

From: James Downs *NRR*
To: Ray Gallucci *NRR*
Date: 2/13/04 9:24AM
Subject: Re: Gaseous Suppression

PREDECISIONAL INFORMATION

I should have thought of that... see the attached .wpd, I included a little extra just to get the section in some context.

>>> Ray Gallucci 02/13/2004 9:03:50 AM >>>
Can you send me electronic files of the appropriate sections?

>>> James Downs 02/13/04 09:02AM >>>
Ray,

There are three types of gaseous suppression systems (carbon dioxide, halon, and clean agent). Each one is regulated by a different NFPA Standard. All three of the standards are in concurrence, automatic detection and actuation must be utilized unless exempted by the authority having jurisdiction. The sections which specify this are:

NFPA 12, Standard on Carbon Dioxide Extinguishing Systems 2000 Edition, Section 1-8.1.1

NFPA 12A, Standard on Halon 1301 Fire Extinguishing Systems 1997 Edition, Section 2-3.1.1

NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems 2000 Edition, Section 2-3.1.2

Hope this helps,

-JD

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NFPA 12, Standard on Carbon Dioxide Extinguishing Systems 2000 Edition

1-8 Detection, Actuation, and Control.

1-8.1

Systems shall be classified as automatic or manual in accordance with the following methods of actuation.

- (a) Automatic Operation. Operation that does not require any human action.
- (b) Normal Manual Operation. Operation of the system requiring human action where the location of the device used to cause operation makes it easily accessible at all times to the hazard (see 1-8.3.4). Operation of one control shall be all that is required to bring about the full operation of the system.
- (c) * Emergency Manual Operation. Operation of the system by human means where the device used to cause operation is fully mechanical in nature and is located at or near the device being controlled. A fully mechanical device can incorporate the use of system pressure to complete operation of the device. (See 1-8.3.5.)

1-8.1.1

Automatic detection and automatic actuation shall be used.

Exception No. 1: Manual-only actuation can be used if acceptable to the authority having jurisdiction where automatic release could result in an increased risk.

Exception No. 2: This does not apply to hand hose line and standpipe systems.

Exception No. 3: This does not apply to marine systems (see Chapter 6).

1-8.2* Automatic Detection.

Automatic detection shall be by any listed or approved method or device that is capable of detecting and indicating heat, flame, smoke, combustible vapors, or an abnormal condition in the hazard such as process trouble that is likely to produce fire.

NFPA 12A, Standard on Halon 1301 Fire Extinguishing Systems 1997 Edition

2-3 Detection, Actuation, Alarm, and Control Systems.

2-3.1

Detection, actuation, alarm, and control systems shall be installed, tested, and maintained in accordance with NFPA 70, National Electrical Code, and NFPA 72, National Fire Alarm Code. In Canada refer to ULC S524-M86, Standard for the Installation of Fire Alarm Systems, and ULC S529-M87, Smoke Detectors for Fire Alarm Systems.

2-3.1.1

Automatic detection and automatic actuation shall be used.

Exception: Manual-only actuation shall be permitted to be used if acceptable to the authority having jurisdiction.

2-3.2 Automatic Detection.

2-3.2.1*

Automatic detection shall be by any listed or approved method or device capable of detecting and indicating heat, flame, smoke, combustible vapors, or an abnormal condition in the hazard, such as process trouble, that is likely to produce fire.

2-3.2.2

Adequate and reliable primary and 24-hour minimum standby sources of energy shall be used to provide for operation of the detection, signaling, control, and actuation requirements of the system.

NFPA 2001, Standard on Clean Agent Fire Extinguishing Systems 2000 Edition

2-3 Detection, Actuation, Alarm, and Control Systems.

2-3.1 General.

2-3.1.1

Detection, actuation, alarm, and control systems shall be installed, tested, and maintained in accordance with appropriate NFPA protective signaling systems standards. (See NFPA 70, National Electrical Code, and NFPA 72, National Fire Alarm Code®. In Canada refer to ULC S524-M91, Standard for the Installation of Fire Alarm Systems, and ULC S529-M87, Smoke Detectors for Fire Alarm Systems.)

2-3.1.2

Automatic detection and automatic actuation shall be used.

Exception: Manual-only actuation shall be permitted if acceptable to the authority having jurisdiction.

2-3.1.3

Initiating and releasing circuits shall be installed in raceways. Alternating current (ac) and direct current (dc) wiring shall not be combined in a common conduit or raceway.

Exception: Ac and dc wiring shall be permitted to be combined in a common conduit or raceway where shielded and grounded.

2-3.2 Automatic Detection.

2-3.2.1*

Automatic detection shall be by any listed method or device capable of detecting and indicating heat, flame, smoke, combustible vapors, or an abnormal condition in the hazard, such as process trouble, that is likely to produce fire.

2-3.2.2

Adequate and reliable primary and 24-hour minimum standby sources of energy shall be used to provide for operation of the detection, signaling, control, and actuation requirements of the system.

2-3.2.3

When a new agent system is being installed in a space that has an existing detection system, an analysis shall be made of the detection devices to assure that the detection system is in good operating condition and will respond promptly to a fire situation. This analysis shall be done to assist in limiting the decomposition products from a suppression event.