

PLANNING FOR FIRE RESPONSE

- 1. REASON FOR ISSUE:** This Veterans Health Administration (VHA) directive establishes the planning requirements for response to fire incidents in patient-care buildings throughout VHA.
- 2. SUMMARY OF MAJOR CHANGES:** Responsibilities of senior VHA leadership have been added and some elements of the required fire response have been revised based on recent field experience.
- 3. RELATED ISSUES:** National Fire Protection Association Life Safety Code (NFPA 101) and The Joint Commission Standards.
- 4. RESPONSIBLE OFFICE:** The Deputy Under Secretary for Health for Operations and Management (10N) is responsible for the contents of this directive. Questions may be directed to the Office of Occupational Safety, Health, and Green Environmental Management System (GEMS) Programs (10NA8) at 202-632-7888 and to the National Center for Patient Safety at 734-930-5890.
- 5. RESCISSIONS:** VHA Directive 2005-037, dated September 2, 2005, is rescinded.
- 6. RECERTIFICATION:** This VHA directive is scheduled for recertification on or before the last working day of January 2023. This VHA directive will continue to serve as national VHA policy until it is recertified or rescinded.

Carolyn M. Clancy, M.D.
Executive in Charge

DISTRIBUTION: Emailed to the VHA Publication Distribution List on January 3, 2018.

CONTENTS

PLANNING FOR FIRE RESPONSE

1. PURPOSE 1

2. BACKGROUND 1

3. POLICY 1

4. RESPONSIBILITIES..... 2

5. REFERENCES 4

APPENDIX A
FIRE EVACUATION AND/OR RELOCATION RESPONSE, SPRINKLER-PROTECTED
SMOKE ZONE RISK ASSESSMENT.....A-1

PLANNING FOR FIRE RESPONSE

1. PURPOSE

This Veterans Health Administration (VHA) directive establishes the requirements for planning the response to fire incidents in all patient-occupied buildings, and establishes the requirements for the minimum number of staff response; securing the fire incident scene for investigation; and protecting buildings, equipment, and furnishings from water and smoke damage so that patient care activities can resume as soon as possible.

AUTHORITY: Title 38 United States Code (U.S.C.) 7301(b).

2. BACKGROUND

a. In the event of a fire in a health care facility, a key to limiting injury is having enough staff respond to the fire area and assist with patient relocation. After the fire is extinguished, it is very important to shut off the fire sprinkler system to limit water damage in the fire area as well as areas of the facility that are adjacent to or on a floor below the fire area. It is also important to preserve the fire area for fire investigation. This directive addresses these requirements and provides guidance on the recommended number of staff responders based on the ambulatory capability of patients in a smoke compartment, the size of the smoke compartment, and whether the building is fully sprinkler protected.

b. The VHA experienced a serious fire incident where a patient died. The patient had been smoking in bed during oxygen administration. This incident resulted in significant fire exposure to the other patients in the sleeping room, as well as other patients on the floor and the staff who responded to the incident. Quick action by nursing staff, in conjunction with the operation of smoke detectors, the facility fire alarm system, and sprinklers in the room of fire origin, prevented further injury. After the fire, water damage was excessive due to a delay in shutting off the fire sprinkler system control valve. Also, clean up began before initial fire investigation efforts could begin.

c. Other fire incidents have occurred where excessive water damage resulted because staff did not know how to properly shut off sprinkler flow.

d. The National Fire Protection Association Life Safety Code (NFPA 101) in Sections 19.7.1 and 19.7.2 requires health care facilities to have a fire plan and procedures in effect, including fire drills, to ensure adequate preparedness.

e. The Joint Commission Environment of Care Standards, in EC.02.03.03, require organizations to conduct fire drills and have an adequate fire response, including follow-up evaluations on the effectiveness of the fire plan and response.

3. DEFINITIONS

a. **Non-Ambulatory Patients.** For the purposes of this directive, non-ambulatory patients include individuals with physical, cognitive, or behavioral impairments who need assistance when relocating to an adjacent smoke zone.

b. **Patients.** For the purposes of this directive, patients include residents of Community Living Centers (CLCs) and Residential Board and Care Occupancies, as well as patients in Health Care Occupancies and Ambulatory Health Care Occupancies.

4. POLICY

It is VHA policy that each medical facility must have plans, procedures, policies, sufficient equipment, and adequate staff to appropriately respond to any fire emergency in patient-care buildings, including:

- a. Assisting patients, as needed;
- b. Protecting buildings and contents from post-fire water and smoke damage;
- c. Facilitating resumption of patient care activities; and,
- d. Securing fire incident scenes, as needed, for further investigations.

5. RESPONSIBILITIES

a. **Under Secretary for Health.** The Under Secretary for Health, or designee, is responsible for:

- (1) Establishing overall strategic priorities for VHA.
- (2) Ensuring that plans, procedures, and policies are in place to provide a safe and functional environment of care for patients, visitors, employees, and volunteers.
- (3) Ensuring that plans, procedures, and policies are in place to provide a safe working environment for employees and volunteers.
- (4) Establishing performance standards for the Deputy Under Secretary for Health for Operations and Management.

b. **Deputy Under Secretary for Health for Operations and Management.** The Deputy Under Secretary for Health for Operations and Management (10N), or designee, is responsible for:

- (1) Overseeing the development and implementation of VHA policies and programs to address safety and health issues.
- (2) Establishing performance standards for the Assistant Deputy Under Secretary for Health for Administrative Operations, as well as, Veterans Integrated Service Network (VISN) Directors.

c. **Assistant Deputy Under Secretary for Health for Administrative Operations.** The Assistant Deputy Under Secretary for Health for Administrative Operations (10NA), or designee, is responsible for:

(1) Ensuring that adequate funds are available to maintain a safe and functional environment of care for patients, visitors, employees, and volunteers, as well as, a safe working environment for employees and volunteers.

(2) Establishing performance standards for management officials in program offices under the supervision of the Assistant Deputy Under Secretary for Health for Administrative Operations.

d. **Director, Office of Occupational Safety, Health, and Green Environmental Management Systems Programs.** The Director, Office of Occupational Safety, Health, and Green Environmental Management Systems (GEMS) Programs (10NA8), or designee, is responsible for monitoring changes in The Joint Commission standards and NFPA requirements, and ensuring that applicable information related to this directive is conveyed to the field.

e. **Veterans Integrated Service Network Director.** Each Veterans Integrated Service Network (VISN) Director is responsible for ensuring local facility implementation of the requirements of this directive.

f. **VA Medical Facility Director.** Each VA medical facility Director is responsible for ensuring that the requirements of this directive are implemented through local facility written policies or procedures with specific staff accountability and responsibilities identified. At a minimum, the policies or procedures shall include the following:

(1) For occupancies that are required by NFPA 101 to be subdivided by smoke barriers, there is an adequate number of staff, including clinical staff, immediately responding to the fire area regardless of the day of the week or time of day, to assist in patient relocation to the next smoke zone or another safe area should it become necessary. The number of responders needed is dependent on the number of patients in the impacted smoke zone, the mobility of patients, and the acuity level of the patients. Based on past fire events, the minimum staff response (not including Fire Department personnel) is as specified in paragraphs (a) and (b) below. **NOTE:** *For occupancies where the written facility fire plan requires general evacuation (rather than defend-in-place), the requirements of this paragraph 5.f.(1) do not apply.*

(a) **For buildings that are not fully sprinkler-protected:** One responder for every two non-ambulatory patients. If this response ratio cannot be met, a plan must be in place and operational to provide adequate response. Options for compliance include: installing sprinkler protection, modifying the number (mix) of non-ambulatory to ambulatory patients in the smoke zone, reducing the size of the smoke zone(s), or a combination of these actions.

(b) **For buildings that are fully sprinkler-protected:** One responder for every four non-ambulatory patients. If this response ratio cannot be met, a risk assessment must have been conducted to determine that an appropriate level of safety is being provided. This risk assessment is not to be used to reduce the number of responders in the facility's fire plan, if the 1:4 ratio is currently being met (see Appendix A).

(2) Qualified individual(s) are identified who are responsible for turning off the room or zone oxygen shut-off control valve(s) in each area should it become necessary. This is especially important in surgery and Intensive Care Unit areas. These individuals must be knowledgeable of the needs of the patients in the areas served by the valves.

(3) The local facility fire safety plan (required by NFPA 101, 19.7.2.2) includes a requirement to telephone the fire department.

(4) Qualified individuals are identified who respond to each fire incident with special keys, equipment, and/or tools as needed, to:

(a) Control the operation of utility systems (e.g., sprinkler, fire pump, fire alarm, Heating, Ventilation, and Air Conditioning (HVAC), electrical, etc.).

(b) Open locked doors and windows (e.g., mental health units, mechanical spaces, IT areas, etc.).

(c) Consult with fire department personnel.

(d) Limit smoke and water damage to the building immediately after the fire is declared to be extinguished. To limit water damage, response staff must understand the information provided by the fire alarm system (i.e., control unit, annunciator, and printout), must specifically be able to identify which water flow switch is in alarm, and must know the location of each control valve associated with each water flow switch in order to stop the flow of water without delay. **NOTE:** *Damage control can be accomplished by evacuating smoke, shutting off the fire pump, closing sprinkler control valves, and containing sprinkler and fire hose discharge water. Water damage may be limited through the use of plugs specifically designed to seal open fire sprinklers and absorbent "pigs" to dike water on the floor to keep it from spreading. It should be noted that a single sprinkler can discharge 55 or more gallons of water per minute. Smoke spread may be limited by opening windows, stopping the HVAC environmental air recirculation, and by using dedicated portable exhaust fans.*

(5) For fires resulting in serious injury, death, or damages exceeding \$10,000, the VA Police secure the fire scene after the event and before clean-up, to permit an investigation to be conducted by qualified individuals. Qualified individuals might include the local fire marshal, qualified station staff, or other individuals as appropriate based on the event. The purpose of this investigation is to determine fire cause and assess the effectiveness of both active (e.g., suppression and detection) and passive (e.g., smoke and fire barriers) fire protection systems. See the Fire Safety Guidebook for more information regarding investigations.

6. REFERENCES

a. VHA Patient Safety Alert dated January 7, 2005, Fire Response and Planning. <http://vaww.ceosh.med.va.gov/01FS/Pages/SpecificTopics.shtml>. **NOTE:** *This is an internal VA Web site that is not available to the public.*

b. National Fire Protection Association, Life Safety Code (NFPA 101), current edition.

c. The Joint Commission Standards, current edition.

d. Fire Safety Guidebook.

http://vaww.ceosh.med.va.gov/01HP/02HP_Guidebooks/03_Collections/04HP_Firesafety/PrntrFrndlyFS.pdf. **NOTE:** *This is an internal VA Web site that is not available to the public.*

**FIRE EVACUATION AND/OR RELOCATION RESPONSE, SPRINKLER-PROTECTED
SMOKE ZONE RISK ASSESSMENT****1. INTRODUCTION**

a. Consider the following factors when assessing the adequacy of the facility fire response for sprinkler-protected smoke zones.

b. A responder may be any individual who can respond within 8 minutes, is trained in the fire plan, or participates in the fire drills (Fire Department personnel must not be counted since their primary efforts may be in suppression activities).

c. For the purposes of this risk assessment, the number of non-ambulatory patients present in a smoke zone must be the “most likely worst-case” scenario. Base this upon the greatest number of non-ambulatory patients simultaneously present in the smoke zone over the past 36 months.

NOTE 1: *This Risk Assessment is not to be used to reduce the number of responders in the facility fire plan if the 1:4 ratio is currently being met.*

NOTE 2: *The “most likely worst-case” scenario is intended to be used where the use of the space within a smoke compartment has not changed for the past 36 months or more. (e.g., the space in the smoke compartment has continuously been used as a nursing ward). Where the use of the space within a smoke compartment has changed within the past 36 months, the most likely worst case scenario does not have to consider the number of non-ambulatory patients in the space during the time when the space had a different use.*

2. FACTORS

a. **Private Rooms.** If the smoke zone is comprised of private rooms, there is a greater likelihood that a fire and its products of combustion (smoke) will be contained to the room of fire origin, as staff will not need to re-enter the room to rescue additional patients. **(Award 1 Point)**

b. **Room Separation.** If the walls between the patient sleeping room and adjacent rooms, as well as the walls between the patient sleeping room and the corridor, extend from floor slab to floor slab and are without penetrations, there is a greater likelihood that patients in rooms adjacent to the room of fire origin will not have to be relocated. **(Award 2 Points)**

c. **Fast Response Sprinklers.** A fast response sprinkler has a response time index (RTI) of 50 (m-sec)^{1/2} or less. Faster sprinkler response will significantly reduce the heat and products of combustion generated by the fire. Fast response sprinklers, such as quick response and residential type, will be expected to activate faster than standard response sprinklers. In order to take credit for fast response sprinklers, the sprinklers must not be concealed. **(Award 3 Points)**

d. **Smoke Detection.** Properly installed and maintained smoke detectors will provide early detection of a fire and will give additional time for staff response. **(Maximum of 2 Points permitted among d.1 through d.4)**

(1) System smoke detectors throughout all areas of the smoke zone. **(Award 2 Points)**

(2) System smoke detectors in patient sleeping rooms and throughout the corridor. **(Award 1.5 Points)**

(3) Single station smoke alarms in all patient sleeping rooms. **(Award 1 Point)**

(4) System smoke detectors provided only throughout the corridors **(Award 0.5 Points)**

e. **Heating, Ventilation, and Air Conditioning Systems Fully Ducted.** An environmental air system that is fully ducted will aid in containing the products of combustion from a fire. **(Award 1 Point)**

f. **Oxygen Not Present.** The presence of oxygen in the patient sleeping rooms (piped, cylinder, or concentrator) can increase how rapidly a fire will spread. **(Award 1 Point)**

3. REPORTING TABLE

Number of Points from paragraphs 2a – 2f	Minimum Ratio, Responders to Non-Ambulatory Patients
≤ 3 (see Note)	1:4
>3 and ≤ 8	1:5
> 8	1:6

NOTE: Measures adding up to 3 points or less will require a minimum response ratio of 1 to 4.