finishes in healthcare occupancies can be found in NFPA 101 Life Safety Code © 2000 Edition (NFPA 101(2000), Sections 18/19.3. A review of the requirements will reveal that several factors affect the types of wall finishes (e.g. paneling, wallpaper and vinyl wall coverings) and ceiling finishes (e.g. acoustical tile) allowed in your facility including:

- Date of installation of the finish
- Location of the finish – i.e. **where** it's installed in the building
- Automatic fire sprinklers.

You must also determine which chapter of NFPA 101 (2000), applies to your facility – Chapter 18 or Chapter 19. In some cases, because of new additions or major renovations, some portions of your facility may fall under Chapter 18 and some may fall under Chapter 19.

Interior finishes are broken down into three classifications:

- Class A Interior Wall and Ceiling Finish (flame spread 0-25, smoke development 0-450)
- Class B Interior Wall and Ceiling Finish (flame spread 26-75, smoke development 0-450)
- Class C Interior Wall and Ceiling Finish (flame spread 76-200, smoke development 0-450)

These classifications are based on testing performed in accordance with NFPA 255(00), *Standard Method of Test of Surface Burning Characteristics of Building Materials*. This document is also known as ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, and the test often referred to as the Steiner Tunnel Test. For a definition of interior finish, [see NFPA 101(00), Sec. 3.3.112]. It should be noted that, by definition, interior wall finish includes the interior finish of columns, fixed or movable walls, and fixed or movable partitions. A more detailed explanation of the various flame spread classifications can be found in NFPA 101(00), Sec. 10.2.3. You'll find the 2000 *Life Safety Code® Handbook* to be another excellent resource. To obtain a copy of the 2000 *Life Safety Code® Handbook* go to <http://www.nfpa.org/catalog/search.asp?query=life+safety+code+handbook+2000+edition>.

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It's important to note that exposed portions of structural members (e.g. wood columns, beams and girders) complying with the requirements for Type IV(2HH) construction, often referred to as heavy timber construction, are exempt from the NFPA 255(00) testing and classification [see Exception No. 1 to NFPA 101 (00), Sec. 10.2.3.1]. This is based on the fact that these structural members are of substantial thickness, are spaced some distance apart and, as a result, do not form a continuous surface that would allow the spread of flame through a space. Type IV (2HH) construction is not very common in healthcare facilities, but has been found to be used for such things as chapel additions. NFPA 101(00), Chapter 18 limits Type IV (2HH) construction to one story in height, while NFPA 101(00), Chapter 19 allows up to two stories, so long as automatic fire sprinkler protection is provided [see NFPA 101(00), Sec. 18/19.1.6.2 and Table 18/19.1.6.2. Exception No. 2]. NFPA 101(00), Sec. 10.2.3.1 also allows wall and ceiling finishes tested in accordance with NFPA 286(00), *Standard Methods of Fire Tests for Evaluating Contribution of Wall and Ceiling Interior Finish to Room Fire Growth*, to be exempt from the NFPA 255(00) testing and classification. It is felt that the NFPA 286(00) test represents an improvement over the NFPA 255(00) test, as it was specifically developed to measure such factors as whether flashover occurs, the heat released and the amount of smoke obscuration. NFPA 101(00), Sec. 10.2.3.5.3 sets forth the specific criteria that must be met when using the NFPA 286(00) test. The peak rate of heat release throughout the test, however, cannot exceed 800 kW.

## Textile materials

The code has very stringent requirements regarding the use of textile materials (e.g. carpeting) on walls and ceilings [see NFPA 101(00), Sec. 10.2.4] because studies of past fires have revealed that such materials can contribute to a very rapid spread of fire.

1. Textile materials having a Class A flame spread rating are allowed on the walls or ceilings of rooms protected with automatic fire sprinklers.
2. Previously approved, existing installations of textile material having a Class A flame spread rating are allowed to be continued to be used.
3. Textile materials are allowed on walls and partitions when tested in accordance with method B of NFPA 265(98), *Standard Methods of Fire Tests for Evaluating Room Fire Growth Contribution of Textile Wall Coverings*. NFPA 101(00), Sec. 10.2.3.5.2 sets forth the specific criteria that must be met when using the NFPA 265(00) test. The total smoke released throughout the test, however, cannot exceed 1000 m<sup>2</sup>.
4. Textile materials tested in accordance with NFPA 286(00) and meeting the criteria specified in NFPA 101(00), Sec. 10.2.3.5.3. What follows is a breakdown of the requirements found in Chapters 18 and 19 of NFPA 101(00).

## Chapter 18 interior finish [NFPA 101(00), Sec. 18.3.3.2]

Wall and ceiling finishes must be Class A or B throughout, except that Class C wall and ceiling finish is allowed in individual rooms with a capacity of not more than 4 persons.

NOTE: Although Exception No. 2 to Sec. 18.3.3.2 allows Class C corridor wall finish, provided the finish doesn't exceed 4 ft in height and is restricted to the lower half of the wall.

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## Chapter 19 interior finish [NFPA 10120(00), Sec. 19.3.3.2]

1. Existing wall and ceiling finishes:
  - Must be Class A or B, except that Class C is allowed:
    - Where the smoke compartment is completely sprinklered [see NFPA 101(00), Sec.10.2.8.1].
    - In rooms separated from the corridor and protected with fire sprinklers.
  - Are exempt from the smoke development criteria specified in NFPA 255(00) [see Exception to NFPA 101(00), Sec. 10.2.3.2]
2. Wall and ceiling finishes installed on or after March 11, 2003:
  - Must be Class A, except that Class B is allowed in:
    - Individual rooms with a capacity of not more than 4 persons.
    - As corridor wall finish, provided the finish doesn't exceed 4 ft in height and is restricted to the lower half of the wall.
    - Smoke compartments that are completely sprinklered [see NFPA 101(00), Sec. 10.2.8.1].
  - Class C is allowed in accordance with NFPA 101(2000), Sec. 10.2.8.1:
    - In individual rooms with a capacity of not more than 4 persons that are protected with fire sprinklers.
    - As corridor wall finish, provided the finish doesn't exceed 4 ft in height and is restricted to the lower half of the wall and the smoke compartment is protected with fire sprinklers.

### **DOCUMENT your interior wall and ceiling finishes**

Flame spread ratings of interior wall and ceiling finishes must be properly documented. Each piece of documentation should identify the specific location(s) in which the finishes are present. NFPA 101 (00), Sec. 10.2.6.1 allows the use of approved fire-retardant coatings (e.g. fire retardant paints and varnishes) to upgrade the flame spread ratings of interior finishes to meet the requirements of the code. The product used must be listed by Underwriters Laboratories (UL), Factory Mutual (FM) or some other nationally recognized independent testing laboratory. Such coatings need to be applied in strict conformance with manufacturer's instructions and, if so specified by the manufacturer, may need to be periodically reapplied or renewed. Manufacturer's documentation needs to clearly identify the flame spread rating achieved with proper application of the product and should also provide information about whether the treatment will be negatively affected by washing or other cleaning procedures.

NOTE: In addition to the manufacturer's documentation (which should include a label from the container of each product used), the facility must be able to provide written documentation:

- ✓ Identifying who applied the fire retardant coating to the finish in question,
- ✓ Stating the date the coating was applied,
- ✓ Listing the interior finishes to which the coating was applied, and
- ✓ Certifying that the coating was applied in accordance with manufacturer's instructions.

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Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the finish.

## Interior finish policy

The best way to maintain compliance with the requirements of the code is to have a policy in place to help ensure that only approved wall and ceiling finishes are purchased in the first place. The policy should specify that no wall or ceiling finishes will be allowed in the building unless written documentation can be provided showing that they meet the flame resistance requirements of the code.

## Interior Floor Finish

Federal certification requirements applicable to interior floor finishes in healthcare occupancies can be found in NFPA 101(00), Sections 18/19.3.3.3 and 10.2.7. By definition, interior floor finish includes the interior finish of floors; ramps, stair treads and risers, and other walking surfaces [see NFPA 101(00), Sec. 3.3.112.2]. Since most traditional smooth surface floor coverings (like wood, vinyl, linoleum or terrazzo) generally contribute minimally to fire growth and spread in the early stages of a fire, the requirements in the state code and federal standards focus primarily on textile floor coverings, like carpeting. A review of the requirements will reveal that the two major factors affecting the type of floor finish allowed in a healthcare facility are date of installation and automatic fire sprinklers. Interior floor finishes are grouped in two classes, based on their critical radiant flux ratings:

- Class I Interior Floor Finish (critical radiant flux of 0.45 watts/cm<sup>2</sup> or greater)
  - Class II Interior Floor Finish (critical radiant flux of 0.22 watts/cm<sup>2</sup> or greater but less than 0.45 watts/cm<sup>2</sup>)
- Critical radiant flux ratings are based on tests conducted in accordance with NFPA 253(00), *Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy source*. This document is also known as ASTM E 648, *Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source*.

More information about floor finishes can be found in NFPA 101(00), Sec. A.10.2.7.1. You'll find the 2000 *Life Safety Code® Handbook* to be another excellent resource. Here's a breakdown of the requirements found in Chapters 18 and 19 of NFPA 101(00):

### Chapter 18 interior floor finish

Chapter 18 has no requirements applicable to interior floor finish [see NFPA 101(00), Sec. 18.3.3.3]. This is based on the fact that healthcare facilities that fall under Chapter 18 are required to be protected with automatic fire sprinklers.

### Chapter 19 interior floor finish

1. Chapter 19 has no requirements applicable to existing interior floor finish [see NFPA 101(00), Sec. 19.3.3.3].

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2. Interior floor finish installed in corridors and exits on or after March 11, 2003 must be of Class I materials. a. By exception, no interior floor finish requirements apply in smoke compartments protected throughout by automatic fire sprinklers.

## **DOCUMENT your floor finishes**

Flame spread ratings of interior floor finishes must be properly documented. Each piece of documentation should identify the specific location(s) in which the finishes are present. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the finish.

## **Floor finish policy**

The best way to maintain compliance with the requirements of the code is to have a policy in place to help ensure that only approved floor finishes are purchased in the first place. The policy should specify that no floor finishes will be allowed in the building unless written documentation can be provided showing that they meet the flame resistance requirements of the code.

## **Drapes, Curtains and Decorations**

Federal certification requirements applicable to drapes, curtains and decorations in healthcare occupancies can be found in NFPA 101(00), Sections 18/19.7.5. All draperies, curtains (including cubicle or privacy curtains, but excluding curtains at showers), and other loosely hanging fabrics and films serving as furnishings or decorations in healthcare occupancies are required to be flame resistant as demonstrated by testing in accordance with NFPA 701(99), *Standard Methods of Fire Tests for Flame Propagation of Textiles and Films*.

The terms curtains, draperies or furnishings also include:

- Stage or theatre curtains.
- Horizontal and vertical folding shades.
- Roll-type window shades.
- Fabric horizontal and vertical shades or blinds.
- Swags.

Two different test methods are found in NFPA 701(99) a small or intermediate-scale test (Test Method 1) and a large-scale test (Test Method 2). *It's important to note that Test Method 2 must be used for such things as plastic films, vinyl-coated fabric blackout linings, awnings, banners and 100 percent solid PVC blinds and shades [see NFPA 701(99), Sec. 1-1].* It must be noted that if textiles and films are applied to surfaces of buildings or backing materials as interior finishes, they must meet the requirements for interior wall and ceiling finishes discussed earlier in this guide. The term “decorations” includes artificial plants, but excludes such things as photographs and paintings, when used in limited quantities. Natural cut trees (e.g. Christmas trees) **are prohibited** in healthcare occupancies.

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## **DOCUMENT your drapes, curtains and decorations**

The flame resistance of drapes, curtains and decorations must be properly documented. Each piece of documentation should identify the specific location(s) in which the materials are present. The code allows the use of approved fire-retardants (e.g. chemicals, coatings and sprays) to render drapes, curtains and decorations flame resistant. This can be done commercially (e.g. by a local dry cleaner) or by facility staff. The product used must be listed by Underwriters Laboratories (UL), Factory Mutual (FM) or some other nationally recognized independent testing laboratory and must be compatible with the material(s) to which it is applied. Application needs to be performed in strict conformance with manufacturer's instructions and, if so specified by the manufacturer, may need to be periodically reapplied or renewed. Manufacturer's documentation needs to clearly identify the material(s) to which its product can be applied (e.g. paper, fabric, plastic, etc.) and certify that, with proper application of the product, the material to which it is applied will be rendered flame resistant as demonstrated by testing in accordance with NFPA 701(99).

In addition to the manufacturer's documentation (which should include a label from the container of each product used), the facility must be able to provide written documentation:

- ✓ Identifying who applied the fire retardant to the material(s) in question,
- ✓ Stating the date the fire retardant was applied,
- ✓ Listing the material(s) to which the fire retardant was applied, and
- ✓ Certifying that the fire retardant was applied in accordance with manufacturer's instructions.

It's very important that manufacturer's documentation provide proper care instructions. Some flame retardant treatments (whether factory-applied or otherwise) are affected by laundering, dry cleaning or water leaching. Others may just leach out over time, especially on exposure to sunlight. For these reasons, some treatments may need to be periodically reapplied or renewed. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the product.

## **Drapes/curtains/decorations policy**

The best way to maintain compliance with the requirements of the code is to have a policy in place to help ensure that only approved drapes, curtains and decorations are purchased in the first place. The policy should specify that no drapes, curtains or decorations will be allowed in the building unless written documentation can be provided showing that they are flame resistant or have been rendered flame resistant by treatment with an approved fire retardant.

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## Upholstered Furniture

Federal certification requirements applicable to upholstered furniture in healthcare occupancies can be found in NFPA 101(00), Sections 18/19.7.5.2, 10.3.2(2) and 10.3.3. A review of the codes will reveal that there isn't special fire safety requirements that apply to upholstered furniture located in rooms or spaces protected by an approved automatic fire sprinkler system. Where automatic fire sprinkler protection is not present, the following federal certification requirements apply to upholstered furniture brought into the facility on or after March 11, 2003:

- It must be resistant to ignition by cigarettes and other smoldering sources of ignition as demonstrated by passing the criteria set forth in NFPA 101(00), Sec. 10.3.2(2) when tested in accordance with NFPA 261(98), *Standard Method of Test for Determining Resistance of Mock-Up Upholstered Furniture Material Assemblies to Ignition by Smoldering Cigarettes*.
- In addition, it must have limited rates of heat release as demonstrated by passing the criteria set forth in NFPA 101(00), Sec. 10.3.3 when tested in accordance with NFPA 267(98), *Standard Method of Test for Fire Characteristics of Upholstered Furniture Exposed to Flaming Ignition Source*, or ASTM E 1537, *Standard Method for Fire Testing of Real Scale Upholstered Furniture Items*.
- Upholstered furniture belonging to a resident is allowed in resident sleeping rooms without meeting the criteria spelled out in Items 1 and 2 above, provided automatic smoke detection is present in such rooms [See Exception to NFPA 101(00), Sec. 19.7.5.2]. Battery-operated single-station smoke alarms are allowed to be used to meet this exception.

## DOCUMENT your upholstered furniture

Upholstered furniture located in areas not protected by automatic fire sprinklers, except pieces meeting the exception mentioned in Item 3 above, is required to bear the label of an approved agency confirming compliance with the criteria specified in Items 1 and 2 above. Care must be taken to ensure that these labels (tags) are not removed. That being said, it's always a good idea to have hard copy documentation on each piece of upholstered furniture purchased as a back-up. It's also important that the manufacturer's documentation provide proper care instructions. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the furniture.

## Upholstered Furniture Policy

In facilities not protected throughout by an approved automatic fire sprinkler system, the best way to maintain compliance with the requirements of the code is to have a policy in place to help ensure that only properly tested and labeled upholstered furniture is brought into the facility in the first place. The policy should specify that no upholstered furniture will be allowed in the building unless written documentation can be provided showing that it complies with the requirements of the code.

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## Mattresses

Federal certification requirements applicable to mattresses in healthcare occupancies can be found in NFPA 101(00), Sections 18/19.7.5.3, 10.3.2(3) and 10.3.4.

A review of the codes will reveal that:

- Mattresses brought into the facility on or after July 10, 2007 must be resistant to ignition by cigarettes and other smoldering sources of ignition as demonstrated by passing the criteria set forth in NFPA 101(00), Sec. 10.3.2(3) when tested in accordance with DOC 16 *CFR* 1632, *Standard for the Flammability of Mattresses and Mattress Pads*. Actually, this should be a moot point as DOC 16 *CFR* 1632 is part of federal regulations governed by the Consumer Product Safety Commission (CPSC) and applies to **all** mattresses sold in the United States. NOTE: This same requirement applies to mattresses brought into the facility on or after March 11, 2003, if located in rooms or spaces not protected by an approved automatic fire sprinkler system.
- Mattresses brought into the facility on or after March 11, 2003, if located in rooms or spaces not protected by an approved automatic fire sprinkler system, must have limited rates of heat release as demonstrated by passing the criteria set forth in NFPA 101(00), Sec. 10.3.4 when tested in accordance with NFPA 267(98), *Standard Method of Test for Fire Characteristics of Mattresses and Bedding Assemblies Exposed to Flaming Ignition Source* or ASTM E 1590, *Standard Method for Fire Testing of Real Scale Mattresses*.
- Federal certification requirements would allow a mattress belonging to a resident in a resident sleeping room without meeting the criteria spelled out in Items 1 and 2 above, provided automatic smoke detection is present in such rooms [See Exception to NFPA 101(00), Sec. 19.7.5.3]. Battery-operated single-station smoke alarms are allowed to be used to meet this exception.

## DOCUMENT your Mattresses

Mattresses are required to bear the label of an approved agency confirming compliance with the criteria specified in Items 1 and 2 above. Care must be taken to ensure that these labels (tags) are not removed. That being said, it's always a good idea to have hard copy documentation on each mattress purchased as a back-up. It's also important that the manufacturer's documentation provide proper care instructions. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the mattresses.

## Mattress Policy

The best way to maintain compliance with the requirements of the code is to have a policy in place to help ensure that only properly tested and labeled mattresses are brought into the facility in the first place. The policy should specify that no mattress will be allowed in the building unless written documentation can be provided showing that it complies with the requirements of the code.

## O. Kitchen hood suppression system

### Protection of cooking equipment

#### Introduction

In order to ensure that they operate properly when needed and don't trip unnecessarily, federal certification requirements require that healthcare facilities properly inspect, test and maintain the exhaust hoods, filters and fire-extinguishing equipment protecting their kitchen cooking equipment [see NFPA 101(00), Sections 18/19.3.2]. This guide will focus on federal certification requirements. Most healthcare facilities use automatic dry- or wet-chemical fire-extinguishing systems for protection of their kitchen cooking systems. Unless otherwise indicated, therefore, this guide will focus on those types of systems.

#### Applicable standards

- NFPA 101(00), Sec. 9.2.3 requires that commercial cooking equipment be in accordance with NFPA 96(98), *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*.
- NFPA 101(00), Sec. 2.1.1 references the 1998 edition of the standard. NFPA 96(98), in turn, references four other NFPA standards applicable to automatic fire-extinguishing systems installed to protect kitchen hood systems and cooking equipment [see NFPA 96(98), Sections 7-2.2.1 and 12-1]:
  - NFPA 12(98), *Standard on Carbon Dioxide Extinguishing Systems*
  - NFPA 13(96), *Standard for the Installation of Sprinkler Systems*
  - NFPA 17(98), *Standard for Dry Chemical Extinguishing Systems*
  - NFPA 17A(98), *Standard for Wet Chemical Extinguishing Systems*

#### System listing

NFPA 96(98), Sec. 7-2 requires that automatic dry- or wet-chemical fire-extinguishing systems be listed in accordance with standard UL 300. The continued use of existing listed systems not meeting UL 300 is allowed, however, **until any one of the following occurs:**

- ✓ The system is discharged,
- ✓ Parts need to be replaced on the system, or
- ✓ The system supply cylinders are due for hydrostatic testing.

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## Exhaust system

- The entire exhaust system (hood, grease removal devices, fans and ducts) for kitchen cooking equipment needs to be thoroughly inspected at least every 6 months to ensure that it's free of grease accumulations [see NFPA 96 (1998), Sec. 8-3.1 and Table 8-3.1].
- This inspection must be conducted by a company or person properly trained and qualified to perform such a service.
- The AHJ may require a certificate or other proof of such training. If this inspection reveals deposits from grease-laden vapors, the entire exhaust system must be cleaned to bare metal by a properly trained, qualified and certified company or person(s) acceptable to the AHJ [see NFPA 96(98), Sec. 8-3.1.1]. It should be noted that:
  - Cleaning to bare metal does not mean removing the paint from painted surfaces.
  - After the exhaust system is cleaned to bare metal, it cannot be coated with powder or other substances.
  - Flammable solvents or other flammable cleaning aids are not allowed to be used for cleaning.
  - At the start of the cleaning process, electrical switches that could be activated accidentally must be locked out (remember your lock out-tag out procedures).
  - Components of the automatic fire-extinguishing system protecting the kitchen cooking equipment cannot be rendered inoperable during the cleaning process unless they are being serviced by a properly trained and qualified person. Special care needs to be taken to ensure that cleaning chemicals are not applied on fusible links or other detection devices of the automatic fire-extinguishing system.
- When the cleaning process is completed:
  - ✓ All electrical switches and system components must be returned to an operable state,
  - ✓ All access panels and cover plates must be replaced, and
  - ✓ Dampers and diffusers must be positioned for proper airflow.

## Kitchen hood fire-extinguishing system

- The standards applicable to automatic dry- or wet-chemical fire-extinguishing systems protecting kitchen cooking equipment [see NFPA 17(98), Sec. 9-2.1/NFPA 17A(98), Sec. 5-2.1] require that such systems be inspected monthly to ensure that:
  - ✓ The extinguishing system is in proper operation.
  - ✓ Manual actuators are unobstructed.
  - ✓ Tamper indicators and seals are intact.
  - ✓ The maintenance tag or certificate is in place.
  - ✓ There is no obvious physical damage.
  - ✓ Pressure gauges, if provided, are in operable range
- In addition, an inspection and servicing of the kitchen hood fire-extinguishing system by properly trained and qualified persons is required at least every 6 months [see NFPA 96(98), Sec. 8-2].
- This service must include a check of all actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators and fire-actuated dampers to ensure that they are in operable condition [see NFPA 96(98), Sec. 8-2.1].

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- A visual inspection of fire alarm interconnect switches is also required [see NFPA 72(99), Table 7-3.1].
- Fusible links and automatic sprinkler heads are required to be replaced at least annually, but may have to be replaced more frequently if a visual inspection shows that to be necessary [see NFPA 96(98), Sec. 8-2.2].
  - By exception, bulb-type sprinklers or spray nozzles do **not** need to be replaced if an annual examination shows no buildup of grease or other material on the sprinkler or spray nozzles.
- Fire alarm interconnect switches are required to be tested annually by mechanically or electrically operating the switch to verify receipt of a signal at the fire alarm control panel [see NFPA 72(99), Tables 7-3.2 and 7-2.2]. This testing should be performed as part of the annual test conducted of the building fire alarm system.
- The equipment manufacturer may have additional maintenance requirements that should be followed in order to ensure proper operation of the system and maintain applicable warranties.
- The standards applicable to automatic dry- or wet-chemical fire-extinguishing systems also contain inspection requirements that must be followed, including:
  - In accordance with NFPA 17(98), Sections 9-3.1 and 9-5, cylinders for dry chemical kitchen hood extinguishing systems must be:
    - ✓ Examined every 6 years to check for caking.
    - ✓ Hydrostatically tested every 12 years
- In accordance with NFPA 17A (98), Sec. 5-5, cylinders for wet chemical kitchen hood extinguishing systems must be hydrostatically tested every 12 years.

## **DOCUMENT your inspections and service**

### **Exhaust system**

- NFPA 96 (1998) requires that exhaust system cleanings be recorded [see NFPA 96(98), Sec. 8-3.1.2. These records must include the extent, time and date of cleaning.
- When a vent cleaning contractor is used, the contractor must be able to provide you with a certificate showing the date of any inspections or cleanings performed.
- In addition, the contractor is required to display a tag within the kitchen indicating the date of the cleaning and the name of the servicing company and identifying any areas that were not cleaned on the date of the service.

### **Fire-extinguishing system inspection/service**

- A sample monthly inspection log has been developed for your use. The log can be used “as is” or serve as a guide that you can use to create your own log. A completed log is also provided to serve as an example of how the log is expected to be filled out.
- The person or company performing the 6-month service on your facility’s kitchen hood fire extinguishing system needs to provide you with a certificate of inspection. Some local jurisdictions may require that copies of these certificates be forwarded to them.
- The authority for such a requirement comes from NFPA 96(98), Sec. 8-2.3. To give you some idea of what such a certificate might look like, a sample is provided.

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- Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that this documentation be maintained for at least three years.

## **P. Laundry**

Ensure that soiled linen or trash is stored in rooms protected as a hazardous area and monitor facility to ensure that trash and soiled linen containers do not exceed 32 gallons in a 64 square foot area.

## **Q. Maintenance and testing of portable fire extinguishers**

### **Introduction**

In order to ensure that they are available and operate properly when needed, federal certification requirements mandate that healthcare facilities properly inspect, test and maintain their portable fire extinguishers [see NFPA 101(00), Sections 18/19.3.5.6 and 9.7.4.1]. This guide will focus on federal certification requirements.

### **Applicable standards**

NFPA 101(00), Sec. 9.7.4.1 requires that portable fire extinguishers be inspected and maintained in accordance with NFPA 10(98), *Standard for Portable Fire Extinguishers*. NFPA 101(00), Sec. 2.1.1 references the 1998 edition of NFPA 10. For purposes of this guide, all code references will be based on the 1998 edition of NFPA 10.

### **Visual inspections**

- Portable fire extinguishers are required to be visually inspected when initially placed in service and at least monthly thereafter [see NFPA 10(98), Sections 4-3.1].
- These visual inspections, intended to help ensure that each extinguisher is in its designated place and will operate if needed, can be performed by facility staff. A pressure gauge in the “normal” or “operable” range is not a 100 percent guaranty that the extinguisher will perform as intended. A broken seal, for example, may be an indication that someone has used the extinguisher and discharged a portion of the contents too small to affect the pressure gauge.
- NFPA 10(98), Sec. 4-3.2, therefore, requires that the monthly inspection verify a number of things including:
  - ✓ Extinguishers are in their designated places.
  - ✓ There are no obstructions to access or visibility.
  - ✓ Safety seals are not broken or missing.
  - ✓ There is no evidence of physical damage, corrosion, leakage or clogged nozzle.
  - ✓ Pressure gauge readings are in the proper range or position.
  - ✓ Operating instructions are legible and facing outward.
  - ✓ Fullness – confirmed by weighing or lifting.

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- Where circumstances warrant, some fire extinguishers may have to be inspected more frequently. Examples of such circumstances might include extinguishers that are oftentimes found obstructed during monthly inspections or extinguishers located in areas where they are subject to tampering, theft or mechanical injury. Obviously, any problems found during the monthly inspection must be corrected immediately.
- Some problems trigger a need for full maintenance or even replacement of the extinguisher. Full maintenance procedures must be performed whenever an inspection of a rechargeable fire extinguisher reveals any of the following problems [see NFPA 10(98), Sec. 4-3.3.1]:
  - ✓ Operating instructions are not legible.
  - ✓ Safety seals are broken or missing.
  - ✓ Fullness can't be confirmed (as determined by weighing or lifting).
  - ✓ There is evidence of physical damage, corrosion, leakage or a clogged nozzle.
  - ✓ Pressure gauge readings are not in the operable range or position.
- When any of the conditions noted above, with the exception of a broken or missing safety seal, are found during an inspection of a nonrechargeable dry chemical extinguisher, the extinguisher must be removed from use [see NFPA 10(98), Sec. 4-3.3.2]. Nonrechargeable extinguishers can be identified by looking for markings similar to the following: "Discharge and Dispose of After Any Use", "Discharge and Return to Manufacturer After Any Use", or simply "Nonrechargeable".

## Maintenance

"Maintenance" is a thorough examination and repair, as needed, of your facility's portable fire extinguishers and is covered in NFPA 10(98), Sec. 4-4.

- Maintenance is required at least once a year – more frequently when indicated by a routine monthly inspection, as discussed earlier.
- Maintenance is also required whenever extinguishers undergo hydrostatic testing. Because maintenance is required to include a thorough examination of the mechanical parts, extinguishing agent and expelling means of each portable fire extinguisher, it must be performed by an approved extinguisher servicing company.
- A more detailed look at what annual maintenance entails can be found in NFPA 10(98), Tables A-4-4.4.2(a) and A-4-4.4.2(b). It should be noted that new tamper seals are required to be installed whenever maintenance is performed on rechargeable fire extinguishers [see NFPA10(98), Sec. 4-4.2.1].

## Six-Year Maintenance

Every 6 years, stored pressure fire extinguishers that require a 12-year hydrostatic test (e.g. dry chemical extinguishers) must be emptied and proper maintenance procedures performed [see NFPA10(98), Sec. 4-4.3].

- The exception to this rule is nonrechargeable extinguishers, which are required to be removed from service 12 years from the date of manufacture. Again, this maintenance must be performed by an approved extinguisher servicing company.

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## Hydrostatic testing

At certain intervals, fire extinguishers are required to be pressure tested using water or some other noncompressible fluid to help prevent unwanted failure or rupture of the cylinder [see NFPA 10(98), Chapter 5].

- This is called hydrostatic testing and includes both an internal and external examination of the cylinder. Because this testing requires special training and equipment, it needs to be performed by an approved extinguisher servicing company.
- Hydrostatic testing intervals for fire extinguishers are outlined in NFPA 10(98), Sec. 5-2 and Table 5-2.
- Test intervals for some of the most commonly found extinguishers are as follows:
  - ✓ Pressurized water, carbon dioxide and wet chemical extinguishers – every 5 years.
  - ✓ Dry chemical extinguishers – every 12 years.
- As mentioned earlier, the exception to the rule for hydrostatic testing is nonrechargeable stored pressure extinguishers (e.g. dry chemical extinguishers), which are required to be removed from service 12 years from the date of manufacture.

## Additional information

- The 2007 edition of NFPA 10 contains a new requirement for the removal of dry chemical extinguishers manufactured prior to October, 1984 [see NFPA 10(07), Sec. 4.4.1]. Removal is to occur at the time of the next 6-year maintenance interval or next hydro test interval, whichever comes first.
- This requirement came about as the result of significant changes made to UL Standard 299, *Dry Chemical Fire Extinguishers*, based on fire testing conducted by UL, FEMA and NFPA.
- This edition of NFPA 10(07) is **not** currently referenced by the NFPA 101 LSC (00), so it does not apply to federal certification. This is mentioned in this guide only for informational purposes, as some insurance carriers may be applying this requirement to the properties they insure.

## Documentation Requirements

- Almost as important as conducting required inspection, testing and maintenance is documenting the fact that it occurred. NFPA 10(98) requires that these services be properly recorded.

## Monthly inspections

NFPA 10(98), Section 4-3.4 requires that records be kept of all extinguishers inspected, including those needing corrective action.

- The date the inspection was performed and the initials of the person performing the inspection must be recorded on a tag or label attached to each extinguisher.
- As an alternate, the monthly inspections can be recorded on an inspection checklist maintained on file or in an electronic system that provides a permanent record.

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## Maintenance

- Annual maintenance is also required to be recorded on a tag or label attached to each extinguisher that indicates the month and year the maintenance was performed and the name of the person or company performing the service [see NFPA 10(98), Section 4-4.4]. In addition to the tag or label, it is recommended that a permanent record be kept for each extinguisher that indicates at least the following:
  - ✓ The date maintenance was last performed and by whom.
  - ✓ The date the extinguisher was recharged and by whom.
  - ✓ The date 6-year maintenance was last performed and by whom.
  - ✓ The date the extinguisher was hydrostatically tested and by whom
- Six-year maintenance is required to be recorded on a metallic label, or similar durable material, affixed to each extinguisher that indicates the month and year the maintenance was performed, the initials or name of the person performing the service and the name of the company they represent [see NFPA 10(98), Section 4-4.4.1].
  - ✓ Old maintenance labels must be removed at the time any new labels are affixed to the extinguisher.

## Recharging

- When extinguishers are recharged, a tag or label must be attached to each extinguisher that indicates the month and year recharging was performed and the name of the person or company performing the service [see NFPA 10(98), Section 4-5.5].
- In addition, each extinguisher that has undergone maintenance that includes an internal examination or has been recharged is required to have a “Verification of Service” collar installed around the neck of the extinguisher [see NFPA 10 (1998), Section 4-4.4.2]. The exception to this rule is carbon dioxide extinguishers that have been recharged without removal of the valve assembly. The “Verification of Service” collar, usually made of plastic, serves as visual proof that the extinguisher was disassembled and maintenance performed. It must be of a type that cannot be removed without the removal of the valve assembly and must include the month and year the service was performed.

## Hydrostatic testing

NFPA 10 (1998), Sec. 5-6.1 requires that a permanent record be maintained for each cylinder tested. In addition:

- High-pressure cylinders (e.g. carbon dioxide) that pass the hydrostatic test must be stamped with the tester’s identification number and the month and year of the test.
- Low-pressure cylinders (e.g. dry chemical, wet chemical, pressurized water) that pass the hydrostatic test must have the test information recorded on a metallic label, or similar durable material, affixed to each extinguisher that indicates the month and year the test was performed, the test pressure used, and the initials or name of the person performing the service and the name of the company they represent [see NFPA 10 (1998), Section 5-6.4].

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## Sample extinguisher record

A sample *extinguisher record* has been developed to serve as a guide that you can use in creating your own record. A completed record is provided to serve as an example of how the record is expected to be filled out. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. This documentation needs to be maintained for the life of the extinguishers.

## R. Oxygen Storage

- 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 3/4 hour fire rating when transferring of liquid oxygen occurs within the storage location.
  - ✓ 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.
  - ✓ Liquefied gas container storage is mechanically ventilated or has natural ventilation to the outside.
  - ✓ 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).
  - ✓ 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.
  - ✓ 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.
  - ✓ Monitor facility to ensure that freestanding cylinders are properly chained or supported in a proper cylinder stand or cart.
  - ✓ Monitor oxygen storage area to ensure the separation of full and empty oxygen cylinders.
  - ✓ Monitor facility to ensure that smoking, open flames, electric heating elements, and other sources of ignition do not occur within storage locations or within 20 feet of outside storage locations.
  - ✓ Maintain non-smoking and no smoking signs in areas where oxygen is used or stored.
  - ✓ 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 STORED WITHIN  
NO SMOKING**

# Life Safety Code Guidance for Certified Long Term Care Facilities

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## Oxygen (Transferring Liquid) Oxygen

- ✓ 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.

## S. Portable space heating devices

- Portable space heating devices are prohibited in health care occupancies. [ See NFPA 101(00) 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)
- If a facility is utilizing space heaters, then the facility must maintain documentation/policies consistent with the Life Safety Code..

## T. Smoke Compartmentation and Control

- In existing health care facilities smoke barriers shall be provided to form at least two smoke compartments on every sleeping room floor for more than 30 patients. [See NFPA 101(00), Sec. 19.3.7.1 and 19.3.7.2].
- In new health care facilities smoke barriers shall be provided to form at least two smoke compartments on every floor used by inpatients for sleeping or treatment, and on every floor with an occupant load of 50 or more persons, regardless of use. Smoke barriers shall also be provided on floors that are usable, but unoccupied. [See NFPA 101(00), Sec. 18.3.7.1 and 18.3.7.2].
- The smoke compartments shall not exceed 22,500 square feet and the travel distance to and from any point to reach a door in the required smoke barrier shall not exceed 200 feet. [See NFPA 101(00), Sec. 18.3.7.1 and 19.3.7.2].
- Smoke barriers shall be constructed to provide at least one hour fire resistance rating and constructed in accordance with NFPA 101(00) sec. 8.3 Smoke barriers shall be permitted to terminate at an atrium wall. Windows shall be protected by fire rated glazing or by wired glass panels in approved frames. A minimum of two separate compartments shall be provided on each floor. Dampers shall not be required in duct penetrations of smoke barriers in fully ducted heating, ventilating, and air conditioning systems. [See NFPA 101(00), Sec. 18.3.7.3, 18.3.7.5, 18.1.6.3, 19.3.7.5, 19.3.7.6 and 19.3.7.7].
- Space shall be provided on each side of smoke barriers to adequately accommodate those occupants served. [See NFPA 101(00), Sec. 18.3.7.4 and 19.3.7.4].

# Life Safety Code Guidance for Certified Long Term Care Facilities

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## U. Smoking regulations

### Introduction

Improper use of smoking materials (e.g. cigarettes, matches, lighters, etc), either intentional or otherwise, has led to a number of fires in healthcare facilities over the years – fires that have resulted in serious injury and even death. For that reason, it's important to tightly control not only **where** smoking is allowed at your facility, but also **who** is allowed to smoke and under what circumstances. Some facilities address this by prohibiting all smoking or use of tobacco products in or on their buildings and grounds. In order to meet federal certification requirements, healthcare facilities are required to adopt regulations for the safe use of smoking materials [see NFPA 101(00), Sec. 18/19.7.4]. This guide is mainly directed toward facilities that allow smoking somewhere in their building(s) and/or elsewhere on their facility grounds. Even those who prohibit all smoking need to take certain precautions, however, as it's not uncommon for smoking materials to be brought into a facility unnoticed and/or for people to miss or ignore prohibitions against smoking.

### Smoking Regulations

- At a minimum, smoking regulations need to address the following points:
  - ✓ Smoking must be prohibited in any location where oxygen, flammable or combustible liquids or gases, or combustible materials are stored or used. Please note that the AHJ may designate other hazardous locations where smoking must be prohibited.
  - ✓ No one using oxygen shall be allowed to smoke.
  - ✓ Smokers must remain at least 5 feet away from oxygen in use.
  - ✓ Smoking by residents/patients deemed unsafe to smoke independently must be prohibited, unless those persons are under direct supervision (a number of nursing home residents have died or been very seriously injured over the years as a result of fires related to misuse of smoking materials).
  - ✓ A suitable number of noncombustible ashtrays must be provided in areas where smoking is allowed. These ashtrays must be of a “safe design”, which has been interpreted to mean ashtrays designed so that cigarettes **cannot** be placed on the outer edge of the ashtray (as it burns down, a cigarette placed on the outer edge of an ashtray can fall out of the ashtray, potentially falling on something combustible and resulting in a fire).
  - ✓ Smoking areas must be provided with metal containers equipped with self-closing covers for the disposal of cigarette butts and ashes.

### Posting of signs

- NO SMOKING signs (and/or the international symbol for no smoking) are required to be posted at such locations deemed appropriate by facility management and/or as designated by the AHJ. At a minimum, this must include locations where:
  - ✓ Oxygen is being transferred, stored or used.
  - ✓ Flammable or combustible liquids (e.g. gasoline) or gases (e.g. acetylene) are stored or used – examples of such locations would be the facility maintenance shop or a hospital laboratory.

# Life Safety Code Guidance for Certified Long Term Care Facilities

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- ✓ Combustible materials are stored or used – examples of such locations would include combustible storage rooms, record storage rooms, linen rooms, and trash collection rooms.
- There are some exceptions to this signage requirement in smoke-free buildings:
  - NFPA 101(00), Sec. 18/19.7.4 (1) has an exception that reads, “In health care occupancies where smoking is prohibited and signs are prominently placed at all major entrances, secondary signs with no-smoking language shall not be required.”
  - NFPA 99(99), Sec. 8-6.4.2, which deals with areas where oxygen is in use, has a similar exception that reads, “In health care facilities where smoking is prohibited and signs are prominently (strategically) placed at all major entrances, secondary signs with no-smoking language are not required. The nonsmoking policies shall be strictly enforced.” **CAUTION:** These exceptions do not apply to areas where oxygen is being **transferred**. NFPA 99(99), Sec. 8-6.2.5.2(c) clearly requires signage prohibiting smoking in transfer locations.

## Indoor smoking

Where smoking is permitted, smoking must be restricted to a designated area. The area must be separated from the corridor as required by NFPA 101(00), Sec. 18/19.3.6 (such a space would not meet the exceptions in the code for spaces allowed to be open to the corridor, because the presence of the automatic smoke detection required to meet the exceptions would very likely lead to false alarms). While it would seem obvious, oxygen is simply not allowed in smoking lounges/rooms. This would include:

- Oxygen concentrators, even if they’re shut off
- Compressed gas oxygen cylinders, even if the cylinder valve is closed, and
- Liquid oxygen containers, even if the container’s flow control valve is set at zero.

Problems can arise even in closely supervised rooms. Oxygen concentrators can inadvertently or intentionally be turned on. Cylinders and containers with valves closed still constitute “storage”, which triggers the smoking prohibition in NFPA 101(00), Sec. 18/19.7.4.

## Outdoor smoking areas

- Even outdoor smoking areas must meet the basic requirements outlined earlier in the Smoking Regulations section. One example of why it is important to follow the same requirements for outdoor smoking is an incident that occurred in 2004 at a long term care facility in the U.S. An improperly discarded cigarette ignited a Halloween display that included corn stalks. The resulting fire extended into a combustible soffit and from there to the roof causing over \$1.0 million in damage.
- Some facilities construct smoking enclosures where persons can smoke and be at least somewhat protected from the weather, while others use prefabricated enclosures similar to those commonly found at bus stops (i.e. rigid plastic walls and roof supported by a metal frame).
- When smoking enclosures are constructed of combustible materials, care must be taken to ensure that they are located far enough away from your building to avoid being considered an exposure fire hazard. When located too close, such enclosures can also cause your facility’s construction type to be downgraded. As a general rule of thumb, it’s best to locate smoking enclosures at least 20 feet away from your facility. This should reduce the potential for them to be considered either an exposure hazard and/or to affect the construction type of your building.

# Life Safety Code Guidance for Certified Long Term Care Facilities

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- The AHJ may allow lesser separation distances depending upon exterior wall construction and level of protection provided for any openings (e.g. windows and doors).

## Smoking policy

Your facility's smoking regulations must be available for review at the time of survey. A sample smoking policy has been developed to assist healthcare facilities in formulating their own policies. A couple of things to keep in mind:

- Because each facility is unique, it is difficult to develop a universal smoking policy. The sample policy is, therefore, merely intended to serve as a guide that should be adapted as appropriate to the individual characteristics of your facility. Failure to have a plan specifically tailored to your facility could result in a federal deficiency.
- The sample policy is based on a facility that allows smoking only at the exterior of the facility.
- While the sample policy is tailored to a long term care (nursing home) occupancy. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection.

## V. Staff training

### Certification Requirements

- NFPA 101(00), Sec. 18.7.1.1/19.7.1.1 requires that the administration of every healthcare occupancy have in effect and available to all supervisory personnel:
  - ✓ Written copies of a plan 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 where necessary.
  - ✓ Further, NFPA 101(00), Sec. 18.7.1.3/19.7.1.3 requires that all employees receive periodic instruction and be kept informed with respect to their duties under the plan.

### Employee Training

- Personnel expected to be directly involved in evacuation must be properly trained in how to move patients/residents safely and identify those persons who have special needs (e.g. persons with limited mobility, non-ambulatory, visually and/or hearing impaired, developmentally/mentally impaired, non-English speaking and visitors).
- Ambulatory persons may need only minimal assistance and direction. Mobile persons (e.g. those using wheelchairs, walkers, etc.) may need assistance in initiating an evacuation, but, again, may be able to complete the evacuation with only minimal assistance and direction.
- Other persons may need to be physically moved to complete a successful evacuation. Staff, therefore, need to be trained in the types of equipment (e.g. carts, evacuation chairs, etc.) and carries (e.g. cradle drop/blanket carry, extremity carry and swing carry) that can be safely used to execute a timely evacuation while minimizing the potential for injury to themselves and the patients/residents.

# Life Safety Code Guidance for Certified Long Term Care Facilities

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- Training must address the type of response expected by not only staff in the immediate area of origin, but also staff in other smoke compartments and/or on other floors. It is unlikely that a smoke compartment can be evacuated in a safe and timely manner without assistance from staff in other areas of the building (this is especially true during night shifts where staffing levels are typically lower).
- It's important that employees know about and understand not only the *defend-in-place* strategy, but also the function and use of the building systems (e.g. fire alarm and fire sprinkler systems) and construction features (e.g. smoke barriers) that make that strategy possible.

The goal is to have a properly trained staff that can perform its duties efficiently, while ensuring that they provide for their own safety and do not create a hazard to others in the performance of those duties and employees must be made aware of whom they can contact for further information or explanation of their duties under emergency conditions.

## **DOCUMENT your training**

Almost as important as conducting the training is documenting the fact that it occurred. A sample form has been developed to serve as a guide that you can use in creating your own training record. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that these records be maintained for at least three years.

## **W. Systems out of Service / Fire Watch**

### **Introduction**

NFPA 101(00) contains provisions dealing with situations, preplanned or otherwise, in which a required fire protection system (e.g. fire alarm or fire sprinkler system) is out of service. Under such circumstances, the code specifies that either the building be evacuated or an approved fire watch be provided. Time is of the essence when a health care facility is affected by a fire or other emergency. When a required fire protection system is out of service, valuable early warning and fire suppression capabilities are severely compromised. A properly trained fire watch, coupled with an extra vigilant staff, can make a significant difference in determining whether or not a facility can continue to be occupied during such impairment. The Centers for Medicare and Medicaid Services (CMS) requires that each healthcare facility have a written procedure in place for the handling of fire alarm and/or fire sprinkler system outages. Lack of an acceptable procedure is a citable deficiency. This document is intended to provide guidance to healthcare facility staff charged with the responsibility of developing and implementing site-specific fire watch policies.

# Life Safety Code Guidance for Certified Long Term Care Facilities

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## Notification(s)

NFPA 101(00), Sections 9.6.1.8 and 9.7.6.1, specify that where a required fire alarm or fire sprinkler system is out of service for more than 4 hours in a 24-hour period, the AHJ must be notified and the building evacuated or an approved fire watch provided. The AHJ in this case is the Office of Inspector General/Health Care Division. Notification of the AHJ needs to include information about implementation of a fire watch (or building evacuation, if that proves necessary), what's being done to correct the condition and when the system is expected to be restored to proper operation. *This notification is in addition to that of the local fire officials.*

## Additional safety measures

The following safety measures should be implemented immediately upon learning that a required fire protection system is out of service and should remain in place until the affected system has been restored to proper operation:

- ✓ Notify all staff and the facility's monitoring company that the system is out of service;
- ✓ Prohibit all smoking and work involving cutting or welding on the premises (unless such work has been preauthorized and is taking place in an area that is properly fire separated from the remainder of the facility); Systems out of service.
- ✓ If the building's fire alarm sounding devices are inoperable, devise a method to notify all staff in case of emergency (bells, whistles, bullhorns or similar devices could serve this purpose); and
- ✓ If the building's fire alarm system is out of service; close all smoke and fire doors, and unlock all locked exit doors to allow for immediate egress in case of emergency.

## Fire watch personnel

Fire watch duties may be performed by facility staff, or an outside agency (e.g. fire department, security company, etc.) can be hired to perform the service. In any case, persons serving as a fire watch may have no other duties assigned to them while the affected fire protection system is out of service. Fire watch personnel should be specially trained in identifying and controlling fire hazards, detecting early signs of unwanted fire, the use of portable fire extinguishers, and in occupant and fire department notification techniques.

## Fire watch duties

At a minimum, fire watch personnel should:

- Be provided with at least one approved means for notification of the fire department (e.g. 2-way radio or cell phone).
- Perform continuous tours of the building such that each portion of the building affected by the impairment is checked at not less than 30-minute intervals (more than one person may be needed to accomplish this). These tours need to be documented in a log. In addition to watching for and promptly reporting any incidents of fire, visible smoke or strong smell of smoke or other unwanted odors.

# Life Safety Code Guidance for Certified Long Term Care Facilities

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- The fire watch should also ensure while on tour that:
  - ✓ Portable fire extinguishers are in place, unobstructed and in proper operating condition;
  - ✓ Corridors and exits are free and clear of storage and all other obstructions;
  - ✓ Exit and stairwell doors are clear and fully operational;
  - ✓ EXIT signs are visible and properly illuminated;
  - ✓ Fire doors, smoke barrier doors and hazardous area doors are kept closed and latched (i.e. not tied, wedged or blocked open in any fashion);
  - ✓ Oxygen cylinders/containers not in use are properly stored;
  - ✓ Electrical hazards are promptly reported and remedied;
  - ✓ No smoking or work involving cutting or welding or the use of flammable/combustible liquids is taking place (unless such work has been preauthorized and is taking place in an area that is properly fire separated from the remainder of the facility); and
  - ✓ Trash and other unnecessary accumulations of combustibles are promptly removed from the building.

*Remember.....*It's important that fire watch personnel be given reasonable periodic rest breaks.

## **System(s) restored to service**

Facility staff, the local fire officials, Office of Inspector General/Health Care Division and the facility monitoring company should be promptly notified when the affected fire protection systems have been restored to proper operation.

## **Code references**

Additional federal certification requirements that apply when a water-based fire protection system (e.g. fire sprinkler system) is out of service can be found in Chapter 11 of NFPA 25(1998 edition), *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*.

## **Fire watch policy**

A couple of things to keep in mind:

- Because each facility is unique, it is very difficult to develop a universal fire watch policy. The sample policy is, therefore, merely intended to serve as a guide that should be adapted as appropriate to the individual characteristics of your facility. Failure to have a plan specifically tailored to your facility could result in a federal deficiency.
- The sample policy is based on long term care (nursing home) occupancy.

## **Fire watch log**

Almost as important as conducting fire watch tours is documenting the fact that they occurred. A sample fire watch log has been developed to serve as a guide that you can use in creating your own log. A completed log is provided to serve as an example of how the log is expected to be filled out. Someone at your facility should know where the documentation is kept to increase the likelihood that it can be readily provided if requested during an inspection. It is recommended that these logs be maintained for at least three years.

## X. Vertical Openings

- ✓ 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.
- ✓ Monitor the facility to ensure that the area under stairways is not used for storage, unless by special design. Ensure that all chutes are secure from accidental falls.

# APPENDICES



**ANY TOWN NURSING HOME**

**BATTERY-OPERATED SMOKE DETECTOR MAINTENANCE LOG FOR: 2008**

All battery-operated smoke detectors present in the facility are required to be tested and maintained in accordance with manufacturer's instructions. This form is to be used to record the dates on which these detectors are tested and cleaned and batteries replaced. Any problems found must be noted in the "Comments" section of this form. Each entry must be initialed by the person performing the service.

T = Tested                      C = Cleaned

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Date Battery Replaced
Date	1/12	2/11	3/13	4/11	5/11	6/10							
Location: Room 110	T/C JL	T JL	T JL	T JL	T JL	T JL							6/10/08 JJS
Room 111	T JL	T/C JL	T JL	T JL	T JL	T JL							
Room 112	T JL	T JL	T/C JL	T JL	T JL	T JL							
Room 210	T/C RLI	T RLI	T RLI	T RLI	T RLI	T RLI							6/30/08 JJS
Room 211	T RLI	T/C RLI	T RLI	T RLI	T RLI	T RLI							6/30/08 JJS
Room 212	T RLI	T RLI	T/C RLI	T RLI	T RLI	T RLI							

Comments: Smoke detector in Room 110 was found damaged on 6/10/08 and was replaced that date

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January 2, 2009











## ANY TOWN NURSING HOME

### FIRE ALARM SYSTEM HISTORICAL RECORD

Date of initial installation: October 15, 2000 Installation Contractor: Jim's Alarms & Stuff, Inc.

Transmission type: DACT Battery type: Sealed lead-acid Addressable? No

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Describe below all inspections and tests conducted, as well as any additions, modifications or repairs made to the system.

Date	Inspections, tests, additions, modifications or repairs/by whom	Initials
4/15/01	Semi-annual visual inspection of system, DACT and fire alarm interconnect switch on kitchen hood system; inspection & test of batteries	JJS
10/15/01	Smoke detector sensitivity tested and complete annual system test/inspection, including DACT, kitchen hood interconnect switch and battery charger, conducted by Jim's Alarms & Stuff, Inc.	JJS
4/15/02	Semi-annual visual inspection of system, DACT and fire alarm interconnect switch on kitchen hood system; inspection & test of batteries	JJS
10/15/02	Complete annual system test/inspection, including DACT, kitchen hood interconnect switch and battery charger, conducted by Jim's Alarms & Stuff, Inc.	JJS
2/13/03	Remote annunciator panel added at first floor nurse station and tested by Jim's Alarms & Stuff, Inc.	JJS
4/15/03	Semi-annual visual inspection of system, DACT and fire alarm interconnect switch on kitchen hood system; inspection & test of batteries	JJS
10/15/03	Smoke detector sensitivity tested and complete annual system test/inspection, including DACT, kitchen hood interconnect switch and battery charger, conducted by Jim's Alarms & Stuff, Inc.	JJS
4/15/04	Semi-annual visual inspection of system, DACT and fire alarm interconnect switch on kitchen hood system; inspection & test of batteries	JJS
10/15/04	Batteries replaced and complete annual system test/inspection, including DACT, kitchen hood interconnect switch and battery charger, conducted by Jim's Alarms & Stuff, Inc.	JJS

January 2, 2009

<<Facility Name>>

**FIRE ALARM SYSTEM: SEMIANNUAL INSPECTION LOG FOR (Year): \_\_\_\_\_**

Date		
Inspector		
Control unit trouble signals		
Remote annunciator(s)		
Automatic dialer		
Alarm notification appliances		
Manual fire alarm boxes		
Heat detectors		
Smoke detectors		
Duct detectors		
Magnetic hold-open devices		

**FIRE ALARM SYSTEM: BATTERY INSPECTION/TEST LOG FOR (Year): \_\_\_\_\_**

**Battery Type:** \_\_\_\_\_

**Date Installed/Replaced:** \_\_\_\_\_

Date													
Performed by													
Inspected													
Test performed:													
Load voltage													
Discharge													
Specific gravity													
Annual charger test													

**Comments** (Explain any problems found, as well as any repairs/modifications made):

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**ANY TOWN NURSING HOME**

**FIRE ALARM SYSTEM: SEMIANNUAL INSPECTION LOG FOR: 2008**

Date	1/14/08	7/12/08
Inspector	JJS	JJS
Control unit trouble signals	OK	OK
Remote annunciator(s)	OK	OK
Automatic dialer	OK	OK
Alarm notification appliances	OK	OK
Manual fire alarm boxes	1	OK
Heat detectors	OK	OK
Smoke detectors	OK	OK
Duct detectors	OK	OK
Magnetic hold-open devices	OK	2

**FIRE ALARM SYSTEM: BATTERY INSPECTION/TEST LOG FOR: 2008**

**Battery Type: Lead-acid      Date Installed/Replaced: July 15, 2006**

Date	1/14	2/12	3/14	4/16	5/12	6/14							
Performed by	JJS	JJS	JJS	JJS	JJS	JJS							
Inspected	OK	OK	3	OK	OK	OK							
Test performed:													
Load voltage	OK												
Discharge	OK												
Specific gravity	OK												
Annual charger test	OK												

**Comments** (Explain any problems found, as well as any repairs/modifications made):

<sup>1</sup> Pull station at main entrance in First Floor found obstructed by artificial plant – plant moved

<sup>2</sup> Hold-open device on South Wing smoke barrier door found damaged – repaired on 7/12/08

<sup>3</sup> Cleaned battery terminals

January 2, 2009







**ANY TOWN NURSING HOME**

**BATTERY-OPERATED SMOKE DETECTOR MAINTENANCE LOG FOR: 2008**

All battery-operated smoke detectors present in the facility are required to be tested and maintained in accordance with manufacturer's instructions. This form is to be used to record the dates on which these detectors are tested and cleaned and batteries replaced. Any problems found must be noted in the "Comments" section of this form. Each entry must be initialed by the person performing the service.

T = Tested                      C = Cleaned

	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Date Battery Replaced
Date	1/12	2/11	3/13	4/11	5/11	6/10							
Location: Room 110	T/C JL	T JL	T JL	T JL	T JL	T JL							6/10/08 JJS
Room 111	T JL	T/C JL	T JL	T JL	T JL	T JL							
Room 112	T JL	T JL	T/C JL	T JL	T JL	T JL							
Room 210	T/C RLI	T RLI	T RLI	T RLI	T RLI	T RLI							6/30/08 JJS
Room 211	T RLI	T/C RLI	T RLI	T RLI	T RLI	T RLI							6/30/08 JJS
Room 212	T RLI	T RLI	T/C RLI	T RLI	T RLI	T RLI							

Comments: Smoke detector in Room 110 was found damaged on 6/10/08 and was replaced that date

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January 2, 2009

# Fire Drill Report

Facility Name: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_ Time: \_\_\_\_\_ Shift: \_\_\_\_\_

Person conducting the drill: \_\_\_\_\_ (Name & Title)

Fire Alarm Activation Method: \_\_\_\_\_

(Between 9:00 p.m. and 6:00 a.m.: A coded announcement can be used instead of audible alarms)

Drill location and simulated conditions:

\_\_\_\_\_  
\_\_\_\_\_

(Bedridden patients shall not be required to be moved during drill)

Unusual Conditions: \_\_\_\_\_

(Weather, remodeling, temporary exits)

Number of occupants evacuated: \_\_\_\_\_ Total Time of Drill: \_\_\_\_\_

Fire alarm system reset?: \_\_\_\_\_ Sprinkler System restored?: \_\_\_\_\_

Critique:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Fire alarm system tested: \_\_\_\_\_ Verified by: \_\_\_\_\_

Monitoring company received signal at: \_\_\_\_\_ Verified by: \_\_\_\_\_

(24 hour clock)

List all staff members on duty and participating:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_





<<Facility Name>>

## FIRE WATCH LOG

ASSIGNED AREA: \_\_\_\_\_ DATE: \_\_\_\_\_

FIRE-WATCHER: \_\_\_\_\_ INITIALS: \_\_\_\_\_

FIRE WATCH TIMES: STARTED \_\_\_\_\_ ENDED \_\_\_\_\_

Fire watch personnel must perform continuous tours such that each room in their assigned area is checked at not less than 30-minute intervals. The first entry in this log must be made within 30 minutes of the start of the fire watch and every 30 minutes thereafter. Times must be recorded using the 24-hour clock and initialed. Any problems found during the fire watch must be documented (along with the time found and initialed) and reported to the head of maintenance for immediate correction.

I certify (by my initials below) that I completed a tour of my entire assigned area at the following times:

Time Tour Completed	Initials		Time Tour Completed	Initials		Time Tour Completed	Initials

Problems noted during fire watch:

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## ANY TOWN NURSING HOME

### FIRE WATCH LOG

ASSIGNED AREA: Second and third floors DATE: 07/15/08

FIRE-WATCHER: John J. Smith INITIALS: JJS

FIRE WATCH TIMES: STARTED 1110 hours ENDED 1710 hours

Fire watch personnel must perform continuous tours such that each room in their assigned area is checked at not less than 30-minute intervals. The first entry in this log must be made within 30 minutes of the start of the fire watch and every 30 minutes thereafter. Times must be recorded using the 24-hour clock and initialed. Any problems found during the fire watch must be documented (along with the time found and initialed) and reported to the head of maintenance for immediate correction.

I certify (by my initials below) that I completed a thorough tour of my entire assigned area at the following times:

Time Tour Completed	Initials	Time Tour Completed	Initials	Time Tour Completed	Initials
1140	JJS	1510	JJS		
1210	JJS	1540	JJS		
1240	JJS	1610	JJS		
1310	JJS	1640	JJS		
1340	JJS	1710	JJS		
1410	JJS				
1440	JJS				

**Problems noted during fire watch:**

(1117) Soiled utility room door wedged open, Second Floor, East Wing – wedge removed JJS

(1128) Burned out bulb in EXIT sign, west end of Second Floor – reported to maintenance JJS

(1436) Smoke barrier doors on Third Floor held open with chairs – chairs removed JJS

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<<FACILITY NAME>>

# Fire & Evacuation Plan

**October 2005**

Revised October 2006

Revised October 2007

Revised October 2008

Revised December 2008

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<<Facility Name>>  
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<<FACILITY NAME>>  
<<Facility Address>>  
<<City, State, Zip>>

## FIRE PLAN

### INTRODUCTION:

1. **AVOID PANIC:** Never Shout Fire or any other danger signal. The greatest danger in most incidents is panic. Never alarm the residents by excited motions. They look to you for protection. Appear calm, cool and collected and move with assurance.
2. **PREVENT FIRES:** Good housekeeping is the best assurance against fire. Do all you can to maintain order and a high state of cleanliness in the interest of fire protection. Make it a habit to watch for fire hazards and report them to your supervisor or Executive Director.
3. **BE ALERT FOR SIGNS OF FIRE:** If you see and smell smoke, report it immediately for investigation. Early detection means prompt extinguishing of fires. Form habits of watchful care; above all be especially alert at night, for help is in smaller numbers on that shift.
4. **LOCATION OF EMERGENCY EQUIPMENT:** KNOW where all emergency equipment is located.
  - A. **FIRE EXTINGUISHERS**
  - B. **ALARM PULL STATIONS**
  - C. **FIRE BLANKET (Kitchen)**
  - D. **EMERGENCY SHUT-OFFS For:**
    1. **ELECTRICITY** – Electrical panels are located at the west end of hall 1. By Cozy Cove, Utility room hall 2. by the nurse station 2., in cabinet across from TV lounge, hall 4. Hall 4. By room 403, service hall across from Conference room. Main switch gear and distribution panels located in Boiler Room.
    2. **WATER** – Main water shut off valve located in Boiler Room, south wall, valve painted red.
    3. **WATER** – Sprinkler system shut off in Boiler Room above water meter. Keys for locks are located in fire alarm panel at front station.
    4. **NATURAL GAS** – Excel Energy main gas control shut off located outside and around corner of service hall door. Yellow-painted wrench to shut off is located in fire extinguisher cabinet by back door. Shut-off to rooftop units, Kitchen, boilers, generator and water heaters are located in the Boiler Room. All these areas are tagged.
    5. **SPRINKLER SYSTEM** – Shut-off is located in Rehab Mechanical Room #112. NEVER shut this valve off in the event of a fire, fire department will do so. Key to doors is located in fire alarm panel at the front nurses station.
5. **LEARN EMERGENCY PROCEDURES:** Know exactly what your duties are. Memorize the location of all emergency equipment. If you are not sure ask your supervisor. Fire drills will be conducted monthly. Each shift will have four drills annually.
6. **NEVER BLOCK FIRE EXITS:** Do not leave chairs, over-bed tables, wheelchairs, housekeeping or medication carts in front of fire exits. Be sure the EXIT signs are in plain view and are in working order.
7. **FIRE DOORS MUST NEVER BE PROPPED OPEN.** They must be closed at all time or held open by an electromagnetic door holder which will release the door automatically when the alarm is activated.

INSERT MAP OF FACILITY  
CAMPUS SHOWING EMERGENCY  
EVACUATION ROUTES OUT OF  
FACILITY AND ASSEMBLY POINTS

INSERT FACILITY FLOOR PLAN DRAWING  
SHOWING EVACUATION ROUTES, FIRE  
EXTINGUISHER LOCATIONS, FIRE ALARM PULL  
STATIONS AND SMOKE COMPARTMENTS

INSERT FACILITY FLOOR PLAN  
DRAWING SHOWING FIRE  
ZONES, ALARMS AND SHUT-OFFS

INSERT FLOOR PLAN DRAWING OF  
BOILER ROOM SHOWING LOCATION  
OF ALL SHUT-OFFS

<<FACILITY NAME>>  
FIRE POLICY & PROCEDURE  
DRILLS

**POLICY:** Fire drills will be completed on a monthly basis to acquaint and familiarize all associates on all shifts of the facility's fire procedure.

**PROCEDURE:**

1. The Physical Plant Director along with a supervisor from the nursing department are assigned to observe and record the monthly fire drill. One-half hour prior to the drill a call shall be made to the monitoring center informing them that we will be performing a fire alarm drill. The telephone number is \_\_\_\_\_. Tell the answering party that this is <<Facility Name>> and we are planning a fire alarm drill. They will then ask for the account number which is \_\_\_\_\_, Pin # \_\_\_\_\_. Call them back when the drill is complete.
2. Physical Plant Director, Assistant or nursing supervisor shall place the flashing orange light (that signifies fire) where the simulated fire is to be. This area should correlate with the pull station being tested that month.
3. Areas to be observed and recorded are:
  - A. Time of start and stop, discovery
  - B. Associate reaction to crisis – include emotional state
  - C. Problems areas
  - D. Organization – Knowledge of assigned duties
  - E. Time of “all clear” sounded
  - F. Verify drill was received by monitoring company
4. After the drill:
  - A. Inform residents that everything is ok, we have just had a fire drill.
  - B. All the associates involved shall sign the fire report, which will be located at the front station for one hour after the drill.
  - C. Notify the monitoring center that the drill is complete and they can put us back on line:  
Phone # \_\_\_\_\_ Account # \_\_\_\_\_ Pin # \_\_\_\_\_
  - D. Complete the FIRE DRILL REPORT form and have it available for inspection by QR and the local and State Fire Marshal.
  - E. Discuss with the associates that were involved how you feel they reacted and have them repeat any steps they are not comfortable with.

**FIRE PROCEDURES.....When the alarm goes off, what do I do?**

1. Nurse Station One: DURING DRILLS ONLY silence the alarm as quickly as possible.
2. Announce over the intercom and over head paging systems DR.RED, DR. RED, LOCATION \_\_\_\_\_, ZONE \_\_\_\_\_, HALL \_\_\_\_\_. Remember to do this slowly and clearly. Repeat this twice over each paging area so that everyone can hear. This is the responsibility of the Nurse in Charge, but all associates should be able to carry out this procedure.
3. Dial 911 (real situation) Tell them the fire alarm is going off at <<Facility Name and Address>>.
4. Assign someone to meet the fire department at the door. Always assign the front door and the door closest to where the fire is located. Both should investigate the situation and determine if evacuation is necessary of adjacent room to the fire.

Fire Procedures – continued

5. If you are the one who finds the fire, announce the specific location over the intercom and telephone paging systems, slowly and clearly.
6. Key to door to shut off sprinkler water supply in Rehab boiler room located in fire alarm panel at front station.

**FIRE PROCEDURE: WHEN THE FIRE IS FOUND**

**WHOEVER FINDS THE FIRE: USE COMMON SENSE**

**USE THE R A C E PLAN: RESCUE, ALERT, CONFINE, EXTINGUISH**

1. Rescue the Residents in immediate danger.
2. Pull the fire alarm pull station, alert the charge nurse as to location; be specific, room , hall.
3. Close the doors and window if available – this includes the bathroom door. Shut off the air conditioner, fans, oxygen (if in the room).
4. If you are able to, smother or extinguish the fire.

**NURSES RESPONSIBILITIES:**

1. Station one nurse always: Silence the alarm as quickly as possible, (drills only). If office associates are gone, assign someone to meet the fire department at the designated exit.
2. Station One, Two and Three Nurses: When the fire is reported in your area.....
  - A. Announce over the intercom and paging systems slowly and clearly DR. RED, DR. RED, ROOM \_\_\_\_\_, HALL \_\_\_\_\_, ZONE \_\_\_\_\_. Remember to do it twice, slowly and clearly.
  - B. Dial 911: Tell the dispatch operator there is a fire at <<Facility Name and Address>>. Tell the operator what type of fire and any additional information.
  - C. If indication is a false alarm, call the monitoring center at \_\_\_\_\_ tell them this is <<Facility Name and Address>>, account number \_\_\_\_\_, Pin # \_\_\_\_\_ and we have a false alarm. They will call the fire department back and get them slowed down. They will always come to the facility to investigate and reset the fire alarm system.
3. GO TO THE SCENE OF THE FIRE WITH A FIRE EXTINGUISHER. (day shift treatment nurse is responsible for this).
4. MAKE SURE IF OXYGEN IS IN USE IN THE FIRE AREA THAT IT IS SHUT OFF IF CONCENTRATED AND ALL PORTABLE TANKS ARE REMOVED.
5. MAKE SURE ALL RESIDENTS ARE MOVED OUT OF THE SMOKE COMPARTMENT WHERE THE FIRE IS LOCATED.
6. When the drill or fire event is completed, announce over the intercom and paging system, slowly and clearly, DR. RED ALL CLEAR, DR. RED ALL CLEAR. Do it twice slowly and clearly.

Valuables, cash and Resident trust are locked in the safe at 4:30 p.m. weekdays and weekends. The safe is fire proof so there is no need to remove during a fire.  
Evacuate charts, Med carts, Med books if needed and time permits.

Fire Procedures.....continued

**NURSING ASSISTANTS' DUTIES:**

1. When the fire alarm sounds, wait for the announcement of where the fire is located, Zone, Hall, Room. All NA's to report to the fire area except NA's from the front station.
2. Nursing Assistants from the front station will not report to the area of the fire, (full staff).
3. **AIDES IN THE FIRE ZONE:**

**R A C E**

- A. Rescue Residents from fire scene. Move All Residents from the smoke compartment. (Fire Door to Fire Door evacuate everyone to a non-fire compartment).
- B. Alert the facility by activating the alarm system, alert the charge nurse as to location.
- C. Confine the fire if you can, shut all doors and windows
- D. Extinguish the fire if you can.
- E. Pay close attention to those residents who are blind and deaf or bedridden. Stay in your area along the edge of the hall and monitor. Keep the Residents calm and make sure doors remain shut.
- F. Become mentally prepared to evacuate Residents if in immediate danger.
- G. If evacuation is necessary, follow evacuation procedures.
- H. Resident Accountability: It is the responsibility of the NA's to account for their Residents during a drill or actual situation. Resident room lists are available at each nurse station.

**OTHER DEPARTMENT RESPONSIBILITIES**

**OFFICE ASSOCIATES:**

1. If fire is threatening the office area, immediately get all cash and Resident trust together and place in a fire proof safe. Prepare to evacuate all associate and Resident files.
2. If the fire is not threatening the office portion of the facility:
  - A. Assist in clearing hallways in the non-fire area.
  - B. Meet and direct the fire department at the front door or door designated.

**LAUNDRY - FIRE IS NOT IN YOUR AREA:**

1. Shut off all electrical equipment.
2. Assist clearing hallways in the non-fire area.
3. When hallways cleared – then go to the assistance of the blind, deaf and bed ridden Residents.
4. Reassure them that they are safe and you are there to help them.
5. Be prepared to assist with other residents if evacuation is necessary.
6. Remain with the resident until the all clear has been given.

**HOUSEKEEPING - FIRE NOT IN YOUR AREA:**

1. **CLEAR HALLWAYS:** Remove carts and assist residents to rooms in the non-fire zone area.
2. Assist the blind, deaf and bed ridden Residents
3. Reassure them they are safe and you are there to help them.
4. Be prepared to assist with other Residents if evacuation becomes necessary.
5. Remain with the Residents until the "all clear" has been given.

Fire Procedures.....continued

**MAINTENANCE - IF FIRE NOT IN MAINTENANCE AREA**

1. Throw main electrical switch 1 in boiler room only if fire is widespread and out of control.
2. Throw main electrical switch 2 in boiler room if fire is located in any HVAC rooftop units, Laundry area, storage shed or smokers shed.
3. Manual shutoffs for rooftops next to fire alarm panel at front station, (two red buttons). Manual shutoffs for rooftops in service hall next to boiler room door, (three red buttons). To shut off, PUSH IN.
4. Shut main gas valve if natural gas fire. (service hall exit door around corner. Yellow wrench is located in fire extinguisher cabinet by back door).
5. Gas shut off to Rooftop HVAC units, Dietary are located in boiler room.
6. Go to the scene of the fire with a fire extinguisher.
7. Assist in the evacuation of the facility if necessary.

**DIETARY - IF FIRE NOT IN DIETARY AREA:**

1. Help clear dining room if necessary.
2. Assist clearing hallways in non – fire zones 2 & 4.
3. One person stay in dining room to reassure residents that are left in that area.
4. Assist Residents in their rooms, zones 2 & 4.
5. Monitor non-fire area.
6. Be prepared to assist those Residents being evacuated from the fire area.

**SOCIAL SERVICES:**

Assist in getting residents into rooms so hallways can be cleared, unless evacuation is called for.

1. Monitor non-fire zone area.
2. Be prepared to assist those Residents being evacuated from the fire area.

**ACTIVITIES:**

1. If an activity is being held in the activity room – stay and calm the Residents.
2. Shut all doors and windows – if fire is in the activity room.
3. If no activity, assist in getting the residents into rooms and clear the hallways in the non-fire zone area.
4. Monitor the non-fire zone area.
5. Be prepared to assist those Residents being evacuated from the fire area.

**FIRE ZONE AREA GOALS**

1. TO CONTAIN THE FIRE AND SMOKE TO THE SMALLEST AREA POSSIBLE
  - A. CLOSE ALL DOORS IN THE RESIDENT ROOM.
  - B. EVACUATE ALL RESIDENTS INTO NON-FIRE / SMOKE ZONES / COMPARTMENTS  
EVACUATE FACILITY IF NECESSARY (Refer to Evac Plan on page 13)
  - C. MAINTAIN HALLWAY SEPARATION DOORS IN CLOSED POSITION.

**REMEMBER ADDITIONAL PERSONAL  
CLEAR HALLWAYS - MONITOR ALL NON-FIRE AREAS.**

Fire Procedures..... continued

## FIRE PROCEDURES FOR DIETARY DEPARTMENT

1. If you discover a fire in the kitchen. Remember RACE & PASS
  - A. Rescue anyone in immediate danger.
  - B. Alert the facility by pulling the fire alarm located by the service hall exit door. Inform the charge nurse where the fire is located.
  - C. Confine the fire, close all windows and doors, roll damp blankets up and put at the base of the doors to keep smoke from rolling under them.
  - D. Extinguish the fire if you can.
  
2. Heat detectors in the ceiling will automatically set off the alarm system if the kitchen is ablaze.
  - A. If a fire breaks out on the stove or grill.....
    1. Throw baking soda or salt on the fire.
    2. Use a fire extinguisher – aim at the base of the fire, remember PASS.
    3. If a large blaze on the stove or grill, pull the Ansul system located beside the storage room door. This will extinguish the fire on the stove or grill area only.
  - B. If fire is in the steam table.....
    1. Turn off the gas behind the stove, red handle, use wrench to assist in turning valve off.
    2. Throw baking soda or salt on the fire.
  - C. If a fire is in the oven.....
    1. Close the door to smother the fire.
    2. Turn off gas behind the oven, red handle, use wrench to assist in turning valve off.
    3. Place cover over fire to smother it.
  
3. If an electrical fire starts in any equipment.....
  - A. Toasters, blenders, dishwasher, any equipment plugged in.
    1. Shut off circuit breaker, (located above salad sink).
    2. Get fire extinguisher, remember PASS, Pull, Aim, Squeeze, Sweep the base of the fire.
  - B. If freezer, refrigerator or walk in.....
    1. Shut off breakers located in panel “D” above salad sink, North wall.  
Or breaker panel “E” located on the North wall in the boiler room. Use AA key to get into the boiler room.
    2. Use fire extinguisher, remember PASS, Pull, Aim, Squeeze, Sweep the base of the fire.
  
4. ALL ASSOCIATES MUST LEARN - VERY IMPORTANT
  - A. Fire Extinguisher Locations:
    1. Kitchen wall by storeroom door under Ansul system.
    2. Kitchen wall by dishroom window next to fire blanket.
    3. Dining room between kitchen doors and dishroom.
    4. Service hall across from time clock.
  - B. Fire alarm pull stations that Dietary would use are located:
    1. Service hall by back door for zone 1. Fire
    2. By front entry door for zone 4. Fire
    3. Front nurse station also for zone 4. Fire.

Fire Procedures.....continued

**C. Location Of Circuit Breakers**

1. Kitchen above salad sink (North wall).
2. Boiler room, North wall, "AA" key will get you into the boiler room.

**D. ALL ASSOCIATYES MUST LEARN: ZONES, HALLWAYS, AND ROOM NUMBERS**

(i.e. fire in room 409, is on hall 4, zone 4, fire in room 214 is on hall 2, zone 3. The fire doors in the hallways designate the fire zones).

**5. IF A FIRE SHOULD OCCUR IN THE KITCHEN**

- A. If supervisor is not in facility, call after situation is stable.
  - B. Follow procedure for general clean-up.
  - C. Provide menu substitutions if needed.
6. If a fire is in another part of the facility when the alarm goes off, close the doors, clear utility carts from traffic areas and doorways, and listen for information over the paging system.
- A. Dietary is responsible for zones 2 and 4.
  - B. If the fire is in zone 4, help take residents into the service hall located behind the fire doors in zone one. Remain with the residents until the "all clear" has been given.
    1. After the alarm sounds, close the doors.
    2. Listen for the announcement of the fire zone, hall, room.
    3. Dietary personal go to zone 2 and 4 and assist residents and clear hallways.
  - C. If the fire is in zone 2, report to the non-fire zone and help with residents and clear hallways.

**FIRE PROCEDURES FOR LAUNDRY DEPARTMENT**

1. If you discover a fire in the laundry, what would you do? **REMEMBER RACE**
  - A. Rescue anyone within the fire compartment.
  - B. **ALERT THE FACILITY, PULL THE ALARM** at the end of the service hall by the exit door. Alert the charge nurse or go to the nearest telephone and page the location of the fire.
  - C. Confine the fire to the laundry, close windows and doors.
  - D. Extinguish the fire if not too large and you are confident in doing so.
  - E. Shut off circuit breakers and gas valves.
    1. **FIRE EXTINGUISHER LOCATIONS:**
      - A. Extinguisher on the wall by soiled linen room.
      - B. In the service hall east of laundry door.
      - C. Spare extinguishers in boiler room.
2. If fire in other parts of the facility, Laundry is responsible for halls 2. & 3.
  - A. Stop all washers and dryers.
  - B. Report to front station for assignments.

Fire Procedures.....continued

LAUNDRY PROCEDURES.....continued

3. ALL LAUNDRY ASSOCIATES MUST LEARN AND KNOW:
  - A. RACE & PASS
  - B. Location of circuit breakers and which ones to shut off
  - C. Location of fire alarm pull boxes
  - D. Location of fire extinguisher, Location and use of telephone for paging

<<FACILITY NAME>> - EVACUATION INSTRUCTIONS

THE REASON FOR EVACUATION IS PROTECTION FOR EVERYONE, RESIDENTS, ASSOCIATES, VISITORS, SALESMEN, SERVICEMEN, ETC. IF A NEED HAS BEEN DETERMINED THAT SOMEONE'S LIFE IS IN JEOPARDY, EVACUATE FROM THE AREA AND IF NECESSARY, FROM THE FACILITY. EVACUATE FROM ALL EXITS TO THE PARKING LOTS AREAS. FROM THE PARKING LOT AREAS, PROCEED TO THE ASSISTED LIVING FACILITY TO EXIT THE ELEMENTS.

- A. PARTIAL OR GENERAL EVACUATIONS - Residents should be evacuated according to their physical condition. Evacuation is always getting safely behind the nearest fire door and should be in this order:
1. Ambulatory Residents First.
  2. Wheelchair Residents Second.
  3. Bedridden Residents Third.
- B. TOTAL EVACUATION - If the need should arise for total evacuation of everyone from our facility, after exit from the building to the parking lot, proceed to the Community building. A determination will be made by emergency personnel and facility management to evacuate from this point to our assigned sites. Residents will be transported to our evacuation site which is \_\_\_\_\_ in \_\_\_\_\_ to be notified in advance so as to make preparations, telephone \_\_\_\_\_.
- C. Partial evacuation or temporary will be to the Community Center, 709 1<sup>st</sup> Avenue NW, telephone # \_\_\_\_\_. City offices to be notified in advance so as to make arrangements, telephone # \_\_\_\_-\_\_\_\_\_.
- D. HEARING OR VISUALLY IMPAIRED RESIDENTS - All nursing assistants are to be aware of these Residents and do their best to evacuate them. The aides assigned to those people are primarily responsible for their safe evacuation and they will provide the escort service for these Residents.

ALL TRAFFIC WILL MOVE ON THE RIGHT HAND SIDE OF THE CORRIDORS IN A SINGLE FILE LINE. REMEMBER, WALK DON'T RUN.

The following methods shall be used in the evacuating of Residents from the facility:

1. HIP CARRY - One person carrying one Resident (only when necessary).
2. SADDLE CARRY - Two persons locking hands and wrists to form a chair.
3. BLANKET CARRY - One person dragging one Resident placed on a blanket.

GENERAL EVACUATION OF THE ENTIRE BUILDING WILL BE DONE ONLY ON THE ADVICE OF THE FIRE, POLICE AND DISASTER EMERGENCY AGENCIES.

Constant training, drills and study should prepare all Associates in remembering all the important points in case of an evacuation. Some of these points are:

1. Get Residents away from immediate danger.
2. Move all exposed Residents horizontally away to a safer area.
3. Unless told to move Residents outside the facility, remove to dining room or behind safest or nearest fire door. From here they can be evacuated outside the facility if necessary.
4. An Associate will be appointed to remain with each group of Residents to keep down panic and to provide guidance.

## EVACUATION - LAST RESORT

The Most Common Reason for General Evacuation are:

1. Widespread Fire.
2. Large Amounts of Smoke.
3. Hazardous materials explosion - this would result from a truck or train accident, vehicle rollover or accident, train derailment or explosion.
4. Biohazard Terrorist Threat - this would be caused from a release of a hazardous bacteria, anthrax, small pox, etc. If inside the facility, immediate evacuation would be necessary; if bacteria outside the facility, close down all air intakes and notify Disaster Emergency Services, 911 or \_\_\_\_-\_\_\_\_.

**Emergency Water Supply:** Water, both potable and non-potable will be brought to the facility by our dietary food vendor. Bottled water will be stored in the MDS office in the service hall. Water will be distributed to areas within the facility by maintenance personal and to the Residents by Nursing and Dietary associates. Estimate the volume of water at 93-145 gallons per day per Resident and 10-16 gallons per day per Associate.

In the event of loss of water, \_\_\_\_\_ Fire & Rescue has in the past and will in the future supply the facility with hydrant water through chlorinated lines to the facility.

**EVACUATION TECHNIQUES - BOTTOM LINE: GET VICTIMS TO SAFETY ANY WAY YOU CAN. PROTECT YOURSELF AND THE VICTIM - MOVE QUICKLY AND CALMLY TO SAFETY.**

### **CARRIES**

1. **SIDE-BY-SIDE COME-A-LONG:** This is used for a victim who is able to walk but just needs manual assist. Put victims weaker side next to your body; put the victim's arms over your shoulder, hold his / her wrist, wrap your other arm around his / her waist and walk.
2. **BLANKET DRAG:** This is used for the resident who cannot walk. One person can perform this. Look at the victim's size, your size and strength.
  - A. Push the bed up against the wall or lock the brake.
  - B. Have the bed in the lowest position possible.
  - C. Lay the blanket on the floor.
  - D. Kneel on one knee using your other knee as a midpoint between the floor and the bed.
  - E. Gently lower the victim onto your raised knee and ease him / her into the lying position lifting him / her lower body slide off your knee first - protecting his / her neck and head.
  - F. Grasp blanket up around head / shoulder area and drag him / her to safety head first.
3. **HIP CARRY:** Works well for smaller victims or someone who has had abdominal surgery.
  - A. Lock the bed or push against the wall in the highest position.
  - B. Back up towards the bed and grasp the Resident wrist with your hand that is the closest to the head and bring it around to your shoulder.
  - C. Put your other hand and arm around the Resident's back and hold on tight in the auxiliary region.
  - D. Wrap other arm around the victim's knees and lift the Resident.
  - E. Go sideways through the doors.
  - F. To ease this person down, back their buttocks against a wall and slide down the wall.

## TWO MAN CARRIES

1. **Swing Carry:** Assist Resident to a sitting position on the edge of a locked bed, (waist high).
  - A. Have a rescuer get on each side of the victim and put the victim's arms around his / her own shoulders.
  - B. One of the rescuer's nearest the victim then goes around the victim's back (either grabs the other rescuer's wrist or grab onto the victim at the waist).
  - C. With your other hand, each rescuer reaches under the victim's knees and clasps the other rescuer's wrist.
  - D. Lift together and carry the Resident to safety.
  - E. Lower to the floor by kneeling with the leg closest to the victim and lowering Resident's feet first.
  
2. **EXTREMITY CARRY:** One rescuer at the top of the victim; the other is between legs at knee level.
  - A. Lock the bed up against the wall. Bed at waist height.
  - B. Bring victim to the sitting position.
  - C. Top rescuer gets into position first – putting their arms under the victim's arms and clasping their own hands.
  - D. The bottom rescuer then backs between the victim's legs so he can grasp the victim's legs behind the knees.
  - E. Together – they now can walk.
  - F. This works well for long distance carries.
  - G. To lower – foot end first – rescuer between legs lowers down to the knees and places the victim's feet and legs down.

**REMEMBER NOTHING IS ENGRAVED IN STONE WHEN IT INVOLVES GETTING A RESIDENT TO SAFETY. EVERY SITUATION IS DIFFERENT AND MUST BE HANDLED THAT WAY. - SITUATION TO SITUATION.**

**T H I N K : USE COMMON SENSE !**

## AFTER FIRE AREA IS EVACUATED

Nurse is to assign two aides to recheck evacuated area and closets, bathrooms and under beds. (This would be completed if there was smoke). Elderly people have a tendency to hide in a frightening situation. Aides to use Resident Accountability procedure to verify that all Residents are accounted for.

Also this is a double system to be sure all windows and doors are shut.

When all Residents and Associates have been accounted for, secure the area. Wait for instructions from the emergency services people.

Remember our goal: **R.A.C.E.**

1. **Rescue Residents and anyone in immediate danger.**
2. **Alert the facility by pulling the alarm, alert the charge nurse as to location.**
3. **Confine the fire to the smallest area possible**
4. **Extinguish the fire – Remember P.A.S.S.**
  - A. **Pull the pin on the fire extinguisher**
  - B. **Aim the nozzle at the base of the fire**
  - C. **Squeeze the two handles together**
  - D. **Sweep the base of the fire for proper extinguishing**

<<FACILITY NAME>>

## RESIDENT ACCOUNTABILITY

**Policy:** The Residents at <<Facility Name>> shall be accounted for in the event of a fire, disaster and their drills.

**Procedure:** At the beginning of each shift an updated copy of the resident room list will be given to one Certified Nursing Assistant (CNA) per hall. Each list shall include the following information:

1. The hall number
2. Resident rooms in numerical order
3. The Resident's name
4. Which bed the Resident is in, 1 or 2

It is the responsibility of the CNAs to carry out the duties of accounting for each Resident in their assigned group in the event of a fire, disaster or their drills. The night shift duties shall be assigned.

In the accounting of our Residents, if they are in their rooms, put a "check" next to their name. If they are in Activities, write ACT next to their name; in therapy, write PT or OT next to their name. Use abbreviations where possible to save time. After accounting for your residents, sign the accountability list and give it to your station nurse.

Accountability lists will be turned over to the Physical Plant Director or designee and will be filed with the fire and disaster drill paperwork. All CNAs will sign off on the Fire Drill Report that their Residents have been accounted for.

Resident lists shall be updated in the event of room changes or new admissions. It is the responsibility of the Ward Clerk to make sure that the lists are available at the stations.

## PASS METHOD OF USING A FIRE EXTINGUISHER

<<Facility Name>> uses two different types of fire extinguishers. The first and most common type is the ABC. This type of extinguisher is used throughout the facility on most fire situations. The kitchen uses a BC type extinguisher made especially for flammable liquids and energized electrical equipment.

The PASS method of using a fire extinguisher is:

- P.....Pull the pin out which unlocks the handle.
- A.....Aim the nozzle at the base of the fire.
- S.....Squeeze the handles together.
- S.....Sweep the base of the fire with the chemical.

Range and duration: 8 to 12 feet & 10 to 25 seconds

Extinguisher ratings:                      Class A (wood, paper, trash, and rubbish)  
    Class B (flammable Liquids)  
    Class C (energized electrical equipment)

**Maintenance:** All fire equipment is checked on a daily, weekly and monthly basis. Extinguishers are checked monthly to make sure they are operational. The pin is checked to be sure it is locked in place, the gauge is observed to make sure the extinguisher is not leaking. And third, the extinguisher is given the shake test, tip up and down to make sure the powder inside is moving freely and does not cake up on the bottom.

If you notice any problem with the fire extinguishers or any fire equipment, please alert the maintenance department at once, thank you.

<<FACILITY NAME>>  
**FIRE EXTINGUISHER LOCATIONS  
TYPES OF FIRE EXTINGUISHERS**

Location

Type

<<Provide list of fire extinguisher locations and type of extinguisher (e.g. ABC, BC, etc.) at each location>>

Remember, when using a fire extinguisher to use the PASS method.

PULL	THE PIN ON THE HANDLE OF THE EXTINGUISHER
AIM	THE NOZZLE AT THE BASE OF THE FIRE
SQUEEZE	THE HANDLES TOGETHER
SWEEP	THE BASE OF THE FIRE FROM SIDE TO SIDE

If you have any questions regarding the use or need information on fire extinguishers, contact your supervisor or Physical Plant Director.

If you observe a fire extinguisher not in proper working order, contact the Maintenance Department at once.

Fire extinguishers are inspected monthly and serviced annually.

## FIRE ALARM CONTROL FOR <<FACILITY NAME>>

When the fire alarm goes off, what do I do?

1. The front station nurse must get to the fire alarm control panel immediately. This is the "brains of the fire alarm system and is located at the front station on the wall to the right of the med room door, white cabinet.
2. Turn the key on the right hand side to open the door to get to the controls.
3. Observe the display screen, top left, one or more flashing red lights indicating the zone reporting the alarm, smoke detector or pull station at <<Facility Name>>. Sprinkler system will also come up if activated.
4. Push the button marked SIGNAL SILENCE on the right hand position on the control panel. When this button is pressed, the alarm will silence and the flashing red lights will go on steady illumination.

NOTE: If another alarm is reported from a different zone, the alarm signal will go off again.

Use the same procedure to silence this alarm also.

5. After completing silencing of the alarm, move to the telephone. Station 1 and 2 Nurses – when drill or actual fire is in your area:
  - A. ANNOUNCE OVER THE TELEPHONE OVERHEAD PAGING SYSTEM AND TELEPHONE INTERCOM SYSTEM SLOWLY AND CLEARLY, "DR. RED, DR. RED, Room \_\_\_\_\_, Hall \_\_\_\_\_, Zone \_\_\_\_\_". Repeat Twice.
  - B. Dial \_\_\_\_\_, this is the dispatch center that monitors our system. Tell the answering party that this is <<Facility Name>>, account # \_\_\_\_\_, Pin # \_\_\_\_\_. Let them know if this is a real fire situation or just a false alarm. They will notify the \_\_\_\_\_ Fire Department.
  - C. Dial 911 – Inform the dispatcher there is a fire alarm at <<Facility Name and address>>. Tell them what type of fire and any additional information you may have.
6. Go to the scene of the fire with a fire extinguisher, remember RACE – Rescue, Alert, Confine, Extinguish – and PASS – Pull, Aim, Squeeze, Sweep.
7. Make sure that if oxygen is being used in the fire area that it is shut off. Remove all O<sub>2</sub> concentrators and tanks.
8. When the situation is under control, announce over the telephone paging and intercom systems, "Dr. Red All Clear", repeat it twice.
9. Because the fire alarm has gone in to dispatch, the fire department will be on the scene shortly. DO NOT RESET THE FIRE ALARM PANEL, the fire department will do this.

---

### 10. TROUBLE CONDITIONS

The following are indicators of a trouble condition:

- A. Trouble tone alarm sounding
- B. One or more amber lights on
- C. Green power light off

To silence tone alarm, push the silence button.

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### 11. IF A SPRINKLER ALARM COMES IN

- A. Send personnel throughout the facility to find the sprinkler activation (look for a lot of water running).
- B. Determine if the sprinkler system has been activated by a fire or a damaged head.
- C. If no fire is found, shut the water off to the sprinkler system in the boiler room. Keys in fire panel at front station and nurses ring. Use the key stamped AC to open the door to the boiler room.
- D. Look for a big red tag marked SPRINKLER SHUT OFF, shut the valve off.

Fire Alarm Control – Continued

12. IF ALARM COMES IN FROM THE KITCHEN

This zone indicates the Ansul Hood Suppression system has gone off in the kitchen.  
The system will completely empty and quit.  
Silence the alarm system as you would for any other zone.

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13. Fire zones are:

<<List all fire zones>>

14. Anytime the system goes off, call the Physical Plant Director as soon as possible: Home \_\_\_\_\_, Cell \_\_\_\_\_. Also call Maintenance Director: Home \_\_\_\_\_, Cell \_\_\_\_\_.

If actual fire, notify Administrator and Director of Nursing Services as soon as possible.

Fire Procedures Revised

Feb 88 Jan98 Sept05  
Jan89 Feb99 Oct06  
Sept91 Oct02 Oct07  
Oct93 Oct04 Dec08  
May96 Mar05











## ANY TOWN NURSING HOME

### Emergency Generator – Weekly Inspection Checklist

	9/18/08	9/25/08	10/2/08							Comments/Corrective Actions
Date of inspection	JJS	JJS	JJS							
Inspection performed by	OK	OK	OK							
General condition of prime mover/generator	OK	OK	OK							
Condition of belts & hoses	OK	OK	OK							
Engine oil level	OK	OK	OK							Checked with engine stopped
Lube oil heater	OK	OK	OK							
Coolant level	OK	OK	OK							
Water pump	OK	OK	OK							
Jacket water heater	OK	OK	OK							
Radiator	OK	OK	OK <sup>1</sup>							<sup>1</sup> (10/2/08) Cores need cleaning - Done
Electrical/Generator breaker closed	OK	OK	OK							
Battery system:	OK <sup>1</sup>	OK	OK							<sup>1</sup> (9/18/08) Topped off electrolyte
Electrolyte level	OK	OK	OK							Normal = 1250
Charger	OK	OK	OK							Reads less than 1 amp
Exhaust system	OK	OK	OK							
Fuel system:	OK	OK	OK							
Fuel supply level	OK	OK <sup>1</sup>	OK							<sup>1</sup> (9/25/08) – ½ full, fuel added
Tank vent(s)	OK	OK	OK							





<<Facility Name>>

**POLICY TITLE: DRAPES, CURTAINS AND DECORATIONS**

Page 1 of 3

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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## **I. POLICY**

It is the policy of <<Facility Name>> that all draperies, curtains and combustible decorations utilized within the building will meet applicable flammability requirements. The furnishings governed by this policy include, but are not limited to:

- Window draperies and valences
- Curtains (including cubicle or privacy curtains, but excluding curtains at showers)
- Stage or theatre curtains
- Vertical folding shades
- Roll-type window shades
- Fabric vertical shades or blinds
- Horizontal folding shades
- Swags
- Fabric horizontal shades or blinds

Decorations governed by this policy include, but are not limited to, artificial plants and loosely hanging fabrics, films and holiday decorations on walls or doors or suspended from the ceiling.

## **II. PURPOSE**

To ensure that residents, staff and visitors at <<Facility Name>> are protected against the spread of fire by establishing procedures to be followed relating to the purchase and use of draperies, curtains and combustible decorations.

## **III. RESPONSIBILITY**

- A. Responsibility for development and implementation of this policy rests with the facility safety officer.
- B. Responsibility for ensuring that all draperies, curtains and combustible decorations procured for use at <<Facility Name>> meet applicable flammability requirements rests with the facility purchasing director.
- C. Responsibility for approval of draperies, curtains and combustible decorations to be used in remodeling projects to ensure compliance with applicable flammability requirements rests with the facility environmental services director.
- D. Responsibility for ensuring that all draperies, curtains and combustible decorations are cared for in accordance with manufacturer's instructions rests with the facility housekeeping director.

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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#### IV. PROCEDURE

- A. Natural cut trees (e.g. Christmas trees) and cellular or foamed plastic decorations are prohibited at <<Facility Name>>.
- B. Only draperies, curtains and combustible decorations that meet applicable flammability requirements will be specified for use as part of a renovation, remodeling or construction project at <<Facility Name>>. This will also apply to the purchase of furnishings used to replace existing draperies, curtains or combustible decorations that are damaged or worn.
- C. The vendor will be responsible for providing written documentation for each product purchased certifying that it is flame resistant based on testing performed in accordance with NFPA 701. Manufacturer's documentation must include proper care instructions
- D. Purchasing will mark each piece of documentation to identify the specific location(s) in which the product is present.
- E. Purchasing will keep this documentation on file until the product is removed from the building.
- F. Staff will be informed of this policy at time of hire.
- G. Residents or their appointed representatives (as appropriate) will be informed of this policy upon admission to the facility.
- H. Housekeeping staff will be responsible for reporting any draperies, curtains or combustible decorations brought into the building by residents, their family members or others.
  1. Such items will be reviewed by the facility environmental services director to verify compliance with applicable flammability requirements.
  2. Any item found out of compliance with applicable flammability requirements will be immediately removed from the building. As an alternate, facility maintenance staff may treat the item with an approved fire retardant in accordance with the following:
    - a. The product used must be listed by Underwriters Laboratories (UL), Factory Mutual (FM) or some other nationally recognized independent testing laboratory.
    - b. The product used must be compatible with the material(s) to which it is applied.
    - c. Manufacturer's documentation needs to be obtained that:
      - Clearly identifies the material(s) to which its product can be applied (e.g. paper, fabric, plastic, etc.); and
      - Certifies that, with proper application of the product, the material to which it is applied will be rendered flame resistant as demonstrated by testing in accordance with NFPA 701.
    - c. Application of the product must be performed in strict conformance with manufacturer's instructions.
    - d. If so specified by the manufacturer, maintenance staff will periodically reapply or renew the treatment in accordance with manufacturer's instructions.

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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- e. Maintenance staff will keep a label from the container of each product used and keep written documentation:
    - Identifying who applied the fire retardant to the item(s) in question,
    - Stating the date the fire retardant was applied,
    - Listing the item(s) to which the fire retardant was applied, and
    - Certifying that the fire retardant was applied in accordance with manufacturer's instructions.
  - f. This documentation will be maintained on file until the treated item is removed from the building.
- I. Laundry and housekeeping personnel will follow manufacturer's care instructions to ensure that flame retardant treatments (whether factory-applied or otherwise) are properly maintained.
-

**<<Facility Name>>**

**POLICY TITLE: FLOOR CARPETING**

Page 1 of 2

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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**I. POLICY**

It is the policy of <<Facility Name>> that all carpeting utilized within the building will meet applicable flammability requirements. The carpeting governed by this policy includes that intended to be installed on floors, ramps, stair treads and risers, and other walking surfaces.

**II. PURPOSE**

To ensure that residents, staff and visitors at <<Facility Name>> are protected against the rapid spread of fire by establishing procedures to be followed relating to the purchase and installation of floor carpeting.

**III. RESPONSIBILITY**

- A. Responsibility for development and implementation of this policy rests with the facility safety officer.
- B. Responsibility for ensuring that all floor carpeting procured for use at <<Facility Name>> meets applicable flammability requirements rests with the facility purchasing director.
- C. Responsibility for approval of floor carpeting to be used in remodeling projects to ensure compliance with applicable flammability requirements rests with the facility environmental services director.

**IV. PROCEDURE**

- A. Only floor carpeting that meets applicable flammability requirements will be specified for use as part of a renovation, remodeling or construction project at <<Facility Name>>. This will also apply to the purchase of finishes used to replace existing floor carpeting that is damaged or worn.
- B. The vendor will be responsible for providing written documentation for each product purchased certifying that it complies with DOC FF-1-00 "Methenamine Pill Test" (CPSC 16 CFR, Part 1630).
- C. The vendor will be responsible for providing written documentation for each product intended for use in exit enclosures, exit passageways, corridors, and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling certifying that, at a minimum, the carpeting is classified as a Class II interior floor finish based on testing performed in accordance with NFPA 253 or ASTM E 648.

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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- D. The vendor will be responsible for providing written documentation for each product intended for use in any of the following areas that are not protected with automatic fire sprinklers certifying that, at a minimum, the carpeting is classified as a Class I interior floor finish based on testing performed in accordance with NFPA 253 or ASTM E 648: exit enclosures, exit passageways, corridors, and rooms or spaces not separated from corridors by full-height partitions extending from the floor to the underside of the ceiling.
  - E. Purchasing will mark each piece of documentation to identify the specific location(s) in which the carpeting is present.
  - F. Purchasing will keep this documentation on file until the carpeting is removed from the building.
-

**<<Facility Name>>**

**POLICY TITLE: UPHOLSTERED FURNITURE**

Page 1 of 2

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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**I. POLICY**

It is the policy of <<Facility Name>> that all upholstered furniture utilized within the facility will meet applicable flammability requirements.

**II. PURPOSE**

To ensure that residents, staff and visitors at <<Facility Name>> are protected against fires involving upholstered furniture especially since <<Facility Name>> is not protected throughout by an approved automatic fire sprinkler system.

**III. RESPONSIBILITY**

- A. Responsibility for development and implementation of this policy rests with the facility safety officer.
- B. Responsibility for ensuring that all upholstered furniture procured for use at <<Facility Name>> meets applicable flammability requirements rests with the facility purchasing director.
- C. Responsibility for ensuring that all upholstered furniture is cared for in accordance with manufacturer's instructions rests with the facility housekeeping director.

**IV. PROCEDURE**

- A. Only upholstered furniture that meets applicable flammability requirements will be specified for use as part of a renovation, remodeling or construction project at <<Facility Name>>. This will also apply to the purchase of furnishings used to replace existing upholstered furniture that is damaged or worn.
  - 1. The vendor will be responsible for providing proper care instructions for each upholstered furniture item purchased as well as written documentation certifying that:
    - a. It is resistant to ignition by cigarettes and other smoldering sources of ignition as demonstrated by passing the following criteria based on testing performed in accordance with NFPA 261:
      - Mocked-up composites of the upholstered furniture had a char length not exceeding 1.5 inches (3.8.cm).
    - b. It has limited rates of heat release as demonstrated by passing the following criteria based on testing performed in accordance with NFPA 266 or ASTM E 1537:

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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- The peak rate of heat release for the single upholstered furniture item did not exceed 250 kW.
  - The total energy released by the single upholstered furniture item during the first 5 minutes of the test did not exceed 40 MJ.
3. Purchasing will mark each piece of documentation to identify the specific location(s) in which the product is present.
  4. Purchasing will keep this documentation on file until the product is removed from the building.
  5. Residents will be allowed to bring their own upholstered furniture items with them into the facility for use in their own sleeping room. Such personal furnishings are exempt from the aforementioned testing requirements, but must be in clean and serviceable condition. <<Facility Name>> will ensure that sleeping rooms containing such personal furnishings are protected by at least a battery-operated single-station smoke alarm.
- B. Staff will be informed of this policy at time of hire.
- C. Residents or their appointed representatives (as appropriate) will be informed of this policy upon admission to the facility.
- D. Laundry and housekeeping personnel will follow manufacturer's care instructions to ensure that flame retardant treatments are properly maintained.
-

**POLICY TITLE: WALL AND CEILING FINISHES**

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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**I. POLICY**

It is the policy of <<Facility Name>> that all interior wall and ceiling finishes utilized within the building will meet applicable flame resistance requirements. The interior finishes governed by this policy include, but are not limited to, wood, paneling, wallpaper, vinyl wall coverings and acoustical ceiling tile.

**II. PURPOSE**

To ensure that residents, staff and visitors at <<Facility Name>> are protected against the rapid spread of fire by establishing procedures to be followed relating to the purchase and installation of wall and ceiling finishes.

**III. RESPONSIBILITY**

- A. Responsibility for development and implementation of this policy rests with the facility safety officer.
- B. Responsibility for ensuring that all wall and ceiling finishes procured for use at <<Facility Name>> meet applicable flame resistance requirements rests with the facility purchasing director.
- C. Responsibility for approval of wall and ceiling finishes to be used in remodeling projects to ensure compliance with applicable flame resistance requirements rests with the facility environmental services director.

**IV. PROCEDURE**

- A. Only wall and ceiling finishes that meet applicable flame resistance requirements will be specified for use as part of a renovation, remodeling or construction project at <<Facility Name>>. This will also apply to the purchase of finishes used to replace existing wall and/or ceiling finishes that are damaged or worn.
- B. The vendor will be responsible for providing written documentation for each product purchased identifying the flame spread and smoke development rating achieved by the product based on testing performed in accordance with NFPA 255 or ASTM E 84.
- C. Purchasing will mark each piece of documentation to identify the specific location(s) in which the product is present.

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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D. Purchasing will keep this documentation on file until the product is removed from the building.

E. Carpeting

1. Carpeting will not be used as a ceiling finish unless it meets one of the following:
    - a. The vendor can provide written documentation certifying that the carpeting meets the following criteria when tested in accordance with NFPA 286:
      - Flames did not spread to the ceiling during the 40 kW exposure.
      - During the 160 kW exposure
        - (1) Flame did not spread to the outer extremities of the sample on the 8 ft x 12 ft wall.
        - (2) Flashover did not occur
      - The peak rate of heat release throughout the test did not exceed 800 kW.
      - The total smoke released throughout the test did not exceed 1000 m<sup>2</sup>.
    - b. The room or space in which it is to be installed is protected with automatic fire sprinklers and the vendor can provide written documentation certifying that the carpeting has a Class A flame spread rating (flame spread 0-25, smoke development 0-450) when tested in accordance with NFPA 255 or ASTM E 84.
  2. Carpeting will not be used as a wall finish unless it meets one of the following:
    - a. The vendor can provide written documentation certifying that the carpeting meets the criteria specified in 1.a above when tested in accordance with NFPA 286; **or**
    - b. The vendor can provide written documentation certifying that the carpeting has a Class A flame spread rating (flame spread 0-25, smoke development 0-450) when tested in accordance with NFPA 255 or ASTM E 84 and the room or space in which it is to be installed is protected with automatic fire sprinklers; **or**
    - c. The vendor can provide written documentation certifying that the carpeting meets the following criteria when tested in accordance with method B of NFPA 265:
      - Flames did not spread to the ceiling during the 40 kW exposure.
      - During the 150 kW exposure
        - (1) Flame did not spread to the outer extremities of the sample on the 8 ft x 12 ft wall.
        - (2) Flashover did not occur
      - The total smoke released throughout the test did not exceed 1000 m<sup>2</sup>.
  3. Purchasing will mark each piece of documentation to identify the specific location(s) in which the carpeting is present.
  4. Purchasing will keep this documentation on file until the carpeting is removed from the building.
-

POLICY TITLE: MATTRESSES

Page 1 of 2

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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## I. POLICY

It is the policy of <<Facility Name>> that all mattresses utilized within the facility will meet applicable flammability requirements.

## II. PURPOSE

To ensure that residents, staff and visitors at <<Facility Name>> are protected against fires involving mattresses.

## III. RESPONSIBILITY

- A. Responsibility for development and implementation of this policy rests with the facility safety officer.
- B. Responsibility for ensuring that all mattresses procured for use at <<Facility Name>> meet applicable flammability requirements rests with the facility purchasing director.
- C. Responsibility for ensuring that all mattresses are cared for in accordance with manufacturer's instructions rests with the facility housekeeping director.

## IV. PROCEDURE

- A. Only mattresses that meet applicable flammability requirements will be specified for use as part of a renovation, remodeling or construction project at <<Facility Name>>. This will also apply to the purchase of replacements for existing mattresses that are damaged or worn.
  - 1. The vendor will be responsible for providing proper care instructions for each mattress purchased as well as written documentation certifying that it is resistant to ignition by cigarettes and other smoldering sources of ignition as demonstrated by passing the following criteria based on testing performed in accordance with DOC 16 CFR 1632:  
The mattress had a char length not exceeding 2 inches (5.1 cm).
  - 2. For mattresses that are to be used in areas of the facility that are not protected by an approved automatic fire sprinkler system, the vendor will also be responsible for providing written documentation certifying that each mattress has limited rates of heat release as demonstrated by passing the following criteria based on testing performed in accordance with NFPA 267 or ASTM E 1590:

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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- a. The peak rate of heat release for the mattress did not exceed 250 kW.
  - b. The total energy released by the mattress during the first 5 minutes of the test did not exceed 40 MJ.
  3. Purchasing will mark each piece of documentation to identify the specific location(s) in which the mattresses are present.
  4. Purchasing will keep this documentation on file until the mattresses are removed from the facility.
  5. Residents will be allowed to bring their own mattresses with them into the facility for their own personal use in their sleeping room. Such mattresses are exempt from the aforementioned testing requirements, but must be in clean and serviceable condition. <<Facility Name>> will ensure that sleeping rooms containing such mattresses are protected by at least a battery-operated single-station smoke alarm.
- C. Staff will be informed of this policy at time of hire.
- D. Residents or their appointed representatives (as appropriate) will be informed of this policy upon admission to the facility.
- E. Laundry and housekeeping personnel will follow manufacturer's care instructions to ensure that flame retardant treatments are properly maintained.
-





# COMMERCIAL KITCHEN HOOD FIRE SYSTEM REPORT

CUSTOMER
NAME _____
ADDRESS _____
PHONE _____
OWNER/MANAGER _____

CONTRACTOR
NAME _____
ADDRESS _____
CITY/STATE/ZIP _____
PHONE _____

EXTINGUISHING SYSTEM
MANUFACTURER _____
MODEL NUMBER _____
TYPE _____
CYLINDER SIZE _____

INSPECTION
TODAY'S DATE _____
COMPANY THAT PERFORMED LAST INSPECTION
<input type="radio"/> Same as above
<input type="radio"/> Other _____
DATE OF LAST INSPECTION _____

SYSTEM SUPERVISION	
IS THERE A FIRE ALARM SYSTEM PRESENT?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNK
IS THE EXTINGUISHING SYSTEM MONITORED BY THE FIRE ALARM?	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> UNK
ELECTRICITY IS REQUIRED FOR EXTINGUISHING SYSTEM OPERATION	<input type="checkbox"/> YES <input type="checkbox"/> NO
SYSTEM HAS AUDIBLE OR VISUAL ALERT AFTER DISCHARGE	<input type="checkbox"/> YES <input type="checkbox"/> NO
MANUAL ACTIVATION	
LOCATED BETWEEN 42 IN. AND 60 IN. ABOVE THE FLOOR	<input type="checkbox"/> YES <input type="checkbox"/> NO
ACCESSIBLE AND LOCATED IN A PATH OF EGRESS	<input type="checkbox"/> YES <input type="checkbox"/> NO
CLEARLY IDENTIFIES THE HAZARD PROTECTED	<input type="checkbox"/> YES <input type="checkbox"/> NO
FAILURE WILL IMPAIR AUTOMATIC SYSTEM OPERATION	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNK
SEAL IS INTACT	<input type="checkbox"/> YES <input type="checkbox"/> NO
PERSONNEL INSTRUCTED IN THE USE OF THE SYSTEM	<input type="checkbox"/> YES <input type="checkbox"/> NO
AUTOMATIC OPERATION	
VERIFIED TRAVEL OF CABLE AND LINK POSITION	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
VERIFIED OPERATION OF GAS SHUTOFF VALVE	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
VERIFIED OPERATION OF MICRO-SWITCH	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
CHECKED AND CLEANED FUSIBLE LINKS	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
MANUFACTURE DATE OF FUSIBLE LINKS	DATE: _____
REPLACED FUSIBLE LINKS	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
NOZZLES CLEANED	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
PROPER NOZZLE CAPS IN PLACE	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
GAS SHUTOFF VALVE CONTROLS ALL EQUIPMENT PROTECTED BY SYSTEM	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A

EXHAUST HOOD	
HOOD CLEANING STICKER IS AFFIXED	<input type="checkbox"/> YES <input type="checkbox"/> NO
DATE OF LAST HOOD CLEANING	DATE: _____
GREASE ACCUMULATION	<input type="checkbox"/> HEAVY <input type="checkbox"/> MODERATE <input type="checkbox"/> LIGHT
FILTERS ARE INTACT	<input type="checkbox"/> YES <input type="checkbox"/> NO
FAN IS IN OPERATING ORDER	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNK
LIGHTING IN HOOD IS PROPERLY PROTECTED FROM DAMAGE	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> UNK
COOKING EQUIPMENT	
16" SEPARATION BETWEEN FRIER AND SURFACE FLAME EQUIPMENT	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> UNK
BARRIER INSTALLED BETWEEN FRIER AND SURFACE FLAME EQUIPMENT	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A <input type="checkbox"/> UNK
EQUIPMENT APPEARS TO BE IN OPERABLE CONDITION	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNK
COMBUSTIBLES STORED NEAR COOKING EQUIPMENT	<input type="checkbox"/> YES <input type="checkbox"/> NO
EXTINGUISHING SYSTEM	
COMPLIANT COVERAGE FOR ALL APPLIANCES	<input type="checkbox"/> YES <input type="checkbox"/> NO
COMPLIANT COVERAGE OF EXHAUST DUCT AND PLENUM AREAS	<input type="checkbox"/> YES <input type="checkbox"/> NO
CARTRIDGE WEIGHT CHECKED	<input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A
PIPING AND CYLINDER SECURELY FASTENED TO STRUCTURE	<input type="checkbox"/> YES <input type="checkbox"/> NO
CYLINDER HYDROSTATIC TEST DATE	DATE: _____
AUXILIARY EQUIPMENT	
TYPE K PORTABLE FIRE EXTINGUISHER PRESENT	<input type="checkbox"/> YES <input type="checkbox"/> NO
EXTINGUISHER IS PLACARDED AS BACKUP EXTINGUISHMENT MEANS	<input type="checkbox"/> YES <input type="checkbox"/> NO
PERSONNEL ARE INSTRUCTED IN THE USE OF EXTINGUISHER	<input type="checkbox"/> YES <input type="checkbox"/> NO

**LEAVE NO QUESTION UNANSWERED**

COMMENTS: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

HAS ANY EQUIPMENT BEEN ADDED SINCE LAST INSPECTION?  YES  NO  UNK  
 IS EXTINGUISHING SYSTEM UL 300 COMPLIANT?  YES  NO

SYSTEM IS ARMED AND OPERATIONAL:  YES  NO

SIGNED: \_\_\_\_\_  
 TECHNICIAN NAME NOT COMPANY NAME

\_\_\_\_\_  
 OWNER OR AGENT







ANY TOWN NURSING HOME

Emergency Generator -- Weekly Inspection Checklist

	9/18/08	9/25/08	10/2/08							Comments/Corrective Actions
Date of inspection	JJS	JJS	JJS							
Inspection performed by	OK	OK	OK							
General condition of prime mover/generator	OK	OK	OK							
Condition of belts & hoses	OK	OK	OK							Checked with engine stopped
Engine oil level	OK	OK	OK							
Lube oil heater	OK	OK	OK							
Coolant level	OK	OK	OK							
Water pump	OK	OK	OK							
Jacket water heater	OK	OK	OK							
Radiator	OK	OK	OK <sup>1</sup>							<sup>1</sup> (10/2/08) Cores need cleaning - Done
Electrical/Generator breaker closed	OK	OK	OK							
Battery system:	OK <sup>1</sup>	OK	OK							<sup>1</sup> (9/18/08) Topped off electrolyte
Electrolyte level	OK	OK	OK							Normal = 1250
Charger	OK	OK	OK							Reads less than 1 amp
Exhaust system	OK	OK	OK							
Fuel system: 2	OK	OK	OK							<sup>2</sup> (Natural Gas)
Fuel supply level	OK	OK <sup>1</sup>	OK							<sup>1</sup> (9/25/08) - 1/2 full, fuel added
Tank vent(s)	OK	OK	OK							





**<<Facility Name>>**

**POLICY TITLE: SMOKING**

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APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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**I. POLICY**

It is the policy of <<Facility Name>> to provide a healthy and safe environment for residents, staff and visitors by limiting the use of smoking materials on its campus.

**II. PURPOSE**

To establish regulations consistent with the *Life Safety Code*<sup>®</sup>, the MN. State Fire Code, and the Freedom to Breathe provisions of the Minnesota Clean Indoor Air Act for the safe use of smoking materials (e.g. cigarettes, cigars, pipes, matches, lighters, etc).

**III. RESPONSIBILITY**

Responsibility for development and implementation of this policy rests with the facility safety officer.

**IV. PROCEDURE**

- A. <<Facility Name>> is a smoke-free facility. No smoking or use of smoking materials will be allowed in the building.
  - 1. Signs that prohibit smoking in the building will be prominently placed at all building entrances used by residents, staff and visitors.
  - 2. This policy applies to everyone.
    - a. Staff will be informed of this policy at time of hire.
    - b. Residents or their appointed representatives (as appropriate) will be informed of this policy upon admission to the facility.
    - c. This policy will be courteously communicated to visitors found smoking or using smoking materials in the building.
  
- B. No smoking or use of smoking materials will be allowed on the <<Facility Name>> grounds, including parking lots, except at the following locations:
  - <<list those locations>>
  
- 1. A suitable number of noncombustible ashtrays will be provided in smoking areas.
  - a. To reduce the potential for a burning cigarette to fall out of the ashtray and onto nearby combustibles, only ashtrays designed with holders **inside** the ashtray will be used.
  - b. Cigarettes or other smoking materials will not be left unattended in ashtrays.

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2. Smoking areas will be provided with metal containers equipped with self-closing covers to be used **solely** for the disposal of cigarette butts and ashes.
  - a. A sign to that effect will be posted on the containers.
  - b. All cigarettes and other smoking materials will be promptly disposed of in these containers and are not allowed to be discarded elsewhere on the <<Facility Name>> grounds.
3. Oxygen is not allowed in smoking areas at any time.
  - a. This would include:
    - Oxygen concentrators, even if they're shut off
    - Compressed gas oxygen cylinders, even if the cylinder valve is closed, and
    - Liquid oxygen containers, even if the container's flow control valve is set at zero
  - b. No shall be allowed to smoke while using oxygen.
  - c. Smokers must remain at least 5 feet away from oxygen in use.

C. Staff is responsible for ensuring that smoking by residents is done in a safe manner.

1. Residents will be allowed to smoke and use smoking materials only as specified in their care plan.
2. Residents who smoke will be evaluated for their ability to smoke safely and independently. This evaluation will be performed upon admission.
  - a. These residents will be reevaluated on at least a quarterly basis, or more frequently as dictated by any significant changes in condition, to ensure that they continue to be capable of smoking and using smoking materials without presenting a danger to themselves or others.
  - b. Should burn holes be found in a resident's clothing or bedding or any incidents of unsafe smoking occur, nursing staff will be notified immediately and a new smoking evaluation completed. If deemed necessary, a smoking apron may be offered.
3. Residents deemed unsafe to smoke independently will be allowed to smoke only when under the direct supervision of family members, friends (that are not residents), significant others or facility staff.
4. Residents will not be allowed to take other residents to the smoking area or provide the direct supervision needed for residents deemed unsafe to smoke independently.
5. Residents will not be allowed to borrow cigarettes or other smoking materials from each other. Residents deemed unsafe to smoke independently will not be allowed to be in possession of cigarettes or other smoking materials. These items will be secured at the main nurse station and dispensed only on request or as specified in the resident's care plan.
6. Residents deemed unsafe to smoke independently will be offered a smoking cessation program with physician and family support.



<<Facility Name>>

## FIRE WATCH LOG

ASSIGNED AREA: \_\_\_\_\_ DATE: \_\_\_\_\_

FIRE-WATCHER: \_\_\_\_\_ INITIALS: \_\_\_\_\_

FIRE WATCH TIMES: STARTED \_\_\_\_\_ ENDED \_\_\_\_\_

Fire watch personnel must perform continuous tours such that each room in their assigned area is checked at not less than 30-minute intervals. The first entry in this log must be made within 30 minutes of the start of the fire watch and every 30 minutes thereafter. Times must be recorded using the 24-hour clock and initialed. Any problems found during the fire watch must be documented (along with the time found and initialed) and reported to the head of maintenance for immediate correction.

I certify (by my initials below) that I completed a tour of my entire assigned area at the following times:

Time Tour Completed	Initials		Time Tour Completed	Initials		Time Tour Completed	Initials

**Problems noted during fire watch:**

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## ANY TOWN NURSING HOME

### FIRE WATCH LOG

ASSIGNED AREA: Second and third floors DATE: 07/15/08

FIRE-WATCHER: John J. Smith INITIALS: JJS

FIRE WATCH TIMES: STARTED 1110 hours ENDED 1710 hours

Fire watch personnel must perform continuous tours such that each room in their assigned area is checked at not less than 30-minute intervals. The first entry in this log must be made within 30 minutes of the start of the fire watch and every 30 minutes thereafter. Times must be recorded using the 24-hour clock and initialed. Any problems found during the fire watch must be documented (along with the time found and initialed) and reported to the head of maintenance for immediate correction.

I certify (by my initials below) that I completed a thorough tour of my entire assigned area at the following times:

Time Tour Completed	Initials		Time Tour Completed	Initials		Time Tour Completed	Initials
1140	JJS		1510	JJS			
1210	JJS		1540	JJS			
1240	JJS		1610	JJS			
1310	JJS		1640	JJS			
1340	JJS		1710	JJS			
1410	JJS						
1440	JJS						

**Problems noted during fire watch:**

(1117) Soiled utility room door wedged open, Second Floor, East Wing – wedge removed JJS

(1128) Burned out bulb in EXIT sign, west end of Second Floor – reported to maintenance JJS

(1436) Smoke barrier doors on Third Floor held open with chairs – chairs removed JJS

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APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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## I. POLICY

It is the policy of <<Facility Name>> to ensure that residents, staff and visitors are protected and that a safe environment is maintained during periods in which the building fire alarm system and/or fire sprinkler system is out of service.

## II. PURPOSE

To outline interim fire/life safety measures that will be implemented during periods of time, preplanned or otherwise, in which the fire alarm system and/or fire sprinkler system at <<Facility Name>> is out of service.

## III. RESPONSIBILITY

Responsibility for development and implementation of this policy rests with the facility safety officer.

## IV. PROCEDURE

### A. Notifications

1. Upon finding that a required fire protection system is out of service:
  - a. The following persons will be notified immediately:
    - i. Facility Administrator (name and contact phone number)
    - ii. Head of Maintenance (name and contact phone number)
    - iii. Local fire chief or fire marshal (name and contact phone number)
    - iv. The facility's insurance carrier (name and contact phone number)
    - v. The facility's monitoring company (name and contact phone number)
  - b. The facility operator will make an immediate announcement over the building PA system notifying staff of the nature and extent of the impairment and, in cases where the building's fire alarm system is out of service, directing them to:
    - i. Close all smoke and fire doors in the area(s) affected by the impairment; and
    - ii. Unlock all locked exit doors in the area(s) affected by the impairment to allow for immediate egress in case of emergency. Residents who could pose a danger to themselves or others due to elopement must be closely monitored to ensure that they are accounted for at all times.
2. If the building fire alarm and/or fire sprinkler system is out of service for more than 4 hours in a 24-hour period, Deputy State Fire Marshal <<name>> shall be notified by phone or e-mail at:

APPROVED BY: \_\_\_\_\_

Effective Date: \_\_\_\_\_

Revised Date: \_\_\_\_\_

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**B. Preplanned impairments**

For preplanned impairments (e.g. scheduled work or testing), all the parties identified above will be notified, in advance, of the extent and expected duration of the impairment. In addition, the person performing the work will be expected to place tags (as appropriate) at each fire department connection, sprinkler system control valve, fire alarm control unit and/or fire alarm annunciator indicating that the system, or part thereof, has been removed from service.

**C. Alternate fire alarm signal**

Upon notification that the building fire alarm system is out of service, staff will immediately implement the following procedure, should a fire occur during the impairment:

- a. The staff person discovering the fire must shout the code phrase RED LANTERN and go the aid of any person(s) in immediate danger.
- b. Personnel hearing the code phrase announced will immediately use the whistles provided at each nurse station to alert all other building occupants and then proceed to execute their duties as assigned in the fire safety plan.

**D. Fire watch**

At the direction of the fire chief, facility administrator or facility safety officer, a fire watch will be implemented.

1. Fire watch duties will be performed by facility maintenance staff who have been specially trained in identifying and controlling fire hazards, detecting early signs of unwanted fire, the use of portable fire extinguishers, and in occupant and fire department notification techniques. Evidence of such training will be maintained in each employee's personnel file.
2. Fire watch personnel will:
  - a. Have no other duties assigned to them while the affected fire protection system is out of service.
  - b. Carry a cell phone with them to use for notification of the fire department.
  - c. Perform continuous tours such that each portion of the building affected by the impairment is checked at not less than 30-minute intervals. In addition to watching for and promptly reporting any incidents of fire, visible smoke or strong smell of smoke or other unwanted odors, the fire watch will also ensure while on tour that:
    - Portable fire extinguishers are in place, unobstructed and in proper operating condition;
    - Corridors and exits are free and clear of storage and all other obstructions;
    - Exit and stairwell doors are clear and fully operational;
    - EXIT signs are visible and properly illuminated;
    - Fire doors, smoke barrier doors and hazardous area doors are kept closed and latched (i.e. not tied, wedged or blocked open in any fashion);
    - Oxygen cylinders/containers not in use are properly stored;
    - Electrical hazards are promptly reported and remedied;

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- No smoking or work involving cutting or welding or the use of flammable/combustible liquids is taking place (unless such work has been preauthorized and is taking place in an area that is properly fire separated from the remainder of the facility); and
  - Trash and other unnecessary accumulations of combustibles are promptly removed from the building.
- d. Document their tours in a log. Any problems found during the fire watch will also be documented and reported to the head of maintenance for immediate correction.
3. The fire watch will remain in place until the impaired system has been restored to normal working order and fire watch personnel are relieved of their duties by the fire chief, facility administrator or facility safety officer.

E. Evacuation

The nature and extent of the impairment, coupled with other extenuating circumstances, may dictate that the building, or portions thereof, be completely evacuated. Such evacuations will be performed in accordance with the fire safety plan and take place only at the direction of the fire chief, facility administrator or facility safety officer.

F. System(s) restored to service

When the impaired system has been restored to normal working order:

- a. The following persons will be notified immediately:
    - i. Facility Administrator (name and contact phone number)
    - ii. Head of Maintenance (name and contact phone number)
    - iii. Local fire chief or fire marshal (name and contact phone number)
    - iv. The facility's insurance carrier (name and contact phone number)
    - v. The facility's monitoring company (name and contact phone number)
  - b. The facility operator will make an announcement over the building PA system notifying staff that the system has been restored, smoke and fire doors can be reopened, exit door security restored and they can return to their regular routine.
  - c. If notified that the building fire alarm and/or fire sprinkler system was out of service, Deputy State Fire Marshal <<name>> shall be informed that the impaired system has been restored to normal working order by calling:
  - d. Any tags placed on fire department connections, fire sprinkler system control valves, fire alarm control units and/or fire alarm annunciator panels will be promptly removed.
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