NFSA
The Voice of the Fire Sprinkler Industry

Tuesday e-Tech Alert

Editor-Russell P. Fleming P.E.

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Best Questions of November 2010

We have selected the following questions as the "Best of November 2010" answered by the engineering staff as part of the NFSA's EOD member assistance program:

Question 1 – Hydraulic Placard for Pipe Schedule System

As a result of an annual inspection, we have encountered an existing pipe schedule system that requires a "Hydraulic Placard" on the riser. We have hydraulically calculated the system and it is deficient. The hydraulics simply do not work when calculated per NFPA 13. Is it the intention of NFPA 25 or NFPA 13 that the existing pipe schedule system is sufficient, if not modified, to protect the existing facility as it was originally designed?

Answer: . There is no such thing as an existing pipe schedule system that requires a hydraulic placard on the riser. The only systems that require a hydraulic placard are those systems that were hydraulically calculated in the first place. Nevertheless, for some reason you have been asked to calculate an existing pipe schedule system and found that the water supply may be insufficient. This is not a big surprise - it is the chief reason that new pipe schedule systems have been discouraged by NFPA 13 beginning with the 1999 edition of NFPA 13. However, NFPA 13 does not apply to existing systems. As long as there is no reason, from a building or fire code perspective, for the building to meet new system requirements, the pipe schedule system is allowed to remain as it was originally designed and installed. As long as the original flow and pressure required for the pipe schedule system is still available, the system is considered to be in compliance. Editions of NFPA 13 extending decades prior to the 1999 edition of NFPA 13 contained the same basic water supply requirements. For light hazard pipe schedule systems, this was a flow between 500 and 750 gpm available from the water supply with a pressure at the highest sprinkler of 15 psi. For ordinary hazard systems the flow was slightly higher and the pressure at the highest sprinkler needed to be increased to 20 psi.

Question 2 – Leakage in Underground Piping

I have a technical question about testing underground pipe. Section 10.10.2.2.4(1) limits leakage to 2 qt/hr per 100 gaskets. Am I supposed to pro-rate the amount of water per gasket (.64 ounce / gasket)? I would also like to confirm that each pipe joint, plain end into bell end, is considered a gasketed joint. Section 10.10.2.2.4(3) states that if the main valve to the dry barrel hydrant is open an additional 5 ounces of leakage are allowed. If the valve is closed am I allowed any leakage?

Answer: The answer to each of your questions is "yes". You prorate the allowable leakage based on the number of gaskets. So if you had 200 gaskets, you would be allowed four quarts per hour. If you only had two gaskets, you would only be allowed 0.04 quarts per hour. Each plain end fitting inserted into a bell end is considered a gasketed joint.

If the main valve to the dry barrel hydrant is closed, no additional leakage is allowed. The additional leakage permitted for dry barrel hydrants has to do with water getting out of the drains at the bottom of the hydrant. If the valve is closed to the hydrant, no such leakage will occur.

Question 3 – Movable Racks

I have a building that is being renovated and will be a rack storage warehouse for mostly metal rocket parts. The protection proposed is K17 ESFR pendant sprinklers designed for 12 sprinklers operating at 52 psi, and the roof elevation is around 30 ft. We have a large section of rolling metal racks that are about 12 ft high, each is around 30 inches deep. NFPA 13 says to treat movable racks as multiple row racks for protection criteria, but the owner is concerned about the solid sheet metal tops of the movable racks since ESFR guidance in NFPA 13 says there can be no solid shelves.

Should the owner be encouraged to install some sort of fixture to make certain that the racks can be no closer than 3 inches apart so that sprinkler discharge can reach combustible storage in the lower portion of the movable racks? What is the best approach to ensure compliance with the code?

Answer: The owner is correct to be concerned about the solid nature of the top of the movable racks. Such obstruction to ESFR spray could be a problem. You have not mentioned the length of the racks. With the racks being 30 inches deep, the racks could be up to 8 feet long and still comply with the definition of an open rack (see Section 3.9.3.8 of NFPA 13). If the blockage at the top of the racks is less than or equal to 20 sq ft, (2.5 x 8) then the rack is considered an open rack and ESFR sprinklers can be used.

If the blockage at the top of the racks is greater than 20 sq ft, then the rack is considered a solid shelf rack, and ESFR sprinklers cannot be used. In fact, none of the rules in NFPA 13 would apply if the racks are considered solid shelf racks because in-rack sprinklers would be required and they cannot be installed in moving racks. In this case, some custom sprinkler criteria would be required.

Finally, you have asked about placing some sort of spacer around the racks in order to make sure that the racks do not get pressed up against each other so as to eliminate flue spaces. This is generally not done with moving racks because the multiple row rack criteria already takes into account the fact that commodities might be pressed up against each other in one direction. For example, if you look at Figure 17.2.1.2.1(d), the double row rack figures show gaps between the racks, which are intended to denote flue spaces. But the multiple row rack drawings on the same figure show the commodities pressed up against each other, eliminating longitudinal flue spaces. If the owner wanted to put some bumpers on the racks to ensure transverse flue spaces, this might improve fire protection, but it's not required.

Question 4 – Replacing Ceiling Tiles

As an AHJ doing inspections at sprinklered office buildings, retail stores, and schools we've observed many instances where the ceiling tiles have been removed and not replaced. Based on the type of construction there may, or may not, be sprinkler coverage in the ceiling area above the drop ceiling.

It would appear to me that missing ceiling tiles in the room of fire origin could delay the activation of the fire sprinklers. The heat could bypass the sprinkler(s) in the drop ceiling. When we find this situation we ask people to replace the ceiling tiles and explain fire behavior to them. Most of them comply. However, more people have been asking where that requirement is in the code. We cite the IFC 901.6 relating to maintenance of fire protection systems as designed. In researching the 2002 version of NFPA 13 we can't

find any direct requirement for ceiling tiles. The deflector position is based on the type of sprinkler and type of construction (8.5.4.1). Is there a better explanation in NFPA 13 that I'm missing?

Answer: There is no requirement in NFPA 13 to install or replace ceiling tiles. Instead the installation rules require that the sprinkler deflector be within 12 inches of the ceiling (22 inches for obstructed construction). If the building ceiling changes then the sprinklers must be repositioned to be within 12 inches of the new ceiling level. NFPA 25 would likewise not require replacement of ceiling tiles, but a code enforcement authority can consider the removal of ceiling tiles as an improper building modification and require that the owner address the situation.

Question 5 – Theater Proscenium Opening Protection

We have a customer that is involved in the operation of an existing historical theater that has an ancient fire curtain that will drop down in the event of a fire. They would like to get rid of the fire curtain due to its age and the possibility that it may contain asbestos. If an automatic deluge system is installed across the opening to provide a water curtain, can the fire curtain be eliminated? In looking at the 2006 edition of the International Building Code, it appears that it would not be needed anymore, as Section 410.3.5 indicates either one is acceptable. Am I reading it right? It appears NFPA 13 does not address the requirement for an automatic deluge system, only how to provide it if required.

Answer: You are correct - the IBC would require either a proscenium curtain or a water curtain for a stage opening with a height greater than 50 feet. Here is the section from the IBC:

410.3.5 Proscenium curtain. *The proscenium opening of every stage with a height greater than 50 feet (15 240 mm) shall be provided with a curtain of approved material or an approved water curtain complying with Section 903.3.1.1.*

NFPA 13 contains the protection criteria in Section of the 2010 edition.

Question 6 – Hanging Pipe Under Sloped Ceilings

I know Section 9.1.2.3 of NFPA 13, 2010 edition, addresses hangers for slopes greater than 6 in 12, but where are hanger issues addressed for slopes between 2 in 12 and 5 in 12? Or does NFPA 13 contend that the lateral load placed on the hanger rod with slopes less than 6 in 12 is not significant enough to be addressed? Here is the wording:

9.1.2.3 *Where the pitch of the branch line is 6 in 12 or greater, a reduction in the lateral loading on branch line hanger rods shall be done by one of the following:*
*(1)*A second hanger installed in addition to the required main hangers*
(2) Lateral sway brace assemblies on the mains
(3) Branch line hangers utilizing an articulating structural attachment
(4) Equivalent means providing support to the branch line hanger rods

In the 2007 edition the wording was much simpler:

9.1.2.3* *Hanger rods shall be installed so that lateral gravity loads are not induced on the rods. (2007 edition)*

Often under slopes it seems logical to bend a hanger rod, but Section 9.1.2.6 seems to prohibit this practice:

9.1.2.6 Threaded Sections of Rods. *Threaded sections of rods shall not be formed or bent.*

It seems to me that Section 9.1.2.3 is a judgment call. For that matter, bending of rods is also a judgment call. AHJ's and engineers seem to overlook minor bends when they are over the entire length of the rod. It is literally impossible to comply with the noted sections in their entirety. One can utilize a clevis ring, but the rod will still have a lateral load placed on it. So, one can provide hangers and supports as outlined in NFPA 13, 2010 edition, but how often do you see this being done?

Answer: We need to address the two issues of extra support and bending of rods separately.

Where the extra support is concerned, NFPA 13 was silent on the subject prior to 2007. When working on the 2007 edition, the Committee wrote Section 9.1.2.3 that you quoted and inserted a figure in the annex to show how to meet the rule. Unfortunately, the picture did not really do what the standard required. It is literally impossible to design a system under any slope where "lateral gravity loads are not induced on the rods". There is always some minor lateral load induced on the rod under a sloped ceiling.

In the preparation of the 2010 edition, the Committee was asked to clarify their concerns. The committee responded that under extremely sloped ceilings, the general hanger rules of NFPA 13 don't provide enough support. The Committee was asked to define "extreme slope" and what extra support they were looking for. They came back with the new Section 9.1.2.3. The extra support is required where the slope is 6 in 12 or better. No extra support is required where the slope is less than 6 in 12.

As far as the rule on bending rods goes, that's been around for a very long time. If you bend the threaded section of a rod, you weaken the rod. You cannot bend the threaded portion of a rod at all. If you need to bend a rod, then don't use an all-thread rod. If you use a rod that is threaded at the ends and solid in the middle, you can bend it anywhere in the unthreaded section and be in compliance with NFPA 13.

Question 7 – Vibration Isolators on Sprinkler System Hangers

I am currently working on a hospital project where we have been asked to provide vibration isolation on hangers that are anchored below the concrete floor decks of operating rooms. This request arose from a note that was taken from the general notes of the plumbing contract drawings which are very general and not specific to fire sprinkler piping. I believe that the reason for this isolation is to reduce or prevent the noise vibration that could be conducted by various mechanical and plumbing equipment. Our position is that the water in fire sprinkler piping is static and will not conduct noise vibration from water flowing. Does NFPA have any restrictions on type of hangers used for vibration isolation?

Answer: Since the specifications don't specifically state that vibration isolation is required on sprinkler piping, you are right to question the interpretation that it is required. But if in fact vibration isolation is required, you should recognize that NFPA 13 has two methods of compliance for hangers. The first is for listed products and installations that fit within the prescribed information of the standard. The second is the performance-based method where a registered professional engineer certifies that the arrangement meets the goals listed in Section 9.1.1.2 of the 2010 edition of NFPA 13.

If you are installing a system that needs to comply with NFPA 13 but also has to meet these special vibration isolation requirements, the arrangement may need to follow the performance-based requirements, with a professional engineer certifying the arrangement. We are not aware of an off-the-shelf model that meets your needs, but suggest you contact the fire protection hanger manufacturers.

Question 8 – Protecting Church Steeples

When a church is provided with sprinkler protection, is it necessary to protect the pointed peak enclosures of wood frame construction church steeples? In some cases these structures have an air gap where a bell maybe located between the top of main structure and the top of the steeple. It does not seem practical.

Answer: We've seen church steeples handled in three ways. Some steeples are essentially attached to the building after the roof is finished, making them independent of the structure. These are generally not sprinklered in that the AHJ considers them separate from the actual church building. Some steeples are not sprinklered because a creative engineer or AHJ finds a way to apply one of the rules in Section 8.15.1.2 of NFPA 13.
Some steeples are sprinklered as a part of the attic when the attic is sprinklered. There is no general rule and the word steeple is not found in NFPA 13.

Question 9 – Pitching of Pipe in a Manual Dry Standpipe

We are currently designing a manual dry standpipe system where all of the horizontal piping is located above a ceiling in a heated space. The question in our office is this: Does this piping has to be sloped in accordance with NFPA 13 as if it were a dry pipe sprinkler system? We have been unable to find a section in NFPA 14 that states this is or isn't required or that refers us back to NFPA 13.

Answer: There is no requirement for pitching a dry standpipe because they are typically installed as vertical piping. Section 7.11.2 of NFPA 14 requires that standpipe systems be provided with a means of draining. Leaving closed piping systems partially filled with water is known to result in premature failure due to corrosion, which is the reason NFPA 13 no longer allows piping to be installed level in preaction systems even where they are not subject to freezing. Use of the pitching requirements of NFPA 13 for dry standpipe system mains would be considered good practice.

Question 10 – Design Criteria for 13R Sprinklers Outside Dwelling Unit Areas

I have a question regarding areas outside the dwelling unit in an NFPA 13R application. It has always been my understanding that if the area outside the dwelling unit was an area as described in Section 6.8.2.3, then one could use the minimum flow rates of the residential sprinklers. The confusion lies in either calculating the minimum flow of the sprinkler or the density multiplied by the area of the sprinkler, whichever is greater, as outlined in NFPA 13.

Am I correct in my interpretation?

6.8.2* Design Criteria — Outside Dwelling Unit.

6.8.2.1 *For areas outside the dwelling unit, the design discharge and design area criteria shall comply with NFPA 13, Standard for the Installation of Sprinkler Systems, unless permitted by 6.8.2.2 and 6.8.2.3.*

6.8.2.2 *The system demand of areas outside the dwelling unit shall be permitted to be limited to the number of sprinklers in the compartmented area but shall not be greater than the demand for a total of four sprinklers where all of the following conditions are met:*
(1) The area is compartmented into areas of 500 ft^2 (46 m^2) or less by 30-minute fire-rated construction.
(2) The area is protected by quick-response or residential sprinklers not exceeding 130 ft^2 (12 m^2) per sprinkler for ordinary hazard, 225 ft^2 (20.9 m^2) for light hazard, or the allowable coverage of the sprinkler listing.
(3) Openings have a lintel at least 8 in. (203 mm) in depth.

(4) The total area of openings does not exceed 50 ft^2 (4.6 m^2) for each compartment.
(5) Discharge densities are in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems.

6.8.2.3 *The following types of spaces are permitted to be protected by residential sprinklers where they have flat, smooth ceilings and are protected in accordance with the requirements for residential sprinklers:*
(1) Lobbies not in hotels and motels
(2) Foyers
(3) Corridors
(4) Halls
(5) Lounges
(6) Other areas with fire loads similar to residential

Answer: You are correct that if you are using residential sprinklers in an area outside the dwelling unit in accordance with 6.8.2.3, the discharge criteria comes from the listing of the sprinkler and not NFPA 13. Although we believe NFPA 13R is clear on the subject, others have asked the same question. In the 2010 edition, changes were made to better express the intent of the Committee (which has not changed). The section that allows residential sprinklers to be used outside dwelling units is Section 6.4.7. The discharge criteria for residential sprinklers under NFPA 13R (0.05 gpm per sq ft density or the listing of the sprinklers) is in Section 7.1.1.2. Section 7.2.3 specifically states, *"Where residential sprinklers are permitted outside the dwelling unit in accordance with 6.4.7, the discharge criteria shall be in accordance with 7.1.1.2."*

Question 11 – Protecting a Long Conveyor with Multiple Water Spray Systems

NFPA 15 states: *Water spray system protection for belt conveyors shall accomplish either of the following:*

- *Extend onto transfer belts, transfer equipment, and transfer building*
- *Interlock in such a manner that the water spray system protecting the feeding belt will automatically actuate the water spray system protecting the first segment of the downstream equipment.*

We are protecting a coal conveyor where the length of each segment precludes us from protecting it with one system, therefore there are two systems between each transfer tower. Can we provide a separate system for the transfer tower, or does it need to be part of the system that protects the conveyor that feeds into the transfer tower? Whether or not we provide a separate system for the coal conveyor, does the first system that protects the belt leaving the transfer tower need to be interlocked with the transfer tower system?

It appears to me that as long as we protect the transfer tower, we do not need to interlock it with the system that leaves the tower.

A more basic question is whether you agree it is acceptable to break each conveyor run into multiple systems. We were thinking about breaking them up to minimize bulk pipe sizes. For our calculations, do you think it would it be acceptable to figure that the maximum length of conveyor that would need to have the deluge systems activated simultaneously would be based on the speed of the conveyor (10.3 ft/sec) over a 60 second time frame (maximum time for a deluge system to achieve full flow out of the remote nozzle), or do we need to figure the entire length of conveyor flowing simultaneously?

Answer: In your first question you asked if you can provide separate systems for a conveyor belt and a transfer system that is downstream of that conveyor belt. The answer to that question is yes, as long as those systems are interlocking so that the downstream system actuates when the upstream system does. As required by NFPA 15, 2007 edition, Section 7.2.3.3.3, these areas must either be under one system or the systems must be interlocked so that the downstream system actuates when the upstream system does. The idea behind this is that if there is a fire the conveyor belt will be moving that burning material downstream, so the downstream system may also be necessary to extinguish the fire.

In your second question you asked if the transfer tower needs to be interlocked with conveyor belt system leaving the transfer tower. As previously discussed, the intent of the standard is to address the hazard of the burning material moving downstream. If this is the case for the transfer tower and the conveyor belt leaving the transfer tower then the requirements of Section 7.2.3.3.3 must be followed.

With regard to the acceptability of breaking each conveyor into multiple runs, there is no specific language that would disallow this. However to do this you would have to follow the requirements of NFPA 15, 2007 edition, Section 7.2.3.3.3 and interlock the downstream systems so that they actuate when the upstream systems do.

Finally, you appear to be asking if you could protect a portion of the conveyor belt rather than the whole thing simultaneously. According to NFPA 15 it would appear the answer is no. However, it does not appear that NFPA 15 took into consideration extremely long conveyor belts. For long conveyor belts it would be unrealistic to have a deluge system spray the entire belt. However, since NFPA 15 provides no specific method for determining what would be an acceptable section of the belt to be protected, an engineer may need to review the hazard and determine an acceptable protection length, which could take into consideration factors such as the time needed to fully stop the belt following system activation.

Question 12 – Depth of Bury of Underground Piping

My question is with regard to private fire mains and NFPA 24. Specifically, when referring to the minimum depth of bury chart in the annex referred to by Section 10.5.1:

- Should these depths be interpolated between the lines?
- Why is this depth so much deeper than the actual frost penetration depths at these locations?

I have a project that requires approximately 39 inches of cover according to the chart (if I can interpolate), while the actual frost penetration depth in the area is 12 inches. This project is at a fuel terminal which has nasty requirements for excavation at depths of 4 ft or greater, so I am trying to bury this 6-inch deluge system main as shallow as possible.

Answer: The legally enforceable rules of NFPA 24 are in sections 10.4.1 through 10.4.6. Together, these sections state that the top of the pipe needs to be at least 1 ft below the frost line and at least 3 ft under driveways (to protect the pipe from mechanical damage of the soil getting compacted as trucks drive over the pavement above the pipe).

Figure A.10.4.1 is located in the Annex and is therefore not legally enforceable. However, it is a nationally accepted way to determine how far down the pipe needs to be to comply with the rules in the body of the standard. If you want to use another method to determine how far down your pipe needs to go, you are welcome to do so, but be sure to justify your sources and make sure they are approved before you install the pipe.

Also remember that fire protection mains need to be buried deeper than regular water lines. Regular water lines are generally closer to the surface because there is an assumption of some flow in them continuously, which helps to keep them from freezing, but fire service mains do not have regular flow.

Changes Being Implemented in NICET Layout Program

Water-Based Fire Protection System Layout will be available in Computer Based Testing (CBT) format at four different levels. Level I and Level II are available for testing now (as of Sept. 1, 2010). If you have never taken a NICET test in sprinkler layout and detail before and are starting to take tests for certification, you must now start with the CBT format. If you have already started taking exams for certification using the Work Element format, NICET will allow you to continue for a short period of time (until September 30, 2011) to finish up your testing using Work Elements. After September 30, 2011, all tests will only be offered using the CBT format. Note that to be eligible for testing in the cycle ending September 30, 2011, your application must be postmarked by June 30, 2011.

Upcoming NFSA "SAM Friday" Seminar – December 10th

Topic: Steel Pipe Types and Manufacturing
Instructor: Drew Siddons, Allied Tube
Date: Friday, December 10th

This seminar provides an introduction to the types and manufacturing methods of steel pipe, and will include information on ASTM numbers, continuous welding vs. electric resistance welding, seamless products, corrosion resistance ratios, (CRRs), stencils, and more.

Upcoming NFSA "Technical Tuesday" Seminar – December 14th

Topic: Pumps in Series
Instructor: Kenneth E. Isman, P.E., NFSA Vice President of Engineering
Date: December 14, 2010

With the 2010 Edition of NFPA 20, the Committee has created a new set of rules for how to arrange pumps in series. This presentation will focus on the effect of these new rules for high-rise occupancies and other situations where pumps in series are used to increase system pressure.

Upcoming NFSA/FSI "Best Practices Thursday" – December 16th

Topic: Contracting 101
Instructors: Paul Johnson & Brian Cullen
Date: December 16, 2010

It always pays to routinely review the fundamentals of contracting. Join us for a lively 45-minute presentation on the latest in contracting strategy and tactics where we will address risk transfer avoidance in everything from design-build to inspections. One-on-one follow-up is available after the call at no additional charge.

2011 Technical Tuesday Onlines Announced

The NFSA has released its schedule of "Technical Tuesday" online seminars for the first half of 2011. As in the past, a 30% discount is available by signing up for all ten seminars in the series.

January 18, 2011
Antifreeze Systems – Russell P. Fleming, P.E.
Antifreeze systems generated more controversy than any other fire sprinkler topic during 2010. With the dust settled, this seminar will discuss the current requirements relative to both new and existing systems. It will explore design alternatives, including the status of dry residential sprinkler systems and new candidate antifreeze solutions. It will also address contractor obligations with regard to the evaluation of existing systems.

February 1, 2011
FM Data Sheets – Kenneth E. Isman, P.E.
In March of 2010, the Factory Mutual Insurance Company (FM) released a new set of data sheets regarding how they would like their clients to design and install fire sprinkler systems in the properties they insure. These new data sheets represent a significant change in philosophy for FM. Rather than follow the format of NFPA standards, showing the text of the NFPA standards and then showing where they have different requirements, FM has written their own criteria from scratch, which sometimes contradicts the NFPA standards. The seminar will review the major differences between the FM standards and the NFPA standards and discuss strategies for dealing with the use of FM standards when NFPA standards are referenced by law.

February 15, 2011
Paint Spray Booths (NFPA 33) – Victoria B. Valentine, P.E.
NFPA 33 notes that paint spray booths should be treated as an extra hazard group 2 occupancy for their fire sprinkler protection. However, there are many additional requirements that get pulled into the layout of the system and the hydraulic calculations because of the hazard classification. Different arrangements for paint spray booths will be reviewed for application of the extra hazard occupancy. In addition, the water supply demand for these booths will be discussed.

March 1, 2011
IRC/NFPA 13D Prescriptive Pipe Sizing (P2904) – Jeff Hugo, CBO
This seminar will discuss the alternative to designing residential sprinklers according to the criteria listed in Section P2904 of the 2009 IRC and Section 8.4.10 of the 2010 NFPA 13D. The prescriptive method of designing versus the traditional methods used and the familiarity of this method may decrease design time and training hours for new personnel. Other critical sections of the IRC pertinent to the sprinkler designer and contractor will be highlighted and discussed. Residential fire sprinkler mandates are on the rise throughout the country, and attending this seminar will give your company the newest in sprinkler design and enable flexibility in relaying this information to your local AHJ.

March 22, 2011
Plastic Pallets – Karl Wiegand, E.I.T.
Plastic pallets are used in many storage facilities. The presence of plastic pallets in these facilities can greatly affect the design requirements for the sprinkler systems that protect them. NFPA 13 provides all of these requirements. However, they are separated throughout the standard. This seminar will bring together the different protection requirements of plastic pallets in NFPA 13 to assist in the proper use of the regulations.

April 12, 2011
The New NFPA 25 – Russell P. Fleming, P.E.
The 2011 edition of NFPA 25 includes some changes intended to enhance enforcement of the standard and others aimed at making system maintenance more economical. New recognition that not all deficiencies are equal will permit AHJs to implement a multi-colored tagging system following system inspections. The new standard continues the trend of separating owner responsibilities from those of the inspecting party, and the criteria for the 5-year internal inspections have been reworked.

April 26, 2011
Pipe Stands – Victoria B. Valentine, P.E.
Pipe stands can be used to support water-based fire protection system piping where it cannot be hung. Some criteria have been in NFPA 15 for the past few editions. The guidelines have been modified for the next edition. These rules can also be applied to sprinkler system piping where it may need to be supported from the floor.

May 10, 2011
What Happens During Plan Review? – Jeff Hugo, CBO
You just dropped off your shop drawings at City Hall. Questions arise in your mind: Who scrutinizes my plans? What will this do for me? Why is this necessary? When will they be done? Where can I learn more to avoid correction letters and costly delays? This seminar will answer what should be done on the plans prior to their delivery to City Hall and discuss the fire sprinkler plan review process performed by the AHJ. This program outlines NFSA's newest "Plan Review Guide" and the associated check lists to provide the necessary information to cut your review time down and the project moving. Contractors, layout technicians, architects, building and fire officials, and plan reviewers should attend.

May 24, 2011
Storage Occupancies: Ceiling Slopes and Clearances – Kenneth E. Isman, P.E.
Storage occupancies represent much more difficult and challenging fires for sprinklers to control or suppress. These challenging fire situations become even more difficult to control or suppress when the ceiling is sloped or there is a vast vertical distance between the top of the storage array and the sprinklers at the ceiling. Criteria in NFPA 13 has evolved over the last 10 years to place more stringent rules on how the sprinkler system needs to be designed to protect these occupancies. The seminar will begin with a review of fire dynamics and will then cover the rules of NFPA 13 and potential scenarios for meeting those rules.

June 7, 2011
High Velocity Low Speed (HVLS) Fans – Karl Wiegand, E.I.T.
HVLS fans first came to market in 1995 and since that time have become popular for ventilating large warehouse facilities. In 2007 XL Gaps did a full scale fire test to see how these fans affected sprinkler operation. The test had poor results and a multiphase full-scale testing plan was implemented. Phase 1 of the testing was completed in 2008 and 2009. Phase 2 of the testing was completed in 2010. This seminar will address the test results of the phase 2 testing as well as strategies for installing HVLS fans in a manner in which they will not greatly affect the sprinkler system performance.

To register or for more information, contact Mike Repko at (845) 878-4207 or send an e-mail to seminars@nfsa.org

based on the best judgment of the NFSA Engineering staff, and are not the official position of the NFPA or its technical committees or those of other organizations except as noted. Opinions expressed herein are not intended, and should not be relied upon, to provide professional consultation or services. Please send comments to Russell P. Fleming, P.E. fleming@nfsa.org.

About the National Fire Sprinkler Association

Established in 1905, the National Fire Sprinkler Association (NFSA) is the voice of the fire sprinkler industry. NFSA leads the drive to get life-saving and property protecting fire sprinklers into all buildings; provides support and resources for its members – fire sprinkler contractors, manufacturers and suppliers; and educates authorities having jurisdiction on fire protection issues. Headquartered in Patterson, N.Y., NFSA has regional operations offices throughout the country. www.nfsa.org.