

Clarifications and Expectations

WITH THE JOINT COMMISSION'S DIRECTOR OF ENGINEERING: GEORGE MILLS

Testing and Maintaining Gaseous and Portable Fire Extinguishers

Examining Standard EC.02.03.05, EPs 14–16

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An introduction from George Mills, MBA, FASHE, CEM, CHFM, CHSP, director, Department of Engineering, The Joint Commission: This column clarifies standards expectations and provides strategies for challenging compliance issues, primarily in life safety and the environment of care, but also in the vital area of emergency management. You may wish to share the ideas and strategies in this column with your organization's leadership. This month, I enlisted James Woodson, an engineer in The Joint Commission's Engineering Department, to delve deeper into the aspects and issues associated with this topic.

Environment of Care (EC) Standard **EC.02.03.05** addresses how and with what frequency health care organizations need to maintain fire safety equipment and building features. This standard is crucial and worthy of closer scrutiny. This was the number-one most challenging standard in 2014 for surveyed critical access hospitals, with 60% found noncompliant. Many hospitals also struggled with compliance, with 48% of surveyed hospitals found noncompliant with this standard during 2014.

Since 2013, this column has attempted to occasionally spotlight each of the elements of performance (EPs) related to this standard. In our most recent edition about this standard (in the May 2015 issue of this newsletter), we examined EPs 11 through 13, including

issues pertaining to testing automatic sprinkler system fire pumps under flow, conducting water flow tests for standpipe systems, and inspecting automatic fire extinguishing systems in a kitchen.

This month's installment evaluates EPs 14 through 16 and provides compliance recommendations. EP 14 covers testing of gaseous automatic fire-extinguishing systems used in controlled environments. EPs 15 and 16 involve the checking and upkeep of portable fire extinguishers that staff can use to protect patients, themselves, and coworkers in the event of a fire—provided that the extinguishers function properly, which is why regular testing is required.

EP 14 Gaseous auto fire-extinguishing system tests

If your organization houses stand-alone or supplementary extinguishing systems—such as those used to protect a data center or magnetic resonance imaging (MRI) room—you must inspect them annually at minimum, although some licensing authorities require six-month inspections. Single-use extinguishing type gaseous media include carbon dioxide, FM 200, and halon, none of which can be discharged during the evaluation. The test involves validating that the system will activate the building's fire alarm and that its components are set up properly, as designed. A key safety consideration is to ensure that staff are properly evacuated prior

to this test as a precaution in case the extinguishing agent is unintentionally discharged.

Also, hydrostatically test tanks periodically to confirm that the extinguishing media inside are not past expiration. (Visit https://www.osha.gov/SLTC/etools/evacuation/portable_hydro.html for more information about hydrostatic testing.) Consult manufacturer manuals, websites, and technical support resources (phone numbers are often listed on the tank label) to determine which testing criteria to use.

Organizations can find additional guidance in **NFPA 12** for carbon dioxide systems and **NFPA 2001** for FM 200 systems. Use the applicable code edition (year) at the time of installation to perform the test.

Survey activity

During the document review session, surveyors will inquire if any stand-alone/supplemental gaseous auto fire-extinguishing systems are installed. They will review the test reports for such systems carefully, making sure in particular that annual testing has been conducted on schedule and that results are satisfactory.

EP 15 Monthly fire extinguisher checks

A monthly test will validate that all portable fire extinguishers installed in a facility where patients are seen or

Standards Connection

Standard EC.02.03.05

The hospital maintains fire safety equipment and fire safety building features.

Elements of Performance for EC.02.03.05

14. Every 12 months, the organization tests carbon dioxide and other gaseous automatic fire-extinguishing systems. The completion date of the tests is documented.

Note: Discharge of the fire-extinguishing systems is not required.

15. At least monthly, the hospital inspects portable fire extinguishers. The completion dates of the inspections are documented.

Note: There are many ways to document the inspections, such as using bar coding equipment, check marks on a tag, or an inventory. Inspections involve a visual check for the presence and correct type of extinguisher, broken parts, full charge, and ease of access. For additional guidance on inspection of fire extinguishers, see [National Fire Protection Association Standard (NFPA)] NFPA 10: Standard for Portable Fire Extinguishers, 1998 edition (Sections 1-6, 4-3, and 4-4).

16. Every 12 months, the hospital performs maintenance on portable fire extinguishers. The completion date of the maintenance is documented.

Note: There are many ways to document the maintenance, such as using bar coding equipment, check marks on a tag, or an inventory. For additional guidance on maintaining fire extinguishers, see NFPA 10, 1998 edition (Sections 1-6, 4-3, and 4-4).

treated are ready to use in an emergency situation. Typically, monthly inspections are performed by designated staff who confirm the following:

- Each extinguisher is in its proper place, with the operating instructions legible and facing forward.

- Each extinguisher is unobstructed.
- Each extinguisher has safety seals and tamper indicators intact.
- Each extinguisher has pressure gauges within the appropriate operating range (usually a “green zone”).
- Each extinguisher has no visual evidence of corrosion or damage, which is usually observed where the top valve connects with the extinguisher body. (Outdated or compromised extinguishers must be replaced immediately.)

The date of the inspection must be documented, usually by manually writing the month, date, and year, along with the inspector’s initials, on the extinguisher tag. Another documentation method is to use a bar coding process (with the bar code label placed on the extinguisher itself, not on the cabinet). The best practice is to repeat the check consistently at 30-day intervals, but once per calendar month is acceptable.

Organizations can find additional guidance in **NFPA 10-1998**.

Survey activity

During a building tour, the surveyor will randomly spot-check various portable extinguishers and review inspection documentation records indicated on the tags and/or bar code reports.

EP 16 Annual fire extinguisher maintenance

Each portable extinguisher must be inspected and maintained annually by an entity (usually a third-party maintenance contractor from outside the organization) that is qualified and authorized to perform the maintenance in accordance with your local or state fire marshal requirements. The yearly maintenance tasks performed by this entity include the following:

- Checking the mechanical parts, extinguishing agent, and expelling means
- Recharging the extinguisher, if necessary

- Inserting a new safety seal and tamper indicator
 - Adding a new annual tag that indicates the date that the yearly inspection/maintenance has been completed
- In addition, each portable extinguisher must be hydrostatically tested at certain intervals, depending on the extinguisher type. The presence of required documentation implicitly means the corresponding maintenance has been performed.

Organizations can find additional guidance in **NFPA 10-1998**.

Survey activity

During the document review session, the surveyor will carefully assess your organization’s annual extinguisher maintenance documentation. This may include checking manual documentation on the tag (observed during the building tour) or analyzing bar code scanning reports. The surveyor will also inspect to see that hydrostatic testing has been performed and documented, as required.

Training for fast response

Knowing what’s required to remain compliant with **EC.02.03.05** is vitally important to health care organizations, and there’s no exception when it comes to EPs 14 through 16.

Fire extinguishers are often the first line of defense against deadly flames. Consider that the vast majority of fires in hospitals are put out by hand extinguishers operated by fast-responding employees and staff, without the aid of sprinkler systems and local fire department personnel. To save lives and safeguard facilities, an organization must properly train staff and ensure that extinguishing equipment is up-to-date and functional. **EC**