



Tuesday e-Tech Alert
July 31, 2007
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Use Caution with 2-1/2-inch Connections to Sprinkler Piping

A change to the annex of the 2007 edition of NFPA 13 may give the impression that 2-1/2-inch (65 mm) hose connections may be made to sprinkler piping, but a review of the development history of NFPA 13 and NFPA 14 confirms that such connections are only permitted as part of a fire department standpipe system, and that NFPA 14 continues to have jurisdiction over pressure and flow requirements. The potential pitfall is made worse by a statement in the NFPA's 2007 *Automatic Sprinkler Systems Handbook* commentary to Section 8.17.5.2 that these connections are "not to be treated as standpipe hose connections," a statement that appears to be inaccurate.

The 2-1/2-inch (65 mm) hose connections are treated differently than 1-1/2-inch (40 mm) hose connections within NFPA 13. The smaller hose connections, addressed in Section 8.17.5 of the 2007 edition, have traditionally been connected to sprinkler systems to facilitate mop-up operations, and were typically required in storage occupancies. Although the hose connections are the same size as the 1-1/2-inch (40 mm) Class II standpipe hose connections, they have never been considered as standpipe connections, and have therefore not been required to meet the minimum flow and pressure requirements of NFPA 14. NFPA 14 currently requires 100 gpm (379 lpm) at minimum 65 psi (4.5 bar) for Class II standpipe service, which is also provided as part of Class III service. By contrast, NFPA 13 specifies a minimum of 50 gpm (189 lpm) at the available pressure of the sprinkler systems for its 1-1/2-inch (40 mm) hose connections.

Codes such as the NFPA 101 *Life Safety Code*® recognize this difference, and for applications such as stages in new assembly occupancies allow the provision of either Class II or III standpipe service or 1-1/2-inch (40 mm) hose connections from the sprinkler system. The fact that there are two different types of 1-1/2-inch (40 mm) hose connections is also supported by product listing requirements. A review of Underwriters Laboratories requirements shows that the 1-1/2-inch (40 mm) hose outlets for Class II standpipe systems have 1-1/2-inch (40 mm) inlets, whereas the 1-1/2-inch (65 mm) hose outlets for sprinkler systems have 1-inch (40 mm) inlets. This demonstrates a concern that water not be discharged from a sprinkler system hose connection in such quantities that it could compromise the effectiveness of the sprinklers.

This same concern is the reason 2-1/2-inch (65 mm) outlets should not be connected to sprinkler system unless as part of a combined riser serving both standpipe hose outlets and the sprinkler system. In most cases, the water demand and pressure for the standpipe system will substantially exceed that of the sprinkler system. Both NFPA 13 and 14

recognize that in the case of a building fully sprinklered in accordance with NFPA 13 there is no need to add any additional water for the sprinklers.

The allowance for 2-1/2-inch (65 mm) hose connections to the common riser serving both sprinklers and standpipes is found in Section 8.17.5.2 of the 2007 edition of the sprinkler standard. The title, "Hose Connections for Fire Department Use" clarifies the intent, since it is consistent with the definition of Class I standpipe service. When the combined riser first became popular in the late 1970's, the NFPA Standards Council directed the sprinkler and standpipe committees to resolve the questions of jurisdiction, and the NFPA 14 Committee was given authority over the minimum flow and pressure requirements.

When developing the 2007 edition of NFPA 13, the Sprinkler Committee wanted to specifically address the question of whether inside hose allowance was to be added for a combined riser, and proposed the following wording:

"A.11.2.3.1.8(8) If hose valves or stations are provided on a combination sprinkler riser and standpipe for fire department use in accordance with NFPA 14, the hydraulic calculation for the sprinkler system is not required to include an inside hose allowance."

During the public comment period it was suggested that this conflicted with Section 11.2.3.1.8.8(b), presumably for the very rare event in which the sprinkler demand including inside hose stream allowance somehow exceeded the NFPA 14 mandated demand. The comment also appeared to suggest an override of the 250 gpm allowance for each additional standpipe mandated by NFPA 14, which was obviously outside the jurisdiction of NFPA 13. Nevertheless, the Committee action was to Accept in Principle, which gives the impression of an override of NFPA 14. The final annex wording is as follows:

"A.11.2.3.1.8(8) For fully sprinklered buildings, if hose valves or stations are provided on a combination sprinkler riser and standpipe for fire department use in accordance with NFPA 14, the hydraulic calculation for the sprinkler system is not required to include the standpipe allowance and should be limited to 50 gpm at each hose valve to a maximum of 100 gpm."

Consistent with the history of this issue, this new wording should simply be interpreted to address the possible presence of small hose connections on the downstream sprinkler systems, and not be considered a waiver of the water demand for the 2-1/2-inch hose valves on the combined riser, over which NFPA 14 has jurisdiction.

Upcoming NFSA "Technical Tuesday" Online Seminar – August 7th

Topic: Flammable and Combustible Liquids – Part 1

Instructor: Victoria B. Valentine, P.E., NFSA Director of Product Standards

Date: August 7, 2007

Flammable and combustible liquids offer a challenge to many fire protection systems. The amount of liquids and the storage arrangement can affect the ability of a fire to be controlled. NFPA 30, Flammable and Combustible Liquids Code, offers some guidelines on how to protect specific arrangements. This seminar will review the different types of systems that can be used to protect these hazardous liquids and some scenarios that fall outside the scope of the standardized protection schemes.

Information and registration for this seminar is available at www.nfsa.org or by calling Dawn Fitzmaurice at 845-878-4200 ext. 133.

Upcoming NFSA “Business Thursday” Online Seminar – August 16th

Topic: How to do Effective Strategic Planning

**Instructor: Don Pamplin, NFSA Northwest Regional Manager
(Former Fire Chief of Vancouver, British Columbia, Canada)**

Date: August 16, 2007

The majority of public and private sector organizations do not perform effective strategic planning. They think they do and in some situations, they even call it “strategic planning” but the planning model that they use is really not strategic. In the business world, the absolute bottom line is to make a profit and the more profit you consistently make, the better insulated you are from the disastrous effects of economic and social change. By practicing effective and efficient strategic planning, you can be better prepared to change direction to meet new markets demands and technology shifts. All business organizations within the Fire Sprinkler Industry need to use effective strategic planning to create a realistic and achievable road map to lead them to where they want to be in five or ten years.

Information and registration for this seminar is available at www.nfsa.org or by calling Dawn Fitzmaurice at 845-878-4200 ext. 133.

NFSA Technician Training Classes

The two-week NFSA technician training class scheduled for September 24- October 5 in Kansas City, MO, is completely full at the present time, and a wait list is being developed. However, the extra class added for November of 2007 in Newburgh, NY still has availability. These seminars also serve as starting points for the NFSA’s two-year Certificate Program for Fire Sprinkler Technicians.

Only the following classes remain in the 2007 NFSA engineering department training schedule:

Two-Week Technician Training Seminar

November 5-16

Newburgh, NY

3-day Advanced Technician Training Class

September 5-7

St Louis, MO

NICET Inspector Certification Review Classes

August 7-9

Indianapolis, IN

August 14-16

San Antonio, TX

November 6-8

Providence, RI

For more information on any of these classes, contact Nicole Sprague using Sprague@nfsa.org or by calling 845-878-4200 ext. 149.

In-Class Training Seminars

The NFSA training department also offers in-class training on a variety of subjects at locations across the country. Here are some upcoming seminars:

July 31	Introduction to Sprinkler Systems (1/2 day)(AM)	Pataskala, OH
July 31	Underground Piping (1/2 day) (PM)	Pataskala, OH
Aug 1	Pumps for Fire Protection	Pataskala, OH
Aug 2	Sprinkler Protection for Rack Storage	Pataskala, OH
Aug 14-15	Two-day NFPA 13 Overview & Intro to Plan Review	Centerville, OH
Aug 16	Hydraulics for Fire Protection	Centerville, OH
Sept 18	Sprinkler Protection for General Storage	Seattle, WA
Sept 19	Sprinkler Protection for Rack Storage	Seattle, WA
Sept 20	Pumps for Fire Protection	Seattle, WA
Sept 18-19	Two-day NFPA 13 Overview & Intro to Plan Review	Baltimore, MD
Sept 20	Pumps for Fire Protection	Baltimore, MD
Sept 25	Sprinkler Protection for General Storage	Eugene, OR
Sept 26	Sprinkler Protection for General Storage	Eugene, OR
Sept 27	Inspection, Testing & Maintenance	Eugene, OR
Oct 23	Introduction to Sprinkler Systems (1/2 day)(AM)	Woodland, CA
Oct 23	Underground Piping (1/2 day)(PM)	Woodland, CA
Oct 24	Inspection, Testing & Maintenance	Woodland, CA
Oct 25	Basic Seismic Protection (1/2 day)(AM)	Woodland, CA
Oct 25	Advanced Seismic Protection (1/2 day)(PM)	Woodland, CA

For more information on these seminars, or to register, please visit www.nfsa.org or call Mike Repko at 845-878-4207.

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