



**Tuesday e-Tech Alert**  
**June 26, 2007**  
**Number 87**

**Building Collapse Zones and Post Indicator Valves**

Placement of hydrants, post indicator valves and yard fire department connections outside of building collapse zones may seem like an ancient lost art to some. Decades ago it was considered very important to ensure that collapse of an exterior building wall during a fire would not hamper firefighting efforts or endanger responding firefighters. Cost pressures over the years, in combination with the recognized effectiveness of automatic sprinkler systems, have relaxed these concerns. In fact, the concept of collapse zones today is today really only recognized indirectly in the minimum required distance of hydrants and post indicator valves from buildings. For hydrants this appears in Section 7.2.3 of NFPA 24 – *Installation of Private Fire Service Mains and their Appurtenances* (2007 edition), and for post indicator valves the requirement is in Section 6.3.3 of the standard:

*6.3.3 Location*

*6.3.3.1 Post indicator valves shall be located not less than 40 ft (12.2 m) from buildings.*

*6.3.3.2 Where post indicator valves cannot be located in accordance with 6.3.3.1, they shall be permitted to be located closer where approved by the authority having jurisdiction, or wall post indicator valves shall be used, provided they are set in locations near blank walls where the possibility of injury by falling walls is unlikely and from which people are not likely to be driven by smoke and heat.*

This wording is often used as an example of awkward standards language, since a minimum distance of 40 ft is stated, followed by a section that allows a relaxation of this minimum.

The development of the 2007 edition of NFPA 24 – *Private Fire Service Mains* took place at the same time as the development of the 2007 edition of NFPA 13. The NFSA submitted a proposal to clarify Section 6.3.3 by substituting proposed wording that would have simply called for a PIV to be located a safe distance from the building where it could be readily accessible but not subject to damage. A corresponding annex section would remind users that the safe distance would depend on the building height in the event of a collapse, and recommend wall PIVs through blank walls where safe distances could not be maintained. However, the Committee defended the current wording, stating “Where the PIV cannot be located 40 ft away from the building due to location, property lines or other reasons, the contractor can utilize the requirements of 6.3.3.2 to provide the PIV in an alternative location.” The Committee also indicated it was seeking consistency between NFPA 24, NFPA 13 and NFPA 14.

NFPA 14 – 2007 also contains a reference to the 40 ft minimum, but the placement makes it appear that it is addressing valves on fire department connections:

*6.3.6 Valves on Connections to Water Supplies*

*6.3.6.1 General*

*6.3.6.1.2 Valves on fire department connections shall be in accordance with Section 6.3.*

*6.3.6.1.2.1 All valves shall be plainly marked.*

*6.3.6.1.2.2 Where the valve cannot be located at least 40 ft (12.2 m) from the building, it shall be installed in an approved location and where it is readily accessible in case of fire and not subject to damage.*

*6.3.6.1.3 Where post indicator valves cannot be used, underground valves shall be permitted.*

NFPA 13 - 2007 edition simply requires (Section 8.16.1.3) that the top of the post be 36 inches (0.9 m) above final grade and that they be “properly protected against mechanical damage where needed.” It does not address distance from buildings except in Annex section A.8.16.1.3, where it contains an order of preference for outside control valves that also appears in annex section A.6.3.1 of NFPA 24:

*(1) Listed indicating valves at each connection into the building at least 40 ft (12.2.m) from buildings if space permits.*

*(2) Control valve installed in a cut-off stair tower or valve room accessible from the outside.*

*(3) Valves located in risers with indicating posts arranged for outside operation.*

*(4) Key-operated valves in each connection into the building.*

When are post indicator valves required? The NFSA attempted to also have this issue addressed more directly during the development of the 2007 edition of NFPA 24, and Section 6.3.1 now states that PIVs are required unless Section 6.3.2 is invoked, in which the authority having jurisdiction (AHJ) can waive the requirement if the provisions of 6.1 and 6.4 are met. Section 6.1 simply recognizes the use of various types of indicating valves, including a nonindicating valve in a roadway box, and Section 6.4 calls for valves in pits where it is “impractical to provide a post indicator valve.” Presumably, the AHJ can agree that a roadway box is a type of valve pit.

Even for a simple sprinkler system, NFPA 24 governs the installation of piping between the public main and the base of the system riser. Although the *International Building Code* does not reference NFPA 24, the *International Fire Code* (Section 508 in the 2000, 2003 and 2006 editions) requires that private fire service mains be installed in accordance with NFPA 24. Where it or similar codes reference NFPA 24, or where NFPA 24 is cited in project specifications, contractors should use special care to receive the necessary approvals from the AHJ for locations of post indicator valves or alternatives.

## **Upcoming NFSA “Technical Tuesday” Online Seminar – July 17th**

**Topic: Multi-Purpose Piping Systems**

**Instructor: Russell P. Fleming, P.E., NFSA Executive Vice President**

**Date: July 17, 2007**

See description below. Information and registration for this seminar is available at [www.nfsa.org](http://www.nfsa.org) or by calling Dawn Fitzmaurice at 845-878-4200 ext. 133 or email: [dawn@nfsa.org](mailto:dawn@nfsa.org).

**Sign Up Now for July-December 2007 “Technical Tuesday” Seminars**

Registration is under way for the series of ten “Technical Tuesday” online classes for the second half of 2007. As in the past, a discount of 30 percent is available when signing up for all ten seminars in the series:

<b>Date</b>	<b>Topic</b>	<b>Instructor</b>
July 17	Multipurpose Piping Systems	Russell P. Fleming, P.E.
Aug 7	Flammable and Combustible Liquids – Part 1	Victoria B. Valentine, P.E.
Aug 21	Concealed Space Area Calculations	Cecil Bilbo, Jr.
Sept 11	Smoke and Heat Vents	Michael Friedman, P.E.
Sept 25	Cloud Ceilings	Kenneth E. Isman, P.E.
Oct 9	Special Considerations for Dry Systems	Cecil Bilbo, Jr.
Oct 23	Flammable and Combustible Liquids – Part 2	Victoria B. Valentine, P.E.
Nov 6	Spec Buildings	Kenneth E. Isman, P.E.
Nov 20	NFPA 25 – 2007 Update	Russell P. Fleming, P.E.
Dec 11	Special Storage Sprinkler Systems	Cecil Bilbo, Jr.

Register at [www.nfsa.org](http://www.nfsa.org) or call Dawn Fitzmaurice at 845-878-4200 ext. 133 or email: [dawn@nfsa.org](mailto:dawn@nfsa.org).

### **Additional NFSA Training Opportunities**

#### **Two-Week Technician Training Seminar**

*September 24- October 5      Kansas City, MO*  
*November 5-16                Newburgh, NY*

This seminar, the last available for 2007, also serve as a starting point for the NFSA’s two-year Certificate Program for Fire Sprinkler Technicians. For more information, contact Nicole Sprague at 845-878-4200 ext. 149 or email: [Sprague@nfsa.org](mailto:Sprague@nfsa.org).

#### **3-day Advanced Technician Training Classes**

*July 24-26                        Chicago, IL*  
*September 5-7                 St Louis, MO*

For more information, contact Nicole Sprague at 845-878-4200 ext. 149 or email: [Sprague@nfsa.org](mailto:Sprague@nfsa.org).

#### **NICET Inspector Certification Review Classes**

*August 7-9                        Indianapolis, IN*  
*August 14-16                    San Antonio, TX*  
*November 6-8                    Providence, RI*

For more information, contact Nicole Sprague at 845-878-4200 ext. 149 or email: [Sprague@nfsa.org](mailto:Sprague@nfsa.org).

## **In-Class Training Seminars**

NFSA 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](http://www.nfsa.org) or call Michael Repko at 845-878-4207.

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