



# Fire & Life Safety Practices

# Hospitals

2008

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## Scope

*All licensed care facilities in Oregon are mandated to comply with state fire and life safety requirements as specified in the Oregon Fire Code (OFC), the Oregon Structural Specialty Code (Building Code), & the Oregon Mechanical Specialty Code (Mechanical Code). In addition, all health care facilities certified by Centers for Medicare & Medicaid Services (CMS) are mandated to comply with the NFPA 101 Life Safety Code (LSC), 2000 Edition. The objective of this manual is to provide licensed facilities with common recommended practices and suggested procedures to maintain a reasonable level of fire and life safety.*

## Enforcement of Regulations

*The enforcement of Fire & Life Safety regulations in health care facilities is for the purpose of ensuring occupant safety. Safety of individual occupants is paramount, and the rights of an individual occupant shall not supersede the rights to personal safety of other occupants [Ref. 42CFR 482.13 (c) (2)] For the purposes of this section occupants shall be defined to include patients, residents, staff members, family members, and other persons within the facility.*

**§ 42CFR 482.11 (a) Administration** *Condition of participation: Compliance with Federal, State and local laws. The hospital must be in compliance with applicable Federal laws related to the health and safety of patients.*

*The following regulations pertain to enforcement actions taken by the Office of State Fire Marshal:*

- *ORS 476.030*
- *ORS 476.150*
- *ORS 479.215*
- *ORS 479.170*
- *42CFR 482.11*
- *OAR 837, Division 40*

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## CHAPTER 1 PROCEDURES IN CASE OF FIRE

### **Policy**

Staff **shall** be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. *Reference OFC Section 401; NFPA LSC 101 Section 18/19.7.*

For hospitals, the proper protection of patients requires the prompt and effective response of health care staff. The basic response required of staff includes removal of all occupants directly involved with the fire emergency, if possible, transmission of an appropriate fire alarm signal to warn other building occupants and summon staff, confinement of the effects of the fire by closing doors to isolate the fire area, and the relocation of patients.

1. Each hospital has specific characteristics that vary sufficiently from other facilities to prevent the specification of a universal emergency procedure. The following recommendations, however, contain many of the elements that should be considered and adapted as appropriate to each individual facility. Upon discovery of a fire, staff **shall** immediately take the following action:
  - a. If any patient becomes directly involved in a fire, the staff member who discovers this situation **shall** go to the immediate aid of that patient, while calling aloud the facility's established code phrase (i.e. code red). **NOTE: *The use of a code phrase provides for both the immediate aid of any endangered person(s) and the transmission of an alarm.*** Any staff member in the area, upon hearing the code called aloud, **shall** activate the building fire alarm using the nearest manual fire alarm box.
  - b. If a patient is not directly involved in a fire, the staff member who discovers this situation **shall** activate the building fire alarm using the nearest manual fire alarm box.
  - c. Staff, upon hearing the fire alarm signal, **shall** immediately execute their duties as outlined in the facility fire safety plan.
  - d. The staff member who is responsible to monitor the fire alarm status **shall** determine the location of the fire alarm as indicated by the fire alarm signal. In a building equipped with a zoned fire alarm system, a staff member on the floor of fire origin **shall** be responsible for promptly notifying the staff member responsible for overhead paging and advise them of the specific fire location.
  - e. Upon report of a fire within the facility, a designated **staff** member **shall** immediately notify the fire department and alert all facility staff of the fire and its location.
  - f. If the building fire alarm system is out of service, any staff member or person conducting fire watch who discovers a fire **shall** immediately notify the fire department and alert the building occupants (see fire watch procedures Chapter 5).
2. Procedures to protect the lives of all patients within the facility involve five basic steps for fire emergencies. The term R.A.C.E.R. is an easy way to remember the five basic steps.

**NOTE:** *These five steps must be accomplished to successfully deal with a fire emergency. The order they are performed will vary according to the circumstances.*

- a. **Rescue** Rescue patients in immediate danger if safe for staff to do so. These actions include assessing the fire, as well as moving patient(s) in nearby rooms away from immediate danger.
- b. **Alarm** Activate the fire alarm system. This includes calling for help and/or activating a manual fire alarm box if the fire alarm system has not been activated.
- c. **Confine** Contain the fire to the room where the fire started or to the smallest area possible, if not within a room . Normally this is accomplished by closing the door to the room of the fire.
- d. **Extinguish** Put the fire out, if safely possible. Assess the fire to determine if it is small enough to be extinguished through the use of one or two portable fire extinguishers.
- e. **Relocate** Relocate all patients from the area of the fire into the nearest smoke compartment, exit enclosure, or exterior exit.

### 3. Emergency Incident Command

- a. Until the fire department arrives, the facility charge person is responsible to oversee and manage the emergency and make emergency staff assignments, which **may** include the following, depending on the nature of the emergency:
  - (1) Send assistance immediately to the fire area.
  - (2) Assign others to assist in relocating all patients in the fire area to a point beyond the nearest smoke barrier doors. **NOTE:** *This is the minimum acceptable level of occupant protection required by the Defend in Place concept.*
  - (3) Mark doors of evacuated rooms.
  - (4) Assign person(s) to clear hallways of food carts, housekeeping equipment, etc., so there will be clear access for fire equipment or for evacuation.
  - (5) Send a person outside to meet fire department personnel and direct them to the right location.
  - (6) Assign supervision of those patients requiring special attention or services, such as wandering, confused, non-alert, or mentally disturbed patients.
- b. Upon arrival of the fire department, the senior fire authority (Incident Commander) and the facility charge person **shall** coordinate their actions to ensure patient safety.

## CHAPTER 2 RELOCATION & EVACUATION PLAN

### **Policy**

Facilities **shall** have and maintain a plan for the protection of all persons in the event of fire or other emergencies which would require either relocation or evacuation. *Reference OFC Section 404; NFPA LSC 101 Section 18/19.7.*

The administrator of every hospital is responsible to have in effect and available to all supervisory staff, written copies of a plan for the protection of all persons in the event of fire for their relocation to areas of refuge, and for their evacuation from the building when necessary. All staff **shall** be instructed at the time of hire and at least annually, thereafter, with respect to their duties under the plan (reference Chapter 6). Copies of the fire safety and evacuation plan **shall** be readily available in the work place for reference and review by supervisors and staff including at constantly attended locations, such as a nurse's station, a telephone operator's position or at a security center. Copies of the plan **shall** be furnished to the fire code official upon request.

1. **Fire Safety Plan** A written fire safety plan **shall** provide for the following:
  - a. Use of alarms.
  - b. Transmission of alarm to fire department.
  - c. Response to alarms.
  - d. Isolation of fire.
  - e. Evacuation of immediate area.
  - f. Evacuation of smoke compartment.
  - g. Preparation of floors and building for evacuation.
  - h. Extinguishment of fire.
2. **Relocation within Facility (Defend in Place)** Defend in place is the process of relocating patient(s) from the smoke compartment where a fire has occurred to another protected location (smoke compartment) within the same building. The purpose of defend in place is to first remove the patient(s) from rooms that are in the immediate vicinity of the fire origin and to relocate them into an adjacent smoke compartment that is protected from the migration of products of combustion (smoke, heat, toxic gases, & flames) caused by the fire.
  - a. First Priority:
    - (1) Remove patient(s) from the room of fire origin, regardless of their mobility condition, if safe for staff to do so. **NOTE: *If this is not possible, CLOSE THE DOOR TO LIMIT THE SPREAD OF SMOKE TO OTHER AREAS.***

- (2) Remove patient(s) from room(s) adjacent to and directly across the hallway from the room of fire origin, regardless of their mobility condition.
- (3) In both situations (2. a. 1. & 2 a. 2.above), move these patients to another nearby smoke compartment. If access to another smoke compartment is not possible, move the patients into the nearest exit enclosure or out of the nearest exit. **NOTE:** If there are other patients within the same smoke compartment, close the doors to their rooms until they can be relocated as outlined in section 2. b.

b. Second Priority:

- (1) Continue to remove patients from within the affected smoke compartment until all patients have been evacuated to a point of safety in an adjacent smoke compartment. **NOTE:** *When removing patient(s) to a point of safety, no patient(s) shall be evacuated past the room of fire origin. This may require patient(s) to be evacuated to the exterior of the building or into an exit stair enclosure. However, they may reenter the building into other unaffected smoke compartments.*
- (2) The priority for relocation of patients from within the affected smoke compartment is:
  - (a) First, patients that require staff directions and/or verbal prompting only.
  - (b) Second, patients that require limited staff physical assistance (i.e. transfers).
  - (c) Third, patients that require full physical assistance by staff or are restricted to beds or gurneys.

c. Third Priority:

- (1) The facility charge person **shall** assign staff to ensure that all patients in the affected smoke zone have been relocated, and ensure those patients and other nonessential persons **DO NOT** reenter the smoke compartment. Facility administration **shall** develop a marking system to identify rooms that have been evacuated.
- (2) Ensure all corridor and smoke compartment doors are closed.
- (3) Upon arrival of the fire department, the senior fire authority (Incident Commander) is in charge. The facility charge person **shall** coordinate their actions with the Incident Commander to ensure patient and staff safety (see 3. below).
- (4) Based upon a coordinated decision between the Incident Commander and facility charge person, the entire facility may need to be evacuated.

3. **Complete Evacuation of the Facility** If an emergency continues to escalate into other smoke compartments, a complete facility evacuation may become necessary. The facility charge person **shall** refer to the facility's disaster plan manual for the appropriate protocols. **NOTE:** *If it is deemed necessary to evacuate patients to a temporary evacuation site or a*

*long-term location, the Office of State Fire Marshal shall be immediately notified (see Chapter 5).*

- a. The complete evacuation procedure **shall** include (but not be limited to) the following considerations:
  - (1) A designated person who has the authority to order evacuation.
  - (2) Which patients will be moved first.
  - (3) An outline for triage within the facility, as well as one for outside triage prior to transportation to evacuation center.
  - (4) Designated external staging area(s) where patients will be taken on a short-term basis pending return to facility or further transfers.
  - (5) Designated temporary shelter(s) where patients can be housed pending long-term disposition, if circumstances prevent return to the facility in a short-term period.
  - (6) If patient records (medical and personal information) are to be moved, how and by whom?
  - (7) What equipment and supplies must accompany the patients?
  - (8) Designated staff to remain with the evacuated patients.
  - (9) Designated long-term relocation site(s) shall be pre-identified to provide on-going patient care.
    - (a) A current signed letter of agreement between hospital and relocation site(s) **shall** be on file at the facility. Agreements **shall** be reviewed and updated as necessary, not less than once each year.
    - (b) Hospitals which choose to use long-term relocation sites that are within the same campus (same provider number) **shall** have written policies in lieu of signed letters of agreement.
  - (10) If there are financial issues related to transfer to another facility, who has the authority to negotiate payment?
  - (11) Identify means of transportation of patients to the evacuation center(s).
- b. The complete evacuation of the facility would require a step-by-step process of moving patients through a series of temporary safe areas.
  - (1) **External Staging Area** Designated staging areas outdoors away from the facility to get as many people as possible away from the hazard as quickly as possible.

- (2) **Temporary Evacuation Sites** Should be designated near the facility so that patients can be housed out of the elements during the time needed to analyze long-term options. Written agreements shall exist for temporary use of nearby schools, churches, or other buildings.
- (a) Criteria for Temporary Shelter:
- 1) Length of stay not to exceed 96 hours.
  - 2) Shall maintain a “reasonable” degree of fire and life safety.
  - 3) Building is not required to have fire sprinklers and/or fire alarm system, but **shall** maintain a fire watch.
- (3) **Long-Term Evacuation Sites** Should be pre-identified site(s) to provide on-going patient care. Options may include: transfer to another hospital, release to family members, or mass care in designated shelters. Written agreements should exist for long-term use of pre-designated sites.
- (a) Criteria for Long-Term Site:
- 1) Length of stay could exceed 96 hours to an unspecified period of time.
  - 2) Fire & life safety needs of the patients **shall** be met.
  - 3) Built-in fire protection **shall** be required along with the capability to serve critical care patients (i.e., fire sprinklers & fire suppression systems).
  - 4) Before identifying a long-term relocation site, consider possible area wide catastrophic events (i.e., earthquake, volcanic eruption, flood).
  - 5) Shall maintain an equivalent level of care.

#### 4. Evacuation Site Evaluation

- a. The hospital administrator or designee **shall** conduct an assessment of all staging and evacuation sites. Floor plans and operational diagrams **shall** be attached to the signed relocation agreements specified above.
- b. Based upon the hospital emergency preparedness plan, the letter of agreement between the facility and the evacuation site **shall** identify whether such site meets the temporary and/or long-term evacuation site criteria.

## CHAPTER 3 FIRE/EVACUATION DRILLS

### **Policy**

Emergency evacuation drills **shall** be conducted on each shift to familiarize facility staff (nurses, interns, maintenance engineers, and administrative staff) with the signals and emergency action required under varied conditions. *Reference OFC Section 408; NFPA LSC 101 Section 18/19.7.1.*

Hospital patients have, in large part, varied degrees of physical disability, and their removal from the facility or even their disturbance caused by moving is inexpedient or impractical in many cases, except as a last resort. Similarly, recognizing that there might be an operating necessity for the restraint of the mentally ill, fire exit drills are usually extremely disturbing, detrimental, and frequently impractical; however, they are still required.

1. Fire drills in hospitals **shall** include the transmission of a fire alarm signal and simulation of emergency fire conditions.
  - a. Drills **shall** be conducted quarterly on each shift to familiarize facility staff (nurses, interns, maintenance engineers, and administrative staff) with the signals and emergency action required under varied conditions.
  - b. Fire drills and fire drill critiques **shall not** be considered as employee in-service training.
2. Many hospitals conduct fire drills without disturbing patients by choosing the location of the simulated emergency in advance and by closing the doors to patient rooms or wards in the vicinity prior to initiation of the drill.
  - a. The purpose of a fire drill is to test and evaluate the efficiency, knowledge, and response of staff in implementing the hospital fire emergency plan. Its purpose is not to disturb or excite patients.
  - b. Fire drills **shall** be scheduled on a random basis to ensure that hospital staff are drilled quarterly. Drills **shall** consider the ability to move patients to an adjacent smoke compartment. Relocation can be practiced using simulated patients or empty wheelchairs/gurneys.
3. Administrative responsibilities for the conduct of fire/evacuation drills.
  - a. All hospital staff **shall** be instructed in the use of and response to fire alarms.
  - b. Staff **shall** be instructed in the use of the hospital's code phrase to ensure transmission of an alarm.
  - c. Responsibility for the planning and conducting of drills **shall** be assigned to competent persons designated to exercise leadership.

- d. Records **shall** be maintained of required fire/evacuation drills and include the following information:
    - (1) Identity of the person conducting the drill.
    - (2) Date and time of the drills.
    - (3) Notification method used.
    - (4) Staff members on duty and participating.
    - (5) Number of occupants relocated/evacuated or simulated.
    - (6) Special conditions simulated.
    - (7) Problems encountered.
    - (8) Weather conditions when occupants were evacuated.
    - (9) Time required to accomplish complete relocation/evacuation.
  - e. Where required, prior notification of fire/evacuation drills **shall** be given to the fire code official.
  - f. All patients and other building occupants **shall** be accounted for during fire/evacuation drills.
4. Fire drill/evacuation procedures.
- a. The purpose of the fire drill is to test hospital staff in the following:
    - (1) Efficiency
    - (2) Knowledge
    - (3) Response to Fire Emergencies.
  - b. Fire drill procedures are the same as for a real fire and are outlined in Chapter 1 **PROCEDURES IN CASE OF FIRE (R.A.C.E.R.)**.
  - c. Fire drills **shall** be held at **unexpected times** and on a random basis. Fire drills **shall** be conducted **under varying circumstances**, simulating actual fire conditions.
  - d. The person conducting the fire drill **shall** notify the fire alarm monitoring company **PRIOR** to the fire drill and again at **COMPLETION** of the fire drill.
  - e. A simulated fire (cloth, sign, etc.) with written description of fire problem **shall** be placed at a predetermined location.

- f. Emphasize orderly action under proper discipline, rather than speed.
- g. Drills **shall** include transmission of fire alarm signals throughout the hospital (unless otherwise approved by the fire code official). To avoid disturbing patients, drills conducted between 9 p.m. and 6 a.m. may use a coded announcement instead of an audible alarm. **NOTE: *It is recommended that at least one fire drill annually is conducted during these times using the audible fire alarm signal.***
- h. Drills **shall** include simulation of emergency fire conditions except that the movement of infirm or bedridden patients to safe areas or to the exterior of the building is not required. However, in order for fire drills to follow required procedures the facility shall simulate the evacuation of patients to adjacent smoke compartments. **NOTE: *Patients who are mobile should be removed from involved zones lest their curiosity or anxiety hamper emergency mitigation activity or cause themselves injury.*** Visitors within the hospital also need to be relocated to other zones or exterior of the building, as appropriate.
- i. Hospital written procedures **shall** require that all staff members participate during fire drills in accordance with emergency preparedness plan. Testing and fire drills require separate documentation.
- j. It is suggested that fire drills be held in conjunction with other required fire alarm tests. For example, testing a smoke detector or fire alarm pull station could serve as both the test and the fire drill.

## CHAPTER 4 SERVICING OF FIRE PROTECTION SYSTEMS & EQUIPMENT

### **Policy**

It is the responsibility of the facility owner and/or facility occupant to have all fire protection systems and equipment inspected, tested, and maintained in accordance with adopted nationally recognized standards and state regulations. Persons that are qualified, based on competence through training and experience, **shall** perform all required inspections, testing, and maintenance. Unless on-site staff are trained and qualified, the facility **shall** have all required inspections, testing, and maintenance performed by a qualified third party service provider. All required maintenance, repairs, and third party services **shall** be documented. *Reference OFC Section 901; NFPA LSC 101 Section 18/19.7.6.*

1. The following criteria **shall** be used when determining qualifications of persons who perform inspections, testing, and maintenance of fire protection systems and equipment.
  - a. **Regulations & Standards** – Persons who perform inspections, testing and maintenance of fire protection systems and equipment **shall** either have copies of or demonstrate their ability to access the regulations and standards specified in this paragraph.
    - (1) The 2007 Oregon Fire Code, effective April 15, 2007.
    - (2) Copies of NFPA Standards referenced by the Oregon Fire Code and the Life Safety Code are listed below. Examples of referenced standards most commonly used when performing inspections, testing, and maintenance of fire protections systems and equipment are as follows:
      - (a) NFPA 10 *Fire Extinguishers*
      - (b) NFPA 25 *Water Based Fire Protection Systems (Sprinklers, Standpipes, Fire Pumps, etc.)*
      - (c) NFPA 72 *Fire Alarm Systems*
      - (d) NFPA 80 *Fire Doors & Other Opening Protectives*
      - (e) NFPA 96 *Commercial Cooking Systems and Equipment*
      - (f) NFPA 99 *Health Care Facilities*
      - (g) NFPA 110 *Emergency and Standby Generators*
    - (3) If available, manufacturer’s instructions for all fire protection systems and equipment to be inspected, tested, and maintained.
    - (4) Other nationally recognized standards (i.e., ANSI, ASME, etc.) that apply to inspections, testing, and maintenance requirements.

b. **Licenses & Certifications** - Persons who perform inspections, testing, and maintenance of fire protection systems and equipment **shall** possess and maintain current, all licenses and certifications required by the state of Oregon.

(1) A copy of required licenses, certifications, etc., **shall** be kept on their person or on site while conducting inspections, testing, and maintenance of fire protection systems and equipment.

(2) If required to be licensed and/or hold a permit by a local jurisdiction, provide evidence and maintain documentation of the current license and/or permit on their person or on site.

(3) All licenses, certifications, etc., **shall** be available to the fire marshal upon request.

c. **Technician Competence** – Persons conducting inspections, testing and maintenance of fire protection systems and equipment **shall** possess documentation of training in regulations and standards specified in 1. a. **NOTE: *Examples include training through fire protection systems and equipment manufacturers, NICET, third party service providers, industry associations, NFPA, ICC, etc.***

Individuals **shall** be required to periodically review all required regulations, standards, manufacturer’s instructions, and any other nationally recognized standards that apply to inspection, testing, and maintenance of fire protection systems. These reviews are for the purpose of ensuring that individuals maintain their knowledge, skills, and abilities regarding technical specifications and procedures. These periodic reviews **shall** be documented and available to the fire marshal upon request.

On a case-by-case basis, the OSFM reserves the right to periodically review an individual’s qualifications and their knowledge, skills, and abilities related to the standards specified in this section.

2. If hospital administration determines that staff is qualified to perform inspections, testing, and maintenance procedures, they **shall** comply with the following:

a. Maintain a list of hospital staff that perform inspections, testing, and maintenance procedures. This list **shall** be available to the fire marshal upon request.

b. Maintain an agreement with a third-party service provider. The agreement **shall** be in effect for emergencies that may exceed the knowledge, skills, and abilities of the qualified hospital staff. Such agreements **shall** be maintained current and valid at all times.

c. These regulations and standards **shall** be readily available while individuals are performing inspections, testing, and maintenance of fire protection systems and equipment.

3. If hospital administration determines that inspection, testing, and maintenance procedures are to be performed by a qualified third party service, the following **shall** apply:

- a. Copies of agreements **shall** be maintained current, valid, and on site. Agreements **shall** be available to the fire marshal upon request.
  - b. It is recommended that third party service provider agreements specify the appropriate regulations and standards that will be used for inspections, testing, and maintenance of fire protection systems and equipment
  - c. Hospital administration **shall** be responsible for determining if third party service providers and staff meet the qualifications as outlined in section 1 of this chapter.
4. **Documentation** – Inspection, testing, and maintenance procedures of fire protection systems and equipment, whether performed by hospital staff or third party service providers, **shall** be documented in writing. Documentation **shall** be available for review to the fire marshal upon request.
- a. Documentation **shall** be in a format as specified in the regulations and standards as listed in Section 1. a. of this chapter.
  - b. Hospitals that use documentation programs or other methods **shall** include all required information specified in Appendix A and within the regulations and standards listed in Section 1. a. of this chapter.

## CHAPTER 5 HANDLING OF EMERGENCY OR ABNORMAL CONDITIONS

### **Policy**

Where any required fire protection system is out of service or such system is found to be in an abnormal condition, the fire department and the fire code official **shall** be notified immediately and the building **shall** either be evacuated or an approved fire watch **shall** be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. *Reference OFC Section 901.7 & Section 401.3; NFPA LSC 101 Section 9.6.1.8 & Section 9.7.6.1.*

Hospitals as designed and occupied rely on multiple fire and life safety features for redundant protection. Whenever conditions within the building do not meet the fundamental fire and life safety requirements specified in state and federal regulations, additional safeguard(s) **shall** be provided in case any **single** safeguard becomes ineffective due to inappropriate human actions or system failure.

**OFC Section 401.3 requires that all unwanted fires be reported.** Unwanted fire is defined as “a fire not used for cooking, heating or recreational purposes or one not incidental to the normal operations of the property”. For the purposes of this regulation, all fire related conditions that require staff action and/or where there are injuries, requires the hospital administrator to follow the procedures in case of fire (refer to Chapter 1) and as outlined in 1. below.

For the purposes of this section, a fire protection system that is ***out of service*** means that the system or equipment is incapable of operating as designed and installed or in accordance with standards. Examples of out of service conditions include, but are not limited to: inoperable fire alarm system, automatic sprinkler system water supply turned off, lack of fuel supply for emergency generator, etc.

For the purposes of this section, a fire protection system that is in an ***abnormal condition*** means that the system or equipment, even though it may have some limited operational capability, is not capable of providing all required functions, indications or alarms as designed and installed or in accordance with standards. Examples of abnormal conditions include, but are not limited to: trouble or supervisory signal indicators that have not been responded to and indicate on the fire alarm panel, turning off the water supply to portions of a sprinkler system for normal repair, maintenance, or testing, deactivation of the transmission of alarm signals to a monitoring station, etc.

1. **Emergency Conditions** Whenever any fire protection system or equipment is out of service due to hazardous conditions or a fire emergency, the hospital administrator or designee **shall immediately** perform the following actions:
  - a. Enact the hospital’s emergency response plan and remove all persons from harms way.
  - b. Notify the local fire department.
  - c. Implement fire watch and/or *interim life safety measures (ILSM)* as required.

- d. Once items 1. a. through c. have been completed, immediately contact the Deputy State Fire Marshal assigned to the facility. The Office of State Fire Marshal is responsible to investigate all emergencies pertaining to institutional occupancies. **It shall be the responsibility of the hospital administrator or designee to consult directly with the assigned Deputy State Fire Marshal for the purpose of his/her response to the facility, clean-up and restoration of the facility prior to his/her arrival, etc.** If unable to directly contact the assigned Deputy State Fire Marshal, call the Oregon Emergency Response System (OERS) at 1-800-452-0311, provide OERS with the name of the facility, location, and nature of emergency condition and request an Oregon State Fire Marshal supervisor. Following is a list of health care facility Deputy State Fire Marshals and their areas of responsibility:

**Keith Brown**

1713 SW Hwy 97  
Madras, OR 97741  
Ph: 541-475-0401  
Cell: 541-980-3341  
E-mail: [keith.brown@state.or.us](mailto:keith.brown@state.or.us)  
*Areas of Responsibility: Crook, Deschutes, Gilliam, Jefferson, Klamath, Lake, Sherman, Wasco, & Wheeler counties.*

**George Crosiar**

3400 Spicer Road  
Albany, OR 97322  
Ph: 541-967-2043  
Cell: 503-559-8550  
E-mail: [george.crosiar@state.or.us](mailto:george.crosiar@state.or.us)  
*Areas of Responsibility: Benton, Lane (Except the city of Florence), Lincoln, and Linn counties*

**Scott Goff**

700 SE Emigrant, Box 10  
Pendleton, OR 97801  
Ph: 541-276-4076  
Cell: 541-969-9189  
E-mail: [scott.goff@state.or.us](mailto:scott.goff@state.or.us)  
*Areas of Responsibility: Grant, Morrow, Umatilla, Union, & Wallowa counties.*

**Daniel Jones**

1502 N. Hwy 99 W  
McMinnville, OR 97128  
Ph: 503-435-0366  
Cell: 503-329-1651  
E-mail: [daniel.m.jones@state.or.us](mailto:daniel.m.jones@state.or.us)  
*Areas of Responsibility: Clatsop, Columbia, Polk, Tillamook, Washington, & Yamhill counties.*

**Ted Megert**

10526 SE Washington St  
Portland, OR 97216  
Ph: 503-731-3020 Ext. 250  
Pager: 503-301-2024  
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*Areas of Responsibility: Clackamas, Hood River, & Multnomah counties.*

**Paul Nees**

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*Areas of Responsibility: Marion county.*

**Richard Smith**

325 NE Goodfellow Street  
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Cell: 208-741-0565  
E-mail: [richard.smith@state.or.us](mailto:richard.smith@state.or.us)  
*Areas of Responsibility: Baker, Harney, & Malheur counties.*

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Cell: 541-944-5065  
E-mail: [michelle.stevens@state.or.us](mailto:michelle.stevens@state.or.us)  
*Areas of Responsibility: Coos, Curry, Douglas, Jackson, Josephine, & Lane (Only city of Florence) counties.*

2. **Non Emergency Conditions** Whenever there are required fire protection systems that are out of service or in an abnormal condition, the Deputy State Fire Marshal **shall** be notified and the building **shall** either be evacuated or an approved fire watch **shall** be provided for all occupants left unprotected by the shut down until the fire protection system has been returned to service. In addition, the following **shall** also be required:
- a. The hospital administrator **shall** assign an impairment coordinator to comply with the requirements of this section. In absence of an impairment coordinator, it is the responsibility of the administrator to fill that role.
  - b. A tag **shall** be used to indicate that a system, or portion thereof, has been removed from service.
  - c. The tag **shall** be posted at each fire department connection, system control valve, fire alarm control unit, security office, communication center, and fire command center, indicating which system, or part thereof, has been removed from service.
  - d. **Preplanned impairments shall** be authorized by the impairment coordinator. Before authorization is given, a designated individual **shall** be responsible for verifying that all of the following procedures have been implemented:
    - (1) The extent and expected duration of the impairment have been determined.
    - (2) The areas or buildings involved have been inspected and the risk has been determined.
    - (3) Recommendations have been submitted to hospital administrator or designee.
    - (4) The local fire department has been notified.
    - (5) The supervisors in the areas to be affected have been notified and alerted to all *ILSMs* implemented.
    - (6) A tag impairment system has been implemented.
    - (7) Necessary tools and materials have been assembled on the impairment site.
  - e. When **unplanned impairments** occur, appropriate emergency action **shall** be taken to minimize potential injury and damage. The impairment coordinator **shall** implement the steps outlined under d. above.
  - f. When impaired equipment is restored to normal working order, the impairment coordinator **shall** verify that all of the following procedures have been implemented:
    - (1) Necessary inspections and tests have been conducted to verify that affected systems are operational.
    - (2) Supervisors have been advised that protection is restored.

- (3) The local fire department has been advised that protection is restored.
- (4) The impairment tag has been removed.

### 3. Fire Watch

- a. Person(s) who are responsible to conduct fire watches:
  - (1) **Shall** be provided with at least one approved means for notification of the local fire department, and
  - (2) Their only duty **shall** be to perform constant patrols of the affected areas of the facility and to keep watch for fires.
- b. When the **fire sprinkler system** is the only inoperable fire protection system, individual(s) assigned fire watch duties **shall** complete a total walk-through of all affected areas not less than once every **30 minutes**.
- c. When the **fire alarm system** is inoperable, individual(s) assigned fire watch duties **shall** complete a total walk-through of all affected areas not less than once every **15 minutes**.
- d. Fire watch rounds **shall** be documented in the facility records, kept on premises and available to the fire marshal upon request. Documentation **shall** be in an approved format.

4. **Interim Life Safety Measures** Interim life safety measures (ILSMs) are intended to provide alternative fire protection safe guards when built-in fire safety features are either out of service or have become ineffective. NOTE: ILSM plan shall be documented in writing and approved by the fire code official prior to implementation (Ref. OFC Section 404.1). These plans shall also be maintained at the facility and available for review upon request.

At a minimum, ILSMs shall include the following:

- a. Assessment of associated hazards.
- b. Equivalent exiting.
- c. Protection of all occupants from fire and smoke.
- d. Fire protections systems and equipment maintained affective or an approved alternative.
- e. The construction features of the facility shall be maintained or an approved alternative.

Interim life safety measures that hospital administrators shall address within ILSM plans include but are not limited to the following:

- a. Providing additional exits.

- b. Installing specialized fire protection.
- c. Conducting additional staff training.
- d. Providing increased staffing.
- e. Building temporary construction and/or fire barriers.
- f. Providing additional emergency lighting within the means of egress.
- g. Revising of the hospital's emergency evacuation plans.

*ILSMs* **shall** be documented in writing, maintained at the facility, and available for review upon request by the fire code official.

## CHAPTER 6 STAFF IN-SERVICE FIRE SAFETY TRAINING PROCEDURES

### **Policy**

All staff **shall** receive fire safety training as part of new employee orientation and at least annually thereafter. *Reference OFC Section 406; NFPA LSC 101 Sections 18/19.7.2.3 & 18/19.1.3.*

Hospital administration **shall** implement a staff educational program. This program **shall** include an overview of the components of the hospital emergency preparedness plan including concepts of the incident command system.

1. Education concerning the staff's specific duties and responsibilities **shall** be conducted as follows:
  - a. **Prior to reporting** to their newly assigned departments or positions, staff **shall** be instructed in the use of and response to fire alarms. In addition, they **shall** be instructed in the use of the code phrase to ensure transmission of a fire alarm.
  - b. **Within thirty days** of hire, staff **shall** be trained in fire prevention, evacuation, and fire safety. Staff **shall** also be trained in the fire emergency procedures described in their fire evacuation and fire safety plans. Training **shall** be based on these plans.
  - c. **Not less than once each year**, all staff **shall** be required to demonstrate competence in the subject content areas listed in Section 4. of this chapter.
2. All in-service training **shall** be documented on approved forms.
3. Determination of Staff Competence
  - a. Staff training programs **shall** be designed to meet the listed competencies in Section 4 of this chapter.
  - b. Hospitals **shall** have policies regarding staff attendance and compliance with the listed competency areas.
  - c. Staff **shall** receive sufficient training to be capable of meeting the subject content in the manner listed in the competencies in section 4 of this chapter.
4. Fire & Life Safety Competencies

***NOTE: Refer to Appendix C; specifically the video tape series by Media Resources. This series addresses the following competencies.***

- a. Fire Prevention
  - (1) Staff **shall** be instructed in the proper procedures for preventing fires in the conduct of the assigned duties.

- (2) Staff **shall** identify at least three common types of ignition sources that cause fires, and describe several places where they are likely to be found.

b. Evacuation Training

- (1) Staff **shall** be familiarized with the fire alarm and evacuation signals, their assigned duties in the event of an alarm or emergency, evacuation routes, areas of refuge, exterior assembly areas, and procedures for evacuation.
- (2) Staff **shall** explain why staff members need to participate in fire evacuations
- (3) Staff **shall** list the characteristics/properties of smoke and describe its dangerous affects.
- (4) Staff **shall** list and describe fire safety features of the hospital and their proper use (i.e., fire sprinklers, fire alarms & detection, doors, etc.).
- (5) Staff **shall** describe the emergency relocation and evacuation plan for the hospital.
- (6) Staff **shall** list the five basic steps for “R.A.C.E.R.” and explain the procedures of both relocation (defend in place) and complete evacuation of the hospital.
- (7) Staff **shall** describe how to assess fire and smoke conditions prior to approaching a fire to attempt extinguishment or rescue.
- (8) Staff **shall** describe how to move patients to a safe area of refuge.

c. Fire Safety

- (1) Staff assigned fire-fighting duties **shall** be trained to know the locations and proper use of portable fire extinguishers or other manual fire-fighting equipment and the protective clothing or equipment required for its safe and proper use.
- (2) Staff **shall** demonstrate how to extinguish a fire involving a patient.
- (3) Staff **shall** describe the “PASS” procedure for using a fire extinguisher.

d. Emergency Preparedness

- (1) Staff **shall** describe their responsibilities as outlined in the hospital’s emergency preparedness plan.
- (2) Staff **shall** be familiarized with how the emergency preparedness plan will be activated and terminated.
- (3) Staff **shall** demonstrate their duties and assignments as outlined in the hospital’s emergency preparedness plan.
- (4) Staff **shall** describe their position in the hospital’s incident command system, including who they report to during an emergency.

## CHAPTER 7 EMERGENCY PREPAREDNESS

### **Policy**

Emergency preparedness plans **shall** be prepared and maintained by the facility. Such plans **shall** be reviewed or updated annually or as necessitated by changes in staff assignments, occupancy, or the physical arrangement of the building. Fire safety and evacuation plans **shall** be available in the workplace for reference and reviewed by staff during staff in-service training. Copies **shall** be furnished to the fire code official for review upon request. *Reference OFC Chapter 4; NFPA LSC 101 Section 18/19.7.1.1; NFPA 99 Chapter 11.*

Hospitals are expected to provide medical care during an emergency and to maintain services for patients during disasters. As such, hospitals **shall** develop and be prepared to implement an emergency preparedness plan. This chapter provides those with the responsibility for emergency management planning in hospitals with a framework to assess, mitigate, prepare for, respond to, and recover from disasters and to aid in meeting requirements for having an emergency management plan.

1. When a facility declares itself in a disaster mode, or when the governmental agency declares a state of disaster exists, the emergency management plan **shall** be activated. Planning **shall** be based on realistic conceptual events and operating capacity thresholds that necessitate activation of the plan.
2. The decision to activate the emergency management plan **shall** be made by the authority designated within the plan, in accordance with the hospital's activation criteria. The decision to terminate **shall** be made by the facility's designated authority in coordination with the declaring governmental agency.
3. By basing the planning of hospital emergency management on realistic conceptual events, the plan reflects those issues or events that are predictable for the environment the organization operates in. Thus, such conceptual planning should focus on issues, such as severe weather typical in that locale; situations that can occur due to close proximity of industrial or transportation complexes; or earthquake possibilities due to local seismic activity. Planning for these events should also focus on the capacity of the hospital to provide services during such an emergency. Capacity thresholds are different for all hospitals based on issues such as the availability of emergency departments, operating suites and operating beds, as well as logistical response and building utilities. There is no way to plan for all possible emergencies, but by focusing on logical conceptual events and operating capacity thresholds, the hospital can develop realistic plans as well as guidelines for staff to operate within those plans.
4. Plan Development
  - a. The purpose of this chapter is to assist hospital administrators with the development and evaluation of their individualized emergency preparedness plans. The following are prioritized goals for emergency preparedness:
    - (1) Prevent loss of life.

- (2) Prevent or mitigate trauma to patients and other occupants.
  - (3) Maintain hospital services to the greatest extent possible, given the severity of the disaster.
  - (4) Prevent or minimize property loss.
- b. The first step of emergency planning is to conduct an analysis of potential local hazards that could create a need for emergency evacuation of the hospital. The following items should be considered when developing a hazard inventory: **This list is not intended to be all inclusive.**
- (1) Location of the hospital relative to special hazards which may be identified by public agencies.
  - (2) Location of the hospital downstream from a dam or behind a dike where failure might cause flooding.
  - (3) Location where a damaging earthquake and/or tsunami can be expected.
  - (4) Proximity to nuclear power sites or to hazardous materials dumpsites and storage areas.
  - (5) Location of hospital in relationship to being in or near airport flight patterns.
  - (6) Proximity to industrial sites where accidents involving hazardous materials pose risk.
  - (7) Location in areas where wildland fires could affect the hospital.
  - (8) The risk of fires within or near the building.
  - (9) Risk from windstorms, heavy rains, etc..
  - (10) Possibility of power/utilities/phone disruption in the area.
  - (11) Problems related to access to the hospital in case of flooding, snowstorm, bridge closure, mud slides, forest fires, etc..

It is recommended that hospital administrators responsible for emergency planning and hazard analysis contact their local (city or county) emergency manager. Examples of other information sources which may be capable of assisting in conducting this analysis include the following: Local Fire Department, Law Enforcement Agency (police department, sheriff's office, Oregon State Police), Office of State Fire Marshal, Natural Resources Agencies (Oregon Department of Forestry, US Forest Service, Bureau of Land Management), other state and federal agencies (Oregon Emergency Management, US Geological Survey), other information resources may be available through internet, library, etc.

- c. Following the analysis conducted in section 4. b., a written plan for responding to all identified hazards **shall** be developed. Since hospitals may not have the same set of problems and resources, each emergency evacuation plan shall be tailored to the hospital's hazard analysis.
  - d. To assist hospital administrators with evaluating the compliance of their emergency preparedness plans, a check list has been developed by the Oregon State Fire Marshal's office. See Appendix F for a comprehensive check list which covers all requirements of federal (CMS/CFR) and state (OSFM/OFC) regulations. For an electronic version of this check list refer to OSFM website [www.oregon.gov/osp/sfm](http://www.oregon.gov/osp/sfm).
5. **Documentation** – Emergency Preparedness Plan shall be documented in writing and be available for review to the fire marshal upon request. Documentation **shall** be in a format approved by the fire marshal. Refer to Appendix A # 7.

## CHAPTER 8 MAINTENANCE, CONSTRUCTION, & REPAIR OPERATIONS

### **Policy**

Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, or any other feature is required for compliance or otherwise installed, such device, equipment, system, condition, arrangement, level of protection, or other feature **shall** be continuously maintained in accordance with the Oregon Fire Code and applicable referenced standards. *Reference OFC Section 107.1; NFPA LSC 101 Section 4.5.7.*

The goal of fire & life safety regulations is to provide an environment for the occupants that is reasonably safe from fire and similar emergencies by the following means:

- Protection of occupants not intimate with the initial fire development.
  - Improvement of the survivability of occupants intimate with the initial fire development.
1. **Occupant Protection** A structure **shall** be designed, constructed, and maintained to protect occupants who are not intimate with the initial fire development for the time needed to evacuate or relocate (defend in place).
  2. **Structural Integrity** Structural integrity **shall** be maintained for the time needed to evacuate or relocate (defend in place) occupants who are not intimate with the initial fire development.
  3. **Systems Effectiveness** Systems **shall** be effective in mitigating the hazard or condition for which they are being used, **shall** be reliable, **shall** be maintained to the level at which they were designed to operate, and **shall** remain operational at all times.
  4. **Maintenance** All devices, equipment, systems, conditions, arrangements, levels of protection, or other features **shall** be maintained unless regulations exempt such maintenance. No newly constructed or existing building **shall** be occupied in whole or in part in violation of the provisions of fire & life safety regulations unless all of the following conditions exist:
    - a. A plan of correction has been approved.
    - b. The occupancy classification remains the same.
    - c. No serious fire and life safety hazard exists as judged by the fire code official.
  5. **Construction, Repair, and Improvement Operations**
    - a. Buildings or portions of buildings **shall** be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures acceptable to the fire code official are in place.

- b. In buildings under construction, adequate escape facilities **shall** be maintained at all times for the use of construction workers. Escape facilities **shall** consist of doors, walkways, stairs, ramps, fire escapes, ladders, or other approved means or devices arranged in accordance with the general principles of fire & life safety regulations insofar as they can reasonably be applied to buildings under construction.
- c. Flammable/explosive substance or equipment for repairs/alterations **shall** be permitted in a building while the building is occupied if the condition of use and safeguards provided do not create any additional danger or impediments to egress beyond the normally permissible conditions in the building.
- d. Equipment requiring periodic testing or operation to ensure its maintenance **shall** be tested and operated as specified in fire & life safety regulations or as directed by the fire code official.
- e. Maintenance and testing **shall** be under the supervision of a responsible person who **shall** ensure that testing and maintenance are provided at specified intervals in accordance with the Oregon Fire Code, applicable NFPA standards, or as directed by the fire code official.
- f. For additions, remodels, and construction related projects also refer to the Construction Project Guide as published by the Department of Human Service.

## CHAPTER 9 DOCUMENTATION

### **Policy**

Documentation **shall** be in an approved format that clearly indicates all information as required by the standards. Documentation **shall** provide all information as required by the Oregon Fire Code or specific NFPA Standards. *Reference OFC 405/901.6.2; NFPA 101 Sections 9.6.1.7 & 9.7*

#### **1. Documentation Retention**

- a. Documentation of hospital-performed inspections and tests, third party inspections, testing and maintenance records of fire protection systems and equipment, **shall** be kept in a permanent file on the premises for the life of the building.
- b. Fire evacuation drills, and staff in-service training reports, and fire watch logs **shall** be kept in a permanent file on the premises for a minimum of three (3) years.
- c. All documentation **shall** be available on site for periodic review by the fire code official upon request.

**2. Quality Assurance Review** All required documentation listed in section 1 of this chapter **shall** be reviewed for quality assurance monthly. The purpose of these reviews is to ensure the reliability of fire protection and life safety for the facility.

**3. Forms** Publishers, trade associations, etc., have created forms for documenting inspections, testing, and maintenance of fire protection systems and equipment. Refer to Appendix A for examples of documentation acceptable to the Office of State Fire Marshal.

## **APPENDIX A**

### **SAMPLE DOCUMENTATION**

This appendix contains examples of documents for the user's convenience. Alternative documentation that collects equivalent information is acceptable. For fire protection systems and equipment not included on these forms, refer to applicable NFPA standards and manufacturer's guidelines.

1. Fire Protection Systems Inspections
2. Testing and Inspection Log
3. Emergency Evacuation Drills (Fire Drills)
4. Fire and Life Safety Training
5. Fire Watch Documentation
6. Fire Watch Log
7. Training & Exercising the Emergency Preparedness Plan

## **FIRE PROTECTION SYSTEMS INSPECTION** **(For Inspections Conducted More Frequently Than Once Each Year)**

The following tests and inspections **shall** be performed and documented:

### **Fire Alarm System**

1. Visually check the fire alarm control panel **weekly** in accordance with NFPA 72, Chapter 10.
2. Test the fire alarm system **monthly** on emergency backup power (battery or generator).

### **Fire Sprinkler System**

1. Visually check automatic fire sprinkler system **weekly** in accordance with NFPA 25.
2. Test all tamper switches **weekly** to ensure they activate an audible and visual signal at the fire alarm control panel.
3. Perform a water-flow test of wet system fire sprinklers **quarterly** in accordance with NFPA 25.

### **Fire Extinguishers**

1. Visually check fire extinguishers **monthly** in accordance with NFPA 10, Chapter 4. Date and sign the tag that is affixed to each fire extinguisher.

### **Generator**

1. Check generator **weekly** in accordance with NFPA 110, Appendix A.
2. Run emergency generator **monthly** under load for a minimum of 30 minutes in accordance with NFPA 110, Appendix A. Document run time from generator hour meter.

### **Other Fire Protection Features & Devices**

1. Test all egress doors equipped with locking devices **monthly**.
2. Test all fire and smoke doors **monthly** to ensure they close and latch in accordance with NFPA 80.
3. Other water-based fire protection devices (standpipes, fire pumps) shall be tested based on frequencies specified in NFPA 25.

***Note: Specific testing, inspection results, and deficiencies shall be documented on an inspection and testing log. See example on next page.***



**EMERGENCY EVACUATION DRILLS (FIRE DRILLS)**

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Shift:**     Day         Swing         Night        **Type of Drill:**     Fire         Evacuation

**Number of Occupants Evacuated:** \_\_\_\_\_ **Time to Complete Evacuation:** \_\_\_\_\_

**Notification Method Used:**         Audible Alarm         Coded Announcement  
*(Only for drills between 9 p.m. & 6 a.m.)*

**Weather Conditions:** \_\_\_\_\_

**Problems Noted With Evacuation:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Type of Incident Simulated:** \_\_\_\_\_

**Location of Incident:** \_\_\_\_\_

**Comments on Staff Performance:** \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**Staff Participating**

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ *Person Conducting Drill*

\_\_\_\_\_ *Administrator*

**FIRE AND LIFE SAFETY TRAINING**

**Date:** \_\_\_\_\_ **Time:** \_\_\_\_\_

**Person(s) Conducting Training:** \_\_\_\_\_

**Type of Training:**       All Staff In-Service                       New Employee Orientation  
                                  Shift                       Day                       Swing                       Night

*Note: If training was performed for a specific shift, please indicate.*

**List Competencies Covered in Training Topics:** (Refer to Chapter 6 of this manual.)

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

**Participating Staff Signatures**

CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____
CO/NI _____	CO/NI _____

An evaluation of employee competence **shall** be indicated using the following criteria:

**CO** (Competency Observed) The individual is able to demonstrate the required knowledge and/or skill without assistance.

**NI** (Needs Improvement) The individual is either unable to demonstrate the requisite knowledge and/or skill or requires considerable coaching and/or assistance in order to complete the competencies.

**FIRE WATCH DOCUMENTATION**

Date: \_\_\_\_\_ Shift:  Day  Swing  Night

Responsible Person(s): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Type & Number of Communication Device(s) Utilized:

- Cell Phone \_\_\_\_\_
- Portable Radio (In communication with whom?) \_\_\_\_\_  
\_\_\_\_\_
- Other (Describe) \_\_\_\_\_

Affected Areas of the Facility (Describe) \_\_\_\_\_

Fire watch interval:  15 minute (Fire Alarm System)  
 30 minute (Sprinkler Systems &/or other hazardous conditions)

**ATTEST STATEMENT**

The above listed responsible person(s) have been designated as a fire watch, due to abnormal fire & life safety conditions and/or fire protection systems and equipment that are out of service. As such, during the fire watch these individuals performed constant patrols of the affected area(s) of the facility to keep watch for fires. In addition, these individuals had no other assigned duties other than performance of required duties for fire watch.

*The person in charge of the facility during this shift shall sign below as an attest that the above listed responsible persons have complied with the requirements for a fire watch.*

Signature/Title: \_\_\_\_\_  
Administrator/Charge Nurse/Other Person in Charge

*See Fire Watch Log Next Page*



## TRAINING & EXERCISING THE EMERGENCY PREPAREDNESS PLAN

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

Exercise:            Rehearsed             Table Top             Exercise Date: \_\_\_\_\_

**NFPA 99, 1999 Edition, Chapter 11 Section 11-5.3.9 Drills.** Each organizational entity shall implement one or more specific responses of the emergency preparedness plan at least semi-annually. At least one semi-annual drill shall rehearse mass casualty response for health care facilities with emergency services, disaster receiving stations, or both.

Drills must be conducted on all portions of the plan. One per year may be a table top exercise and one exercise must be a rehearsal.

### Participants


Exercise Completed	Action	Hazard/Disaster/Emergency
	Code Green	Missing resident/elopement
	Evacuation-Emergency (partial or full)	Fire, explosions, chemical spills, gas leaks, industrial accidents, plane crash, terrorism, bombs, armed intruder, dam or levee failures, etc.
	Evacuation-Post Emergency (full)	All of the above, as appropriate, plus impaired building integrity, post sheltering-in-place, etc.
	Building Security	Threats of intruders or other acts of violence, bomb threat calls, community/mob threat or incident requiring security of the facility for resident safety, or recommendation of law enforcement to secure the facility.
	Building Ventilation	Volcanic eruption, external chemical spills, or bio-terrorism.
	Understaffing	Community, extreme weather, natural disaster, or infectious incidents affecting ability to secure appropriate staffing.
	Internal Search	Bomb threats, internal chemical events, intruders, theft, missing resident or elopement.
	Infectious Events	Pandemic influenza, Norovirus, bio-terrorism, etc.
	Outages	Loss of electric, heat, air conditioning, gas, water, sewage, pharmacy or food services.
	Armed Intruder	Staff management of armed intruders until law enforcement arrives.
	Weather-Related	Tornado, hurricane, windstorm, severe cold weather, heat waves, etc.

Comments on Staff Performance: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## APPENDIX B FIRE & LIFE SAFETY REFERENCES

As a minimum, it is **recommended** that all facilities have on-site the following standards and codes adopted by the state of Oregon and the federal government for hospitals. **NOTE: The editions of the NFPA Standards listed below are those adopted by CMS under the 2000 edition of the Life Safety Code. Later editions may be adopted by the Oregon Building or Fire Code. Check with your area Deputy State Fire Marshal for appropriate standard.**

- |   |   |
|---|---|
| ↪ Oregon Fire Code (2007)   | ↪ NFPA 25 Standard for the Inspection, Testing, & Maintenance of Water-based Fire Protection Systems (1998 Edition) |
| ↪ Oregon Structural Specialty Code (2007)                         |   |
| ↪ Oregon Mechanical Specialty Code (2007)                         | ↪ NFPA 70 National Electrical Code (1999 Edition)   |
| ↪ NFPA 101 Life Safety Code (2000 Edition)                        | ↪ NFPA 72 National Fire Alarm Code (1999 Edition)   |
| ↪ NFPA 99 Health Care Facilities (1999 Edition)                   | ↪ NFPA 80 Fire Doors & Other Opening Protectives (1999 Edition)   |
| ↪ NFPA 10 Standard for Portable Fire Extinguishers (1998 Edition) | ↪ NFPA 110 Standard for Emergency & Standby Power Systems (1999 Edition)  |
| ↪ NFPA 13 Installation of Sprinkler Systems (1999 Edition)        | <i>NOTE: If facility has a generator.</i>   |

The following are locations where the above codes and standards can be purchased:

International Code Council  
4051 W. Flossmoor Rd.  
Country Club Hills, IL 60478-5795  
Phone 1-800-786-4452  
FAX 1-866-891-1695

National Fire Protection Association  
1 Batterymarch Park  
PO Box 9101  
Quincy, MA 02269-9101  
Phone 1-800-344-3555

Building Tech Bookstore, Inc.  
8020 SW Cirrus Drive  
Beaverton, OR 97008-5986  
Phone 1-800-275-2665  
FAX 503-641-0770

Oregon Building Officials Association  
PO Box 68  
Silverton, OR 97381  
Phone 503-873-1157  
FAX 503-873-9389

Chemeketa Bookstore  
4000 Lancaster Drive NE  
Salem, OR 97305  
Phone 503-399-5131

Fire Service Bookstore  
727 Center St NE, Ste 300  
Salem, OR 97301  
Toll Free 1-800-342-2034  
Local 503-365-0700

## APPENDIX C TRAINING RESOURCES

- ◆ Media Resources, Inc.  
2614 Fort Vancouver Way  
Vancouver, WA 98661  
Phone 1-800-666-0106
- ◆ National Fire Protection Association  
1 Batterymarch Park  
PO Box 9101  
Quincy, MA 02269-9101  
Phone 1-800-344-3555
- ◆ Oregon Occupational Safety & Health Division  
350 Winter St NE, Room 430  
Salem, OR 97310  
Phone 1-888-292-5247
- ◆ Office of State Fire Marshal  
4760 Portland Road NE  
Salem, OR 97305  
Phone 503-378-3473

The following training videos may be checked out from the Office of State Fire Marshal by calling 503-934-8257 or e-mail [gayle.johnson@state.or.us](mailto:gayle.johnson@state.or.us).

- ◆ *Understanding Fire Protection*
- ◆ *Responding to a Fire*
- ◆ *Moving Patients to Safety*
- ◆ *Extinguishing Fires*
- ◆ *Preventing Fires*
- ◆ *Evacuation in Health Care Facilities*

The Office of State Fire Marshal offers periodic specialized training workshops. Contact the Deputy State Fire Marshal for your area regarding information pertaining to workshops or visit our website at [www.oregon.gov/osp/sfm](http://www.oregon.gov/osp/sfm).

Your local fire department or fire district may have additional information, fire safety classes, and other resources.

## **APPENDIX D SMOKING POLICY**

Smoking policies **shall** be created by all facilities and the policies **shall** be enforced.

A fire-risk assessment **shall** be conducted for all new patients who smoke and a reassessment **shall** be conducted when renewing an oxygen prescription or at any time there is a significant change in the patient's abilities.

Control of ignition sources (such as lighters and matches) is critical to the prevention of fires and elimination of burn injuries. Facility policies shall in all cases specify how staff will monitor who has possession of ignition sources both during patient use, as well as when not in use. Facility policies shall establish adequate controls to ensure that ignition sources are secured in a manner that minimizes the potential for injury to residents and for unwanted ignition of combustibles.

Smoking areas are to be kept clean of all discarded smoking materials, and provided receptacles are to be used.

The Oregon legislature passed a smoke free workplace law in June 2007. The new law will prohibit smoking within 10 feet of entrances, exits, windows that open, and ventilation intakes.

**High-Risk Patients.** High-risk patients are those that exhibit unsafe clinical, physical or behavioral traits involving smoking, such as:

- (a) Attempting to hide their smoking materials or activities from staff.
- (b) Having a history of non-compliance with smoking rules.
- (c) Smoking in a patient sleeping room or other areas designated as non-smoking areas.
- (d) Unable to retrieve a dropped cigarette.
- (e) Unable to obtain and operate a fire extinguisher to extinguish a fire started as a result of smoking.
- (f) Use of supplemental oxygen
- (g) Short term memory problems
- (h) Presence of tremors or uncontrollable movements of the body.
- (i) Use of medications that cause drowsiness.
- (j) Any conditions that could result in causing a burn or fire injury to themselves or others.

Patients, family members, and visitors of these high-risk patients **shall** be instructed by staff that smoking materials may not be kept in the room of, or on the person of, these high-risk patients. Patients, family members and visitors are to be requested to acknowledge that they understand this requirement by signing a facility-developed smoking fire hazard awareness form.

**Smoking and Oxygen Use:** Oxygen is not flammable, it is an accelerator. Oxygen increases the speed at which things burn once a fire starts. Nearly all materials, even metals, will burn vigorously in oxygen enriched environments. The air we breathe contains approximately 21%

oxygen and most materials are tested for safety at that concentration. When pure oxygen is flowing near clothing, furniture, hair, and other materials they absorb the oxygen and become more susceptible to burning. "No Smoking" **shall** be enforced at a facility where oxygen is used. Even if it is not being used at a particular moment, the environment is still oxygen enriched and a fire can develop quickly. Keep open flames and smoking materials away from oxygen therapy equipment to prevent fatal fires.

When there is potential or identified conflict between the patient's right to smoke and/or the patient's continued smoking while using oxygen and the risk of harm to self or others, the provider(s) or others are to conduct a reassessment of the patient's smoking abilities. **In all cases patient safety will outweigh their right to smoke.**

Oxygen cylinders and other oxygen delivery equipment are not permitted within 20 feet of smoking shelters or smoking areas.

Patient **shall** be instructed to remove the mask or canula, shut-off the oxygen supply, and wait for oxygen to dissipate for a minimum of five minutes prior to smoking. Studies have shown oxygen can remain in material and clothing for up to 20 minutes.

"No Smoking, Oxygen in Use" and "No Oxygen Equipment, Smoking Area" signs **shall** be posted.

Patients and visitors **shall** be given educational materials regarding the hazards of smoking and using an open flame near oxygen.

Most patients on oxygen use a nasal canula. Nasal canula tubing is a polyvinyl chloride product which, when ignited, emits an intense flame. The prongs of a canula are intended to direct oxygen into the nose; however a significant amount of oxygen exits the nose and constantly leaks out and bathes the lower face. An oxygen-enriched environment facilitates ignition and combustion of any material. The cause of flash burns to patients are related to the inherent flammability of the canula tubing as the fuel, the flame of the cigarette lighter as the heat source, and oxygen flowing through the canula as the oxidizer. Patients who smoke while on oxygen expose themselves to a significant and avoidable burn injury risk.

**DANGER:** Oxygen causes rapid burning. Do not smoke within 5 minutes of operating your oxygen concentrator or when you are near a person utilizing oxygen therapy. Do not use oxygen concentrators within 20 feet of hot, sparking objects or sources of flame.

Oregon Fire Code 2007 Edition  
SECTION 310  
SMOKING

**310.1 General.** The smoking or carrying of a lighted pipe, cigar, cigarette or any other type of smoking paraphernalia or material is prohibited in the areas indicated in this section.

**310.2 Prohibited areas.** Smoking shall be prohibited where conditions are such as to make smoking a hazard, and in spaces where flammable or combustible materials are stored or handled.

**310.3 “No Smoking” signs.** The fire code official is authorized to order the posting of “No Smoking” signs in a conspicuous location in each structure or location in which smoking is prohibited. The content, lettering, size, color and location of required “No Smoking” signs shall be approved.

**310.4 Removal of signs prohibited.** A posted “No Smoking” sign shall not be obscured, removed, defaced, mutilated or destroyed.

**310.5 Compliance with “No Smoking” signs.** Smoking shall not be permitted nor shall a person smoke, throw or deposit any lighted or smoldering substance in any place where “No Smoking” signs are posted.

**310.6 Ash trays.** Where smoking is permitted, suitable noncombustible ash trays or match receivers shall be provided on each table and at other appropriate locations.

**310.7 Burning objects.** Lighted matches, cigarettes, cigars or other burning object shall not be discarded in such a manner that could cause ignition of other combustible material.

NFPA 99 1999 Edition  
Standard for Health Care Facilities

**9.6.1.1 Elimination of Sources of Ignition.**

**9.6.1.1.1** Smoking materials (e.g., matches, cigarettes, lighters, lighter fluid, and tobacco in any form) shall be removed from patients receiving respiratory therapy.

**9.4.2.9** Smoking, open flames, electric heating elements, and other sources of ignition shall be prohibited within storage locations and within 6.1 m (20 ft) of outside storage locations.

**9.6.3.2\* Signs.**

**9.6.3.2.1** In health care facilities where smoking is not prohibited, precautionary signs readable from a distance of 1.5 m (5 ft) shall be conspicuously displayed wherever supplemental oxygen is in use and in aisles and walkways leading to that area; they shall be attached to adjacent doorways or to building walls or be supported by other appropriate means.

**9.6.3.2.2** In health care facilities where smoking is prohibited and signs are prominently (strategically) placed at all major entrances, secondary signs with no-smoking language shall not be required.

**9.6.3.2.3** The nonsmoking policies shall be strictly enforced.

NFPA 101 2000 Edition  
Life Safety Code

**New/Existing Healthcare Facilities:**

**18/19.7.4\* Smoking.** Smoking regulations shall be adopted and shall include not less than the following provisions:

- (1) Smoking shall be prohibited in any room, ward, or compartment where flammable liquids, combustible gases, or oxygen is used or stored and in any other hazardous location, and such areas shall be posted with signs that read NO SMOKING or shall be posted with the international symbol for no smoking.
- (2) In health care occupancies where smoking is prohibited and signs are prominently placed at all major entrances, secondary signs with language that prohibits smoking shall not be required.
- (3) Smoking by patients classified as not responsible shall be prohibited.
- (4) The requirement of 18.7.4(3) shall not apply where the patient is under direct supervision.
- (5) Ashtrays of noncombustible material and safe design shall be provided in all areas where smoking is permitted.
- (6) Metal containers with self-closing cover devices into which ashtrays can be emptied shall be readily available to all areas where smoking is permitted.

**A.18/19.7.4** The most rigid discipline with regard to prohibition of smoking might not be nearly as effective in reducing incipient fires from surreptitious smoking as the open recognition of smoking, with provision of suitable facilities for smoking. Proper education and training of the staff and attendants in the ordinary fire hazards and their abatement is unquestionably essential. The problem is a broad one, varying with different types and arrangements of buildings; the effectiveness of rules of procedure, which need to be flexible, depends in large part on the management.

**APPENDIX E**  
**INTERPRETATIONS AND TECHNICAL ADVISORIES**

1. Technical Advisory No. 06-01 *Use of Electrical Equipment in Licensed Care Facilities*
2. Technical Advisory No. 07-01 *Use of Small Electrical Cooking Appliances in Non Residential Occupancies*
3. Technical Advisory No. 07-02 *Protection of Existing Cooking Equipment That Create Grease-Laden Vapors (Pre November 1994)*
4. Technical Advisory No. 07-03 *Requirements for Emergency or Standby Power Supplies Including Duration*
5. *Liquid Oxygen Trans-filling Regulations in Health Care Facilities*
6. *CMS Survey & Certification Policy Letters [Policy & Memos to States & Regions](#)*  
*(Note: When conducting Fire & Life Safety surveys, the Office of State Fire Marshal is obligated to give consideration to these policies. However, the Office of State Fire Marshal may be more restrictive based on Oregon laws and rules.)*



## OREGON FIRE CODE

### Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

**Date:** January 23, 2006

**Ruling:** Technical Advisory No. 06-01

**Subject:** Use of Electrical Equipment in Licensed Care Facilities

**Code Reference:** Electrical equipment shall comply with *Oregon Fire Code* (OFC Section 605, the Life Safety Code (NFPA 101), National Electrical Code (NFPA 70), and the Standard for Health Care Facilities (NFPA 99).

**Content:** Definitions: For the purposes of this technical bulletin, the following definition shall apply.

- **Electrical equipment** as defined by the *OFC* Section 605 and NFPA 70 includes but is not limited to portable appliances (hair dryers, coffee makers, battery chargers, etc.), stationary appliances (refrigerators, microwave ovens, etc.), extension cords, relocatable power taps (plug strips, surge protectors, etc.), and multi-plug adapters (cube adapters, strip plugs, multi-plug extension cords, etc.).

**NOTE:** Electrical equipment and devices that are affixed to the structure and/or integrally incorporated into the facility are not within the scope of this technical bulletin.

Regulations: The following regulations shall be followed where electrical equipment is being used within health care facilities.

1. Electrical equipment is to comply with the manufacturer's requirements specified in Chapter 9 of NFPA 99 and is to be listed for their intended use. In health care facilities, all appliances shall either be listed for their intended use **OR** shall be subject to an evaluation to determine compliance with Chapters 7 and 9 of NFPA 99.
2. Electrical equipment is to comply with the performance, maintenance, and testing requirements of Chapter 7 of NFPA 99 and be used in accordance with their listing. The manufacturer's instructions conform to the listing organization's (UL, Factory Mutual, etc.) testing guidelines and are to be followed by the facility.
3. Electrical equipment provided by the facility shall conform to Section 7-6.2.1.1 of NFPA 99.

**NOTE:** Facilities shall establish written policies regarding use of electrical equipment not provided by the facility that conforms to Section 7-6.2.1.11 of NFPA 99.

4. Electrical equipment such as but not limited to extension cords, relocatable power taps, surge suppressors, etc., shall not be affixed to the structure of facilities in any manner that requires use of tools or specialized devices to provide access. Such installation is in conflict with the requirements of Section 400.8 of the NEC (NFPA 70).
5. **Use of Electrical equipment in Areas WHICH ARE classified as Patient Care Areas:** Electrical equipment that is intended to be used in patient care areas shall be tested, evaluated, and periodically inspected in accordance with Chapter 7 of NFPA 99.
  - Electrical equipment shall be serviced and evaluated by qualified personnel. Qualified personnel shall possess at a minimum, a valid limited maintenance low voltage license, and either certification of or written proof of successful competence as a biomedical electronic technician.
  - Electrical equipment shall be labeled to indicate that required tests and evaluations have been performed.

**NOTE:** This is commonly known as biomedical labeling. This service may be performed by either qualified facility staff or through a third-party service.
  - All electrical equipment shall be listed as hospital grade and shall be so identified.
  - Manufactured assemblies that contain electrical equipment (such as relocatable power taps, surge suppressors, etc.), shall be listed as a hospital grade assembly and shall be so identified.
6. **Use of Electrical equipment in Areas WHICH ARE NOT classified as Patient Care Areas:** Electrical equipment that is not intended to be used within patient care areas or that would come into direct contact with patients and/or residents shall be required to have a visual inspection, unless otherwise indicated by the manufacturer's instructions. This equipment shall be inspected prior to use within the facility, at least one each year, and whenever a visual inspection of the appliance indicates a change of its condition due to use or repair.

**Other References:** Life Safety Code NFPA 101 (Sections 19.5.1, 9.1.2), Health Care Facilities NFPA 99 (Section 12-3.7.1), National Electric Code (Article 517, Sections 110.3, 400.8), Oregon Fire Code (Sections 605.1, 605.4.1, 605.5)



## OREGON FIRE CODE Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

**Date:** April 1, 2007

**Ruling:** Technical Advisory No. 07-01

**Subject:** Use of Small Electrical Cooking Appliances in Non Residential Occupancies.

**Code Reference:** 2007 Oregon Fire Code Section 605, 2007 Oregon Mechanical Code and Oregon Electrical Specialty Code (based on the 2005 NFPA 70, National Electrical Code)

**Definitions:** For the purpose of this technical bulletin, the following definitions apply.

- **Personal or Limited Use.** Use that is limited in frequency to personal use levels similar to those that would be found in a non-commercial private residence setting.
- **Household appliances.** Are considered to be cooking appliances installed within dwelling units and within areas where domestic or personal cooking operations occur and shall be listed and labeled as "household use".
- **Commercial appliances.** Are considered to be cooking appliances installed and utilized in commercial food service establishments, which shall include any building or portion thereof used for the commercial preparation and serving of food.

**Content:** Small electrical cooking appliances, specifically, coffee makers, microwave ovens, toasters and other small personal cooking appliances.

1. The application and enforcement regarding the use of these appliances shall be enforced consistently, statewide, based upon current application standards, direction of the Oregon Fire Code and the specific manufactures recommendations of the listed appliance.
2. "Household Use Only" appliances may be utilized in all occupancies for personal or limited use. When a household or domestic use appliance is utilized in other than a residential setting, the manufacturer's Installation and Use Instruction Manual shall be readily available and all instructions and information contained therein shall be followed whenever the appliance is being used. A commercially listed appliance will be needed for applications exceeding the personal or limited use categories.
3. Specific requirements or modifications to this advisory are to be handled as a review and acceptance process through each local jurisdiction.

**Other References:** None



## OREGON FIRE CODE

### Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders, and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

**Date:** June 26, 2007

**Ruling:** Technical Advisory No. 07-02

**Subject:** Protection of Existing Cooking Equipment That Create Grease-Laden Vapors (Pre November 1994).

**Code Reference:** 2007 Oregon Fire Code (OFC), Chapter 9 and 2007 Oregon Mechanical Specialty Code (OMSC), Chapter 5

#### Definition(s):

- **Pooled.** As used in this technical bulletin, is described as cooking in vats or other cooking appliances that hold a quantity of cooking medium and that cooks foods that are immersed in the cooking medium during the cooking process.
- **Cooking Medium.** Describes the type of product that is used to cook food products in deep-fat fryers and other similar cooking devices.

**Content:** Commercial and domestic cooking appliances used for commercial purposes that produce grease-laden vapors, such as fryers, griddles, broilers, ranges and wok ranges are required to be installed under a commercial kitchen hood in accordance with the OMSC, Section 507 and have an approved fire protection system installed in accordance with the OFC, Section 904.2.1. The fire protection system provides protection of the cooking appliances and the ventilation hood and duct system including the enclosed plenum space within the hood. Fire protection can be by means of fixed fire extinguishing systems or through the installation of water-based automatic fire sprinkler systems *that are approved for such applications*.

The purpose of the technical advisory is the result of changes in the type of cooking medium used which created additional fire protection challenges for existing fire protection systems, pre November 1994, that have been in use for several years. Changes from the use of animal-based cooking medium ("lard") to the use of vegetable or synthetic-based cooking mediums, have increased the temperatures involved with hostile fires in commercial cooking establishments or where commercial cooking equipment has been installed. Evaluations of existing fire protection systems that were not designed to handle this increased risk, were found to be inadequate and

created the potential for fires to escalate and cause significant damage to structures and placed occupants at an increased risk for injuries.

In response, in 1994 Underwriter's Laboratories developed a new standard, UL300, which is used to test fire protection systems' capabilities involving use of vegetable or synthetic-based cooking mediums, commonly described as "high temperature cooking oils." Of primary concern is the protection for deep-fat fryers and other appliances that operate with "pooled" vegetable or synthetic-based cooking mediums.

#### **Required Compliance and Corrective Measures:**

**Where commercial cooking appliances and ventilation hood and duct systems are currently protected by fire protection systems, pre November 1994, and where the cooking medium involves the use of high-temperature cooking oils in pooled cooking uses such as deep fat fryers, facilities are required to take immediate action to mitigate the increased risk of fire.**

*NOTE: It is at the discretion of the fire code official (local fire department or State Fire Marshal) to determine what corrective measures may be required, based upon facility operational needs and an assessment of fire and life safety risks.*

Any of the following corrective measures may be considered, some of which are based upon the type of fire protection system installed.

- 1) Cease use of pooled cooking uses such as deep fat fryers.
  - NOTE: Existing fire protection systems shall be required to be maintained, in accordance with manufacturer's instructions and NFPA standards.
- 2) Stop use of high-temperature cooking oils such as vegetable or synthetic based products.
  - NOTE: Existing fire protection systems shall be required to be maintained, in accordance with the manufacturer's instructions and NFPA standards.
- 3) If the current fire protection system as installed is pre November 1994, the system shall be replaced with a system that is in compliance with UL 300.
- 4) If the current fire protection is by means of an automatic fire sprinkler system installed in accordance with NFPA 13 and the sprinkler heads being used are not listed for protection of commercial cooking appliances and equipment, there are two options;
  - a) Install approved/listed sprinkler head(s).
  - b) Cease use of pooled cooking uses such as deep fat fryers if these are being used or
  - c) Install a UL 300 compliant fire protection system for those areas where pooled cooking uses such as a deep fat fryer, are in stalled.
    - NOTE: This will require either alterations to the water-based fire protection to avoid one fire protection agent from being incompatible with the other agent or shall require replacing the automatic fire sprinkler system entirely and installation of a complete fire extinguishing system.

Continued use of existing fire extinguishing pre November 1994 systems will be allowed *where there is no use of high temperature cooking oils*. This is allowed only as long as these systems are capable of being maintained and approved and/or listed replacement parts are available. **NOTE:** Manufacturers have not been producing replacement parts for servicing on non-UL 300 systems since 1994.

**At that point when a pre November 1994 system is no longer capable of being maintained, it is the owner's or occupant's responsibility to replace the system with a UL 300 compliant system. It is at the discretion of the fire code official to determine when these corrective measures are required.**

An additional requirement involves OFC provisions for portable fire extinguishers. Non "K" rated extinguishers are incapable of providing adequate fire protection when fires involve high temperature cooking oils. Use of these cooking mediums, requires replacement of existing fire extinguishers with those listed for such protection. Approved fire extinguishers shall possess a "K" rating for the protection of commercial cooking equipment. Refer to OFC, Section 904.11.5.

**Other References:** UL 300 and NFPA 13



## OREGON FIRE CODE

### Interpretations and Technical Advisories

A collaborative service by local and state fire professionals, along with our stakeholders and customers, to provide consistent and concise application of Oregon's fire prevention and life safety regulations.

**Date:** January 8, 2008

**Ruling:** Technical Advisory No. 07-03

**Subject:** Requirements for Emergency or Standby Power Supplies Including Duration

**Code Reference:** 2007 Oregon Fire Code (OFC), Section 604.1 and 2007 Oregon Structural Specialty Code, Section 2702.1.1

**Definitions:** For the purpose of this technical advisory, the following definitions apply.

- **Class:** The time in hours that the emergency power supply system is to operate without being recharged or refueled.
- **Emergency power supply:** Level 1 system.
- **Essential electrical system:** A secondary power supply to maintain power to designated areas and functions of a health care facility (NFPA 99, Section 3.3.45)
- **Health care facilities:** Buildings or portion of such in which medical, dental, psychiatric, nursing, obstetrical or surgical care are provided; also includes hospitals, nursing homes, limited care facilities, clinics, medical and dental offices. NFPA 99, Section 3.3.69 (OFC, Section 604.2.20)
- **Level 1 system:** Supplies power to areas and equipment that is critical and essential to the safety of human life such as life safety illumination, fire detection/alarm systems, elevators, fire pumps, public safety communication systems, industrial processes that will create serious life/health risk if interrupted, essential ventilating and smoke removal systems.
- **Level 2 system:** Supplies power to equipment that could create hazards, hamper rescue or firefighting operations and its failure would be less critical to human life and safety.
- **Standby power supply:** Level 2 system.

**Content:** Design, Installation and Testing Standards.


When required by the OFC and the OSSC, the installation of emergency and standby power will be in accordance with the 2002 NFPA 110 and the 2001 NFPA 111. Consult OFC, Section 604.1 and OSSC, Section 2701.1.1.

Emergency power systems will be inspected and tested under load in accordance with the 2002 NFPA 110 and the NFPA 111.

Health care facilities shall have systems in accordance with 2002 NFPA 99, OESC and OFC, Section 604.2.20.

Fuel supply for a generator in seismic Zones 3 or 4 require 96 hours of fuel supply for a level 1 emergency power supply system (EPPS) per 2002 NFPA 110, Section 5.1.2. Zones 3 or 4 have their origin in the Uniform Building Code see attached map Figure 16-2, not the International Building Code.

**Notes:** Fuel supply for a generator in seismic category C, D, E or F areas requires 96 hours of fuel supply for a Level 1 EPSS per 2005 NFPA 110, Section 5.1.2.



# OREGON STATE FIRE MARSHAL

## *Fire & Life Safety Services*

### **“Liquid Oxygen Trans-filling Regulations in Health Care Facilities”**

Trans-filling of liquefied oxygen from one container to another shall be conducted in accordance with *Oregon Uniform Fire Code* Articles 74 and 75 and NFPA 99 as follows:

1. Trans-filling shall only be conducted within a control area (room) that is separated from other portions of the building by a one-hour occupancy separation as specified in the *Oregon Structural Specialty Code* (Building Code). Rooms shall have at least one exterior wall. There shall be no more than two rooms within a health care institutional facility. If there are two rooms within a facility, the rooms shall be separated in a manner that a single fire is not able to jeopardize both rooms at the same time.
2. Rooms shall have automatic fire sprinkler protection designed in accordance with NFPA 13 as Ordinary Hazard Group 1. Sprinkler head locations and spacing shall be such that at least one head is capable of providing cooling for each cylinder/container in case of fire.
3. Rooms shall have ventilation as follows:
  - Where only one or two cylinders/containers are within a room, natural ventilation openings shall be located on the exterior wall; one within 6 inches of the ceiling and one within 6 inches of the floor.
  - Where more than two (2) storage cylinders/containers are within a room, the room shall be mechanically ventilated at or near the point of oxygen discharge generation and shall be capable of maintaining a negative pressure within the room compared to surrounding spaces.
4. Floors in rooms shall be bare concrete with no combustible seams. Ceramic flooring shall be considered on a case by case basis and requires fire marshal approval prior to use.
5. All cylinders/containers shall be limited in size to no larger than 72 pounds each (7.6 gallons/870 cubic feet). The number of cylinders/containers in each room shall be limited to a maximum of four (4).
6. Rooms shall be posted with signs indicating that trans-filling is occurring within the room and that smoking is prohibited within the immediate room and within 3 feet of doorways and/or openings which enter the room. In addition, entry doors into rooms shall be posted with NFPA 704 placard signs as follows: (3/0/0/OX).
7. Trans-filling shall be performed in accordance with CGA (Compressed Gas Association) Pamphlet P-2.6, *Trans-filling of Low Pressure Liquid Oxygen to be Used for Respiration*.

8. Health care institutional facilities shall develop written policies and train staff in trans-filling procedures that are consistent with nationally recognized standards specified in item #7. Patients shall not be allowed to trans-fill cylinders/containers at any time except as part of a resident rehabilitation-training program for an individual's personal use only.
9. Rooms shall be secured to prevent unauthorized access.
10. Rooms shall have emergency task lighting interconnected to the facility Life Safety Branch as required in NFPA 99.
11. All electrical equipment within rooms shall conform to the Electrical Code.
12. No sources of ignition (open flames, smoking) shall be allowed within rooms.
13. Rooms shall be for no other purpose than trans-filling and storage of liquefied oxygen. No materials shall be present within rooms which are incompatible with liquefied or gaseous oxygen; e.g. oil based products, solvents, atomized sprays, etc.
14. MSDS information sheets shall be maintained on premises.
15. Liquid oxygen cylinders/containers shall be transported on carts that provide a stable base. Liquid oxygen cylinders/containers shall not be transported within exits or within 10 feet of discharges (outside exit doors) from the means of egress.

**APPENDIX F**  
**EMERGENCY PREPAREDNESS CHECK LIST**

**Development, Implementing, Revising, and Maintaining of Emergency Preparedness Plans**

<input type="checkbox"/>	An emergency preparedness plan has been prepared and is being maintained by the facility administration.	<ul style="list-style-type: none"> <li>• Is there a written emergency preparedness plan specifically developed for the facility and its location?</li> </ul>
<input type="checkbox"/>	The facility's emergency preparedness plan includes a Fire Evacuation Plan and a Fire Safety Plan.	<ul style="list-style-type: none"> <li>• Does the plan include both a Fire Evacuation Plan and a Fire Safety Plan?</li> </ul>
<input type="checkbox"/>	The emergency preparedness plan has been reviewed and/or updated within the last twelve months, or as necessitated by changes in staff assignments, changes of occupancy, or the physical arrangement of the building.	<ul style="list-style-type: none"> <li>• Does the plan indicate when it was last reviewed?</li> <li>• Have there been any changes within the last twelve months that may have necessitated revisions to the plan?</li> <li>• Is the plan current to all required changes?</li> </ul>
<input type="checkbox"/>	The emergency preparedness plan is immediately and readily available in the workplace for reference purposes by facility staff members during in-service training activities, drills, and during actual emergencies.	<ul style="list-style-type: none"> <li>• Have staff been advised where plans are located and how to access the plan?</li> <li>• Are plans at locations such as nurse's station where staff can access them?</li> </ul>
<input type="checkbox"/>	A copy of the emergency preparedness plan has been furnished to the Fire Code Official for review when requested.	<ul style="list-style-type: none"> <li>• Has the local Fire Code Official requested a copy of the plan?</li> <li>• Have revisions and/or updates been provided to the Fire Code Official?</li> </ul>
<input type="checkbox"/>	The emergency preparedness committee has written responsibility for overall disaster planning and emergency preparedness within the facility and is under the supervision of an individual specifically designated by facility administration to lead the emergency preparedness committee.	<ul style="list-style-type: none"> <li>• Is there a written policy to designate the committee responsible for plan over site?</li> <li>• Is there a written policy that designates the individual responsible for plan over site?</li> <li>• Is there documentation of committee activities and decisions regarding the plan?</li> </ul>
<input type="checkbox"/>	The emergency preparedness committee has conducted an analysis of local hazards including the identification of said hazards, the likelihood that identified hazards might occur, and a risk assessment of the vulnerability of those hazards related to the facility, to its occupants, and to facility staff.	<ul style="list-style-type: none"> <li>• Has an impact analysis been conducted and reviewed when necessary or within the last twelve months?</li> <li>• Does the plan address all identified local hazards that are a potential threat to the facility and occupants including at a minimum, Pandemic, earthquake, and fire?</li> </ul>

**Training and Exercising of Staff on Emergency Preparedness Plans**

<input type="checkbox"/>	<p>The facility administration has implemented a staff educational program to ensure that all staff members understand their specific duties and assignments as outlined in the emergency preparedness plan, and how the emergency preparedness plan will be activated and terminated.</p>	<ul style="list-style-type: none"> <li>• Has the emergency preparedness plan been reviewed by all employees during facility in-service training within the last twelve months?</li> <li>• When asked, does staff know their duties as specified within the plan?</li> </ul>
<input type="checkbox"/>	<p>The facility administration has implemented at least semi-annual drills of the emergency preparedness plan to ensure that all staff members have practiced and/or rehearsed their specific duties and assignments, as outlined in the emergency preparedness plan when it is activated and terminated.</p>	<ul style="list-style-type: none"> <li>• Have at least two drills of the plan, not including fire drills, been conducted and documented within the last twelve months?</li> <li>• Have drills been conducted on all portions of the plan including all hazards that are included within the plan OR is there a written schedule to accomplish this task?</li> </ul>

**Chain of Command during Emergencies**

<input type="checkbox"/>	<p>The emergency preparedness committee has modeled the emergency preparedness plan based upon the incident command system in coordination with local emergency response agencies.</p>	<ul style="list-style-type: none"> <li>• Does the plan follow the Incident Command System as modeled by the federal government (NIMS)?</li> <li>• Has the facility contacted their local Emergency Manager to establish a working relationship?</li> </ul>
<input type="checkbox"/>	<p>The emergency preparedness plan chain of command has been organized in a manner that lists specific positions that are required to perform certain tasks as outlined in the emergency preparedness plan.</p>	<ul style="list-style-type: none"> <li>• Does the plan include a chain of command to be followed during any disaster?</li> <li>• Does the plan indicate by position, who is in charge of the facility during all times of the day or whenever the facility is occupied?</li> </ul>

### Structure and Specific Content of Emergency Preparedness Plans

<input type="checkbox"/>	<p>The emergency preparedness committee has implemented a strategy within the emergency preparedness plan to either eliminate identified hazards or to mitigate the effects of hazards that cannot be eliminated.</p>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address all local hazards that could likely present a potential threat to the facility and its occupants?</li> <li>• Do plan sections coincide with the identified local hazards analysis?</li> </ul>
<input type="checkbox"/>	<p>The emergency preparedness plan has a procedure for designating activation and deactivation criteria, and that includes the events and/or operations thresholds that necessitate activation and deactivation of the emergency preparedness plan, including the designated individual by position to make these decisions.</p>	<ul style="list-style-type: none"> <li>• Is there written activation and termination procedures included within the plan?</li> <li>• Does the plan indicate who will make decisions regarding when the plan is initiated and terminated?</li> </ul>
<input type="checkbox"/>	<p>The facility has provided a contingency plan for technological and industrial emergencies including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Fire within the facility</li> <li>• Explosions within the facility</li> <li>• Hazardous materials releases</li> <li>• Bomb threats</li> <li>• Contamination of inside/outside air supply</li> <li>• Communications failure</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address technological and industrial emergencies?</li> </ul>
<input type="checkbox"/>	<p>The facility has provided a contingency plan for natural disasters, if applicable, including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Earthquakes</li> <li>• Tsunamis</li> <li>• Weather related events (snow, wind, lightening, ice/hail, temperature extremes)</li> <li>• Fires external to the facility</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address natural disasters?</li> </ul>

### Structure and Specific Content of Emergency Preparedness Plans (cont.)

<input type="checkbox"/>	<p>The facility has provided a contingency plan for continuity of essential building systems and services including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Water</li> <li>• Electricity</li> <li>• Heating, air conditioning, ventilation</li> <li>• Elevator</li> <li>• Power/utility failure</li> <li>• Fuel/resource shortage</li> <li>• Fire protection systems and equipment failure</li> <li>• Medical gas and vacuum systems</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address continuity of essential building systems and services?</li> </ul>
<input type="checkbox"/>	<p>The facility has provided a contingency plan for other types of emergencies including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Missing resident</li> <li>• Influx of patients from another facility</li> <li>• Mass casualty</li> <li>• Business interruption</li> <li>• Staffing limitations</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address other types of emergencies?</li> </ul>
<input type="checkbox"/>	<p>There is a plan for management of residents/patients with respect to clinical and administrative issues including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Resident/patient modification of care plans and/or discontinuation of nonessential services</li> <li>• Control of resident/patient information</li> <li>• Handling of resident/patient personal property and medical records</li> <li>• Admission/discharge and transfer of residents/patients</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address resident clinical and administrative issues during emergencies?</li> </ul> <p><b>NOTE: This shall be evaluated by health care surveyors (not fire marshals).</b></p>

### Structure and Specific Content of Emergency Preparedness Plans (cont.)

<input type="checkbox"/>	<p>There is a plan for alerting and managing of facility staff during an emergency that includes considerations for housing and transportation of staff and their families. The plan includes but is not limited to the following:</p> <ul style="list-style-type: none"> <li>• Management of staff space and transportation</li> <li>• Recall and augmentation of staff</li> <li>• Human resource needs</li> <li>• Critical incident stress debriefing</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address facility staffing during emergencies?</li> <li>• Do all personnel designated or involved in the emergency preparedness plan have access to a means of identification, which is required to be worn at all times?</li> <li>• Does the plan have relevant policies, procedures, job descriptions and/or bargaining agreements regarding mandatory overtime, changes in shifts, potential to bring dependents and/or pets onsite or to alternate sites, expectations in event of an evacuation, potential use of volunteers, etc.</li> <li>• Is there a critical incident stress debriefing policy?</li> </ul>
<input type="checkbox"/>	<p>There is a plan for the stockpiling or ensuring of immediate or uninterrupted access to critical materials for a minimum of 5 days, unless licensing regulations allow less. This includes food, water, medications, medical supplies, and medical records necessary to obtain care and treatment.</p>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address stockpiling and/or access to critical materials during emergencies?</li> </ul> <p><b>NOTE: This shall be evaluated by health care surveyors (not fire marshals).</b></p>
<input type="checkbox"/>	<p>The Pandemic section of the plan addresses infection control measures, such as closing the facility to outside visitors, increased usage of barriers (masks, gloves, etc.), and strict hand washing.</p>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address Pandemic control measures?</li> </ul> <p><b>NOTE: This shall be evaluated by health care surveyors (not fire marshals).</b></p>
<input type="checkbox"/>	<p>There is a plan to address facility internal and external security needs including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Access and egress from the facility</li> <li>• Control of crowds</li> <li>• Needs of security staffing</li> <li>• Control of traffic flow and parking</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address internal and external security during emergencies?</li> </ul>

### Structure and Specific Content of Emergency Preparedness Plans (cont.)

<input type="checkbox"/>	<p>There is a plan to address public affairs issues including but not limited to the following:</p> <ul style="list-style-type: none"> <li>• Designation of a media spokesperson</li> <li>• Designated media area to facilitate control and not interfere with facility operations</li> </ul>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address public affairs issues during emergencies?</li> </ul>
<input type="checkbox"/>	<p>There is a plan to address those measures needed to restore the facility and staff members to pre-disaster operational levels.</p>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures to address restoration of the facility following cessation of an emergency?</li> </ul>

### Evacuation, Relocation, and Sheltering In Place During Emergencies

<input type="checkbox"/>	<p>The emergency preparedness plan includes dated agreements for both short (less than 96 hours) and long term (96 hours or more) alternate care facilities.</p>	<ul style="list-style-type: none"> <li>• Are written agreements currently valid? <b>NOTE: “Currently valid” means created and/or reviewed within the last 12 months.</b></li> </ul>
<input type="checkbox"/>	<p>The emergency preparedness plan includes on-site evaluations and a facility layout of the short and long term alternate care facilities.</p>	<ul style="list-style-type: none"> <li>• Has an on-site evaluation of alternate care facilities been conducted?</li> <li>• Does the plan contain diagrams indicating layout for use of alternate care facilities during emergencies?</li> </ul>
<input type="checkbox"/>	<p>The emergency preparedness plan includes a transportation plan for relocation to short and long term alternate care facilities. If the facility serves individuals who use wheelchairs or life-sustaining equipment, the plan indicates how those individuals and their equipment will be transported.</p>	<ul style="list-style-type: none"> <li>• Is there a written transportation plan?</li> <li>• Does the plan reflect availability of transportation during wide-spread (local area or regional) emergencies?</li> <li>• Are there alternate plans if primary transportation services are not available?</li> </ul>
<input type="checkbox"/>	<p>Resident/patient care records available during an evacuation include each resident’s current medical and treatment plans, a list of the current health conditions, a list of allergies, and an indication of any special or unusual support needs of the resident, such a special diets, fluid instructions, support for behavior, etc,</p>	<ul style="list-style-type: none"> <li>• Does the plan contain how resident medical records will be handled during emergencies? <b>NOTE: This shall be evaluated by health care surveyors (not fire marshals).</b></li> </ul>

### Evacuation, Relocation, and Sheltering In Place During Emergencies (cont.)

<input type="checkbox"/>	<p>Procedures are included for employee and occupant accountability after evacuation and/or relocation has been completed. This includes the method of physically identifying each occupant by name and originating facility and a procedure to track and report the location of each occupant to the Department of Human Services, local office or designee.</p>	<ul style="list-style-type: none"> <li>• Are there procedures to account for staff and other occupants including visitors after they are evacuated and/or relocated from within the facility?</li> <li>• Is there a tracking system in place for residents/patients that have been moved to alternate care facilities and/or locations?</li> </ul>
<input type="checkbox"/>	<p>There is a planned manner of identifying residents/patients which allows for their identification of those unable to communicate. There is a method of tracking the physical location of residents/patients.</p>	<ul style="list-style-type: none"> <li>• Is there a means of identifying residents during emergencies, such as plastic ID bracelets, ID on a lanyard around the neck or other form of semi-permanent identification attached to or upon the person?</li> <li>• Is there a means of tracking the physical location of residents/patients such as a notebook, card index, or other system.</li> </ul>
<input type="checkbox"/>	<p>The plan to shelter in place demonstrates how residents will stay warm during emergency conditions, to avoid life-threatening heat or cold, and how sanitation will be maintained in the event of an extended utility outage.</p>	<ul style="list-style-type: none"> <li>• Is there a plan for sheltering in place within the facility?</li> <li>• Does the plan contain how the facility will be evaluated for safety and livability?</li> <li>• Are there fire protection systems and resident/patient services and equipment that are designed and capable of operating for extended period of time not less than 96 hours?</li> </ul>

### Fire Evacuation and Fire Safety of Licensed Care Facilities

<input type="checkbox"/>	<p>Procedures are included for the preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.</p>	<ul style="list-style-type: none"> <li>• Is there an alternate means to notify the fire department of an emergency?</li> </ul>
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**Fire Evacuation and Fire Safety of Licensed Care Facilities (cont.)**

<input type="checkbox"/>	<p>The plans designate emergency egress or escape routes and includes whether evacuation of the building is to be complete or, where approved, patients and/or residents may be relocated to selected floors, smoke compartments or other points of safety within the facility. When all residents must be relocated out of the facility, the plan indicates where clients will be taken and how they will be kept safe from extremes in weather.</p>	<ul style="list-style-type: none"> <li>• Does the plan contain strategic procedures for the relocation and/or evacuation of residents/patients and staff?</li> <li>• Are there provisions for protecting resident/patients from weather extremes during emergencies?</li> </ul>
<input type="checkbox"/>	<p>Site plans and floor plans included in the Fire Safety Plan include all exits, primary, secondary, and accessible evacuation routes, areas of refuge, manual fire alarm boxes, portable fire extinguishers, fire alarm controls, and fire and smoke barriers and compartments.</p>	<ul style="list-style-type: none"> <li>• Are there facility plans that include protection features and controls?</li> <li>• Are these plans accessible by staff and/or otherwise used during training and drills?</li> </ul>
<input type="checkbox"/>	<p>Procedures are included for the preferred and any alternative means of notifying facility occupants of a fire or emergency including designated life safety strategies for relocating, or evacuating occupants.</p>	<ul style="list-style-type: none"> <li>• Is there an alternate means to alert residents/patients and other occupants of an emergency?</li> <li>• Are there written evacuation and relocation plans?</li> </ul>
<input type="checkbox"/>	<p>There is a list identifying assigned personnel responsible for maintenance of fire protection systems and equipment installed to prevent or control fires.</p>	<ul style="list-style-type: none"> <li>• Is there a written policy designating personnel responsible for fire protection systems and features?</li> <li>• Does the plan designate personnel responsible for maintenance, housekeeping, and controlling of fire hazard sources?</li> <li>• Are there procedures to account for employees, including where they shall remain within the facility to operate critical equipment before evacuating or relocating?</li> </ul>