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INFORMATIONAL BULLETIN

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Electronically Monitored Fire Extinguishers

Purpose: The purpose of this informational bulletin is to explain and clarify the requirements for electronically monitoring required portable fire extinguishers as part of the NH State Fire Code and to address topics that may be questioned in the field.

Background: The technology to electronically monitor fire extinguishers has been under review for close to a decade and in 2005 was beta tested in the Goffstown Middle School followed by installation in the State House, Legislative Office Building and the Upham Walker House. These systems performed flawlessly while monitoring the last fire protection system along with fire alarm pull stations, detection systems and automatic fire sprinkler systems. This life safety addition to the New Hampshire State Fire Code completes effective monitoring of these systems.

Code: CHAPTER Saf-C 6000 STATE FIRE CODE, Saf-C 6008.03(d), Section 13.6.2 of NFPA 1 amended to read as follows:

“13.6.2 Where Required. Fire extinguishers shall be provided where required by this code as specified in Table 13.6.2 and the referenced codes and standards listed in Chapter 2. In new construction, the required fire extinguishers shall be electronically monitored in accordance with 13.6.9.1.5. Exception: The electronic monitoring of the fire extinguishers shall not apply in occupancies that do not require a fire alarm system”.

Explanation: The reasoning behind improving the State Fire Code is sound; the amendment will help increase fire life safety without being an economic burden to occupancy owners.

The precedent for adoption is firmly established in the code; NFPA 1 13.7.12 requires that fire alarm systems within a protected premise monitor the condition and activation of fire suppression systems, fire safety functions and alarm notification appliances. Fire extinguishers were the only component that did not have continual accountability.



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Experience demonstrates and studies support the effectiveness of a working and accessible fire extinguisher has on a fire in its incipient stage. At the same time, tragedies highlight the sometimes deadly impact an inoperable or missing extinguisher can have in a time of need. Technology will insure that a fire extinguisher is working and accessible in a time of need while also triggering a notification the moment it is removed from its designated location.

By meeting the mandated monthly physical inspection requirements established by NFPA, there is listed & cost effective technology that allows an extinguisher to be monitored in the same manner as the other components. Given that the technology costs pennies a square foot and provides an ongoing Return on Investment (ROI) by relieving occupancy owners of having to conduct and document monthly inspections. The addition to the code is both logical and better life safety.

The Technology: NFPA 10 & NFPA 72 have recognized technology to monitor fire extinguishers as an equivalent to the mandatory 30 day inspections, but 24/7 accountability is more than an equivalent. Underwriters Laboratories recognizes technology that will ensure a fire extinguisher may be monitored for:

- Pressure by installing an enabled gauge on a standard fire extinguisher
- Position & location by connecting the enabled gauge to a secured tether
- Obstruction that monitors for a continual blockage 3 feet in front of a unit
- Removal (activation) by sending a signal the moment a unit is removed from its designated location.

Technology may be fitted hardwired or wireless and is competitively installed and maintained by local fire equipment dealers. Installation and service manuals are available through local distributors and on manufacturers' websites. Local distributors and manufacturers are also available for seminars to assist local jurisdictions.

In The Field: Occupancy owners and those contractors who mount and service the technology are responsible for installing the technology per manufacturers' guidelines. Faulty installation can result in false readings and possible nuisance alarms the same as any fire protection system.

A few items to be aware of when reviewing installed technology within occupancy:

- Extinguisher gauge connected to secured tether. If the gauge is not properly connected, the technology will signal that the unit is not properly in place.
- Tether secured tightly to the wall behind the head of the fire extinguisher. If the tether is not secured properly, the unit may not disconnect in a time of need.
- Proper installation of the accompanying interface module. The unit houses the obstruction detection & should be installed properly; below or slightly adjacent to (depending on the height of installation) the fire extinguisher. Improper installation may result in a non-connected unit. Interface modules should be at least a foot and a half from the floor.

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- **Obstructions.** Obstructions will be the most common problem detected. As with any life safety piece of equipment, accessibility should not be hindered. There may be a learning curve for occupancy owners who may typically store items in front of an extinguisher. Technology monitors an area up to 36 inches in front of a unit (manuals show how that area may be reduced to 18 inches if local AHJ authorizes it) for an excess of 15 hours. Once an object is removed the technology will not immediately reset unless a unit is disconnected and then reconnected otherwise it will reset itself within 5 hours.

The following are answers to commonly asked questions:

Q: When did the requirement become effective?

- The requirement was effective December 23, 2011. Projects that were already permitted prior to that date are not required to install the monitoring.

Q: Does this requirement change where fire extinguishers are required?

- The fire code does not change where fire extinguishers are required.

Q: Where does the fire code require fire extinguishers to be electronically monitored?

- The fire code requires extinguishers to be electrically monitored only in new buildings that are required by the state fire or building code to have a fire alarm system.

Q: Is the monitoring required when there is no state requirement for a fire alarm system?

- The monitoring is not required if a local ordinance requires a fire alarm above the minimum requirements of the Fire and building code.

Q: Is this requirement for existing construction as well?

- The monitoring requirement is only for new construction (ground up).

Q: What if the fire extinguisher does not have a pressure gauge?

- Extinguishers that do not have a pressure gauge can be monitored to be in place by use of a tether.

Q: Does this requirement satisfy any existing requirements of the State Fire Code?

- The fire code, Joint Commission and OSHA require business to inspect and document their extinguishers every month. The electronically monitored system meets that requirement.

Q: Does the alarm from the extinguisher get transmitted as a fire or trouble alarm?

- The AHJ chooses how they want the signal transmitted.

Q: Does the signal have to be transmitted through the fire alarm system?

- The monitoring is recommended to be through the fire alarm with all the other life safety systems however it may be monitored in another recognized method approved by the AHJ.

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Summary: Working accessible fire extinguishers are proven to reduce fire loss and technology ensures 24/7 code compliance. New commercial construction within the state requires monitored fire extinguishers if the structure requires an alarm system. End users & installers are responsible for installing & maintaining the equipment. Guides are available through installers or online. Fire safety is in layers and monitoring the extinguishers along with fire alarms, engineered systems, and sprinklers is important to life safety and provides a return on investment to the owner.