

National Fire Sprinkler Magazine

November - December 2018
No. 211

The Flagship Publication of The National Fire Sprinkler Association



2018 YEAR IN REVIEW



Strange Bedfellows: Bed Bugs
pg. 25

Empowering Survivors to Tell Their Stories with Purpose
pg. 39

Navigating the General Requirements for Storage in the 2019 Edition of NFPA 13
pg. 12





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A pictorial review of NFSA 2018 highlights

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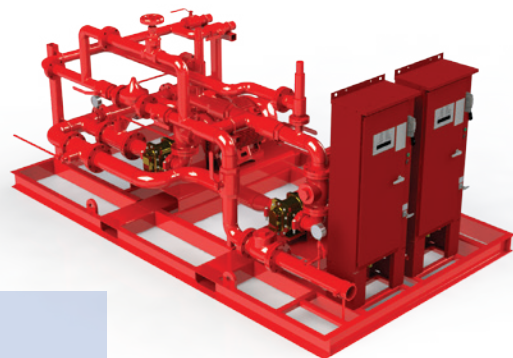
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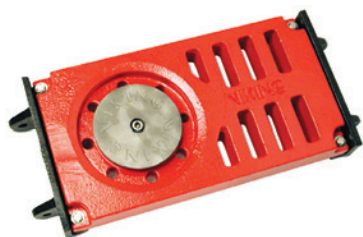


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Joanne Genadio at genadio@nfsa.org*



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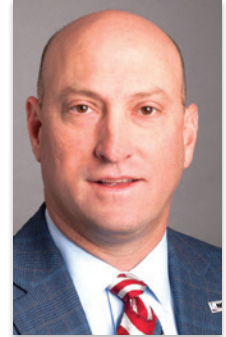


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Looking Forward as We Look Back

2018 brought the first fully staffed Leadership Team of NFSA since 2012, unless I missed something in the Transition Management Planning process. This allowed me to visit more members, which I really enjoy, as I try to know every Contractor, SAM, and Manufacturer member of our Association. I'll keep trying to know the individual members and be like Buck Buchanan, Larry Sander, Bob Knose, Bob Bussiere, James Golinveaux, Terry Victor, Kevin Ortyl, Bruce LaRue, Kevin Fee, Gregg Huennekens, Russ Fleming, and Larry Thau that seem to know everyone in the industry.



2018 brought us celebration on tax reform, which we waited on for 14 years, to make sure the Fire Sprinkler Incentives Act had a chance. While we got more than we planned for with small businesses, especially nightclubs, we did not get high-rises or residential. Yes, there are compromises in politics. The Congressional Fire Services Institute (CFSI) and our fire service partners did not let us down and the vote came after midnight on our own Jim Dalton's birthday! Senator Collins (Maine) and her team ensured fire sprinklers were included. NFSA's presence for years, and most importantly our presence and hard work in the final months, weeks, days, and hours paid off. I wish I could truly share the efforts and processes that made the progress NFSA has achieved; from hospitals, nursing homes, disaster housing units, to the tax incentives at the federal level.

I was able to share just that on September 11, 2018, during a meeting in Washington, D.C. with all the national fire service and national fire protection groups that have a full-time lobbying presence on Capitol Hill. NFSA was present and hosted this event as Jim Dalton, Vickie Pritchett and Andy Quinn sought support for high-rise legislation to give incentives to improve fire- & life-safety in high-rise buildings. High-rise building fires are very dangerous to firefighters who have to respond and are regarded as very high-risk occupancies for citizens. 2018 was the second year NFSA has hosted a high-rise summit to bring stakeholders together to learn how to make improvements. Thanks to the CFSI for coordinating all the fire organizations and their efforts to make improvements. Our partners at the National Fallen Firefighters Foundation are also planning to host a high-risk occupancies & populations summit in 2019.

*"A Stronger Industry...
A Safer World."*

As your Executive & Finance Committee prepares the 2019 Operational Plan and Budget for the Board of Directors, know that 2019 will be the first full team of positions in several years. I assure you, it will be a year of great advancement for this industry. I have learned by visiting our members and receiving direction from our full Board of Directors (which includes contractors, suppliers and manufacturers), as well as my interactions with engineers, designers, layout technicians, project managers, sales personnel, fire officials, building officials, elected officials, facilities managers, and friends of the industry, associations competing causes confusion and costs money and human resources.

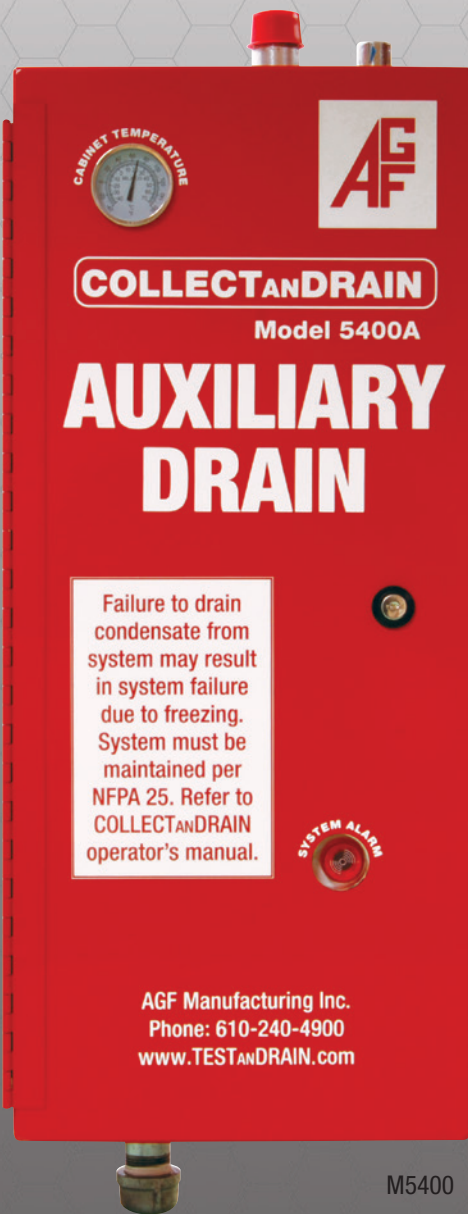
Companies and individuals dedicated to the fire sprinkler industry that work every day to ensure quality systems are designed, installed, maintained, inspected, etc., should not be confused or combative about association issues from over 20 years ago. This industry has many people in the Fire Sprinkler Hall of Fame who fought those battles years ago. Let's not relive them now. I truly believe that we will reach, as Malcolm Gladwell says, our "tipping point" within the next ten years. Since early in my professional life, I have used the motto of "Working, Serving, Learning, Growing... Together!" If we can do all these things we can ensure "A Stronger Industry...A Safer World."

A grateful,

A handwritten signature in black ink that reads "Shane Ray". The signature is fluid and cursive, with a large, sweeping "S" and "R".

Shane Ray, President

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2018 Reflections

In reflecting back on 2018, I feel comfortable saying it hasn't quite been just any old ordinary year. There seems to be an awful lot going on these days, no? The economy continues to purr just about everywhere across the country, the fire sprinkler business remains strong, and many of us are talking politics on a regular basis. Much of your outlook will depend upon if you watch CNN or Fox News, or who you choose to follow on Twitter.

We've had some happy moments, such as when Jay Livingston was presented with the highest honor our industry has to give, the Golden Sprinkler Award. The founder of Livingston Fire Protection some 53-plus years ago has vowed to retire yet again just so he can continue getting his friends together for retirement parties. Jim Dalton (JD) was bestowed with the 2018 James M. Shannon Advocacy Medal at this year's NFPA Conference for his career-long commitment to fire protection. No person I know of is more deserving. Kudos to Wayne Automatic for doing the ITM work and getting it compliant with the State Fire Marshal & Reliable for donating fire sprinklers for Harry Truman's Little White House fire sprinkler system upgrade, truly living up to "It's not preserved until its protected" motto. Las Vegas adopted a fire sprinkler ordinance for new homes within city limits and to quote NFSA "What happens in Vegas . . . should happen all over the country!"

2018 also found NFSA busy sharing the news that fire sprinkler incentives were included in the Tax Cuts and Jobs Act. This is big news to our industry, and lives will be saved as a result of this tax incentive for fire sprinklers. What a great success after a 15-year process with our team in Washington, D.C.!

We've had sad moments as well. We lost long-time Board Member Cary Nicol of Viking Corp. far too soon. Cary lives on by continuing to raise money for Common Voices via "Cary's Challenge". Numerous people have needlessly lost their lives in fires that we all know would have been preventable if the buildings were protected by fire sprinklers. There was the fatal Trump Tower fire that received some publicity, only to be drowned out within days by other news involving our president. The fire at Rio de Janeiro's 200-year old National Museum luckily began after it closed on September 2nd, so there were no injuries. However, lost was the biggest natural museum in Latin America. It was described as "An unbearable catastrophe. It is 200 years of Brazil's heritage. It is 200 years of memory. It is 200 years of science. It is 200 years of culture, of education." Lost was the Luzia fossil, the skull of a woman who lived 11,500 years ago in Brazil. The building was gutted, the value incalculable.

Social media continued to grow in 2018. NFSA and its many members, along with the President of our great country and numerous others have moved to Twitter, Facebook and other modes of social media to keep current with the news. I follow the National Fire Sprinkler Association on Twitter (@NFSAorg) and am proud of the quality and volume of information the staff gets out on a daily basis relative to fire sprinklers. #SprinklerSaves, www.sprinklersaves.com, is full of real time stories of fire sprinkler systems doing their jobs. My own company, Quick Response Fire Protection, Inc. in New Jersey (shameless plug) has recorded and shared six sprinkler saves from our project installs this year alone. All of them occurred in residential occupancies. This year I have read about, and hence our industry has shared with the public, stories about sprinklers extinguishing or containing fires in literally hundreds of structures. Many of these fires were in residential buildings, nursing or assisted living care facilities, hospitals, colleges, hotels, as well as other at-risk occupancies. Please be sure to encourage your employees, family, friends and associates to share fire sprinkler success stories so we can continue to educate the public on the value of fire sprinkler systems.

2018 saw NFSA begin to wind down on its transition period, and finally have ample bodies in place for most of our operations. I must commend President Shane Ray for pushing through a difficult task, and surrounding himself with a strong supporting cast. I'm encouraged and excited to see what 2019 will bring and hope that our list of accomplishments will continue to grow. I again remind you that I'm honored to serve our members and industry and encourage you to please reach out to me to share any thoughts and ideas you may have to make us better.

Respectfully yours,



Kent Mezaros, Chairman



Three Most Flagrant Mistakes Made by Fire Sprinkler Salespeople

By Steven Beers

The fire sprinkler industry is starting to slowly accept that salespeople are an important part of the contractor's success, but when I started in the industry 30+ years ago it was not that way. I never thought, nor could I even picture working in sales when I got into the industry. I was an engineer type not a "salesman", I mean those were slimy people, right? Then I was hired to be a salesman.

Three decades later, I find that most of my career was spent in sales or managing salespeople. Truth be told, everyone is in sales, whether you like it or not. Whether it was a simple inspection or a complex deluge system, I was trying to sell it and grow the business. I made far more mistakes then doing it perfectly, but learned as I went along. Between my own selling experience and managing many salespeople over the years, I found several mistakes that fire protection salespeople consistently make. Following are the three most prominent ones.

They Don't Study Selling

Sales is a true profession. It may not be as evident in the fire sprinkler world because of the amount of "bidding" that is done, but everywhere else, sales is considered a profession. Because a large amount of fire sprinkler work is bid, the perception is we don't need to sell, many contractors develop the "we just need to estimate" mindset. That mindset diminishes the need to understand selling. If you look at true professional salespeople, they study the art and science of selling. They want to improve their ability to influence, communicate, build trust and solve problems, all of which increases the likelihood of winning an order. Fire Protection salespeople have typically come from another role in the industry and rely on their technical capabilities instead of studying sales, people, and the sales process. If you want to help them get started, buy them a book on sales. "Go-Giver Sell More" by Bob Burg & John David Mann, "The Ultimate Sales Machine" by Chet Holmes, or "Getting Naked" by Patrick Lencioni are good places to start.

They Don't Spend Enough Time Selling

Look at your sales person's calendar, how much of their time is spent selling? My guess and experience tell me it's about 20% per week. What are they doing the rest of the time? Most likely attending internal meetings, completing reports, managing projects or being dragged into them, and not in a sales capacity, finding vendors, or chasing down help. The biggest time drag I have found is sprinkler salespeople typically estimate what they are selling. Putting together a "good" estimate takes time, which directly eats into selling time. I lost a very good sales person because an act of God cancelled a project and we lost a multi-million dollar project

he estimated. He was not selling for about six months as he was putting these projects together. Once they were no longer viable projects, he had no pipeline (commission possibility), so he left for a large one-year guarantee. To sell you need to be in front of potential customers on a regular and frequent basis. Developing a relationship, building trust, and gaining influence takes time. Even the general contractors you bid to all the time require face time not talking about a specific project. Free up time for your salespeople to go sell, relieve them of the non-essential reports, internal meetings, project involvement, but most of all find a way to get estimates done for them.

They Don't Tell Stories and Supply Proof

If you study selling and people, you will find what resonates with people is a story. Most fire sprinkler salespeople sell on a technical basis, such as codes, or certain features or benefits. Codes apply to everyone and features and benefits are delineators, but they don't really tell the prospective client why they should buy from you. Answering "why should they buy from you and how you solve problems" is the story your salespeople must learn to tell in a compelling way. How are you solving their problems? How are you impacting their system life-cycle costs? How do you conduct business that makes it easier for them? How do your people make a difference? This story becomes your unique selling proposition. Now, in the sprinkler market, aren't we all going to say pretty much the same thing? Yes, but this is not unique to the sprinkler industry. Have your salespeople give multiple specific examples of how you solved problems for customers. Those stories are what the client will relate to. Once your salespeople can tell that in a compelling way, get someone else to tell it in their words. Testimonials from clients, especially video testimonials, will carry much more weight than what anyone inside your organization has to say. Having previous clients rave about your company is the best way to get others to trust you enough to work with you. When it comes to testimonials, fire sprinkler contractors don't do a good job communicating internally on problem-solving. More importantly, no one asks for testimonials.

There are many more mistakes fire sprinkler salespeople make which are also impacting sales, but there is not space enough in this format to discuss them. The three I referenced are very common within the industry, primarily due to the long enduring culture. For the most part, these can be changed with minimal financial impact (unless you are adding estimators). If you want to learn more about, or get help with, improving your fire sprinkler sales team, please contact the author. •



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Navigating the General Requirements for Storage in the 2019 Edition of NFPA 13

by Mark Hopkins P.E., *NFSA's V.P. of Engineering*



The 2019 edition of NFPA 13, *The Standard for the Installation of Sprinkler Systems*, has recently been released for publication. *.pdf copies of the document are available for purchase or download from the NFPA website (www.nfpa.org), and hardcopies will be available soon. The 2019 edition of NFPA 13 (NFPA 13-2019) includes the most significant reorganization of the document since the NFPA

231 series storage requirements were added to the 1999 edition. Requirements for storage protection have been relocated to NFPA 13-2019 Chapters 20 through 25. Although significant technical changes were not made to NFPA 13-2019, storage requirements were significantly restructured. In general terms, the requirements have been relocated, reorganized and clarified to assist in proper application and understanding of the protection requirements.

The reorganized Chapter 20, *General Requirements for Storage*, now provides a roadmap for protecting storage occupancies. In addition, clarification has been added to Chapter 20 referring to protection of qualifying miscellaneous and low-piled storage in accordance with the relative occupancy hazard criteria identified in Chapter 4. This is important since there seems to be a lot of confusion regarding the requirements for miscellaneous and low-piled storage. Over the past several code cycles, requirements for miscellaneous and low-piled storage have continued to evolve. Since the 2010 edition, Chapter 13 of NFPA 13 included a list of situations where the miscellaneous and low-piled storage requirements would apply. However, NFPA 13-2019 no longer includes this specific chapter regarding the protection requirements for miscellaneous and low piled storage occupancies. These requirements have been relocated to Section 4.3, *Classification of Hazard* in NFPA 13-2019.

When reviewing the general storage requirements, reference to miscellaneous and low-piled storage is found in Section 20.1.1, which refers the user to Chapter 4.

20.1.1 *Miscellaneous and low-piled storage, meeting the criteria of Chapter 4, shall be protected in accordance with the relative occupancy hazard criteria reference in that section.*

Chapter 20 now provides a defined process for the protection of storage. Section 20.1 identifies that “this chapter shall provide the necessary steps for identifying commodity, storage arrangements, storage heights, and clearances as well as general protection criteria for storage conditions relative to Chapters 21 through 25.” Identification of storage arrangements have been clarified. Storage height, building height, clearance and other requirements have been reorganized in a more logical manner. This process is identified in Section 20.2.

20.2 Protection of Storage.

Protection of storage shall follow the following criteria:

- (1) *Identify the storage commodity class in accordance with Sections 20.3 and 20.4.*
- (2) *Identify the method of storage in accordance with Section 20.5.*
- (3) *Establish storage height, building height, and associated clearances in accordance with Section 20.6.*
- (4) *Define the general protection criteria that are common to all storage protection options in accordance with Sections 20.7 through 20.15.*
- (5) *Select the appropriate system/sprinkler technology for protection criteria (Chapters 21 through 25).*
- (6) *Design and install system in accordance with the remainder of this document.*

The first step is to identify commodity classification in accordance with Sections 20.3 and 20.4. This is a change in thinking since commodity classification was previously found in a separate chapter of NFPA 13. Some of the storage definitions previously found in Chapter 3 of NFPA 13-2016 have been relocated to Chapter 20 of NFPA 13-2019, and have been modified to include a requirement, such as a reference to appropriate subsections for relevant protection requirements. The information from NFPA 13-2016, Chapter 5 regarding classification of commodities has been relocated to Sections 20.3 and 20.4 and integrated with these modified definitions. Having the commodity classification requirements in the general storage information section simplifies this part of the process since

continued on page 13

continued from page 12

it reduces the amount of flipping between chapters needed to identify requirements.

The second step is to identify the method of storage in accordance with Section 20.5. NFPA 13-2016 did not have a concise section on storage methods. This section was developed by extracting information from NFPA 13-2016 Chapters 3, 16, 18 and 19. This section provides requirements for movable racks, flues, aisles, and shelving related to rack storage. This chapter also includes criteria for roll paper storage and plastic motor vehicle components. However, Section 20.5.4.1 includes requirements relating to water supplies for rubber tire storage, which does not appear to fit within this section of the document. As a result, we can see that there will likely be changes needed for the 2022 edition of NFPA 13.

The third step is to establish the storage height, building height and associated clearances in accordance with Section 20.6. The requirement limiting ceiling slopes in storage occupancies to 2 in 12 has been added to section 20.6.1. This section essentially remains the same, except that it references Chapters 20 through 25. It is also important to note that there is an on-going Fire Protection Research Foundation project investigating the effects of ceiling slopes on sprinkler performance in storage facilities. It is too early to determine if the requirement will change in the future.

The requirements regarding building height have been simply relocated to Section 20.6.2. However, the storage height requirement (NFPA 13-2016, section 12.1.3.3) has been moved to a separate section (Section 20.6.3) and split to align with NFPA manual of style requirements. The text has essentially remained the same but has simply been separated into Sections 20.6.3.1 and 20.6.3.2 to clarify the two separate requirements.

20.6.3.1 *The sprinkler system design shall be based on the storage height that routinely or periodically exists in the building and creates the greatest water demand.*

20.6.3.2 *Where storage is placed above doors, the storage height shall be calculated from the base of storage above the door.*

Clearance requirements have also been moved to Section 20.6 since clearance is a function of storage height and building height. The requirements have not changed but the presentation of information has changed. Reference to spray sprinklers has been changed to CMDA (control mode density area). Maximum clearance requirements for protection of Class I through IV, and Group A plastics of 10 to 20 ft. have been summarized in Table 20.6.4.2.

Table 20.6.4.2 Maximum Clearance from Top of Storage to Ceiling for CMDA Protection Criteria

Commodity	Class I to IV	Group A Plastic
Palletized, solid-piled, bin box, shelf, or back-to-back shelf storage	20 ft.	20 ft.
Rack storage up to 25 ft	20 ft.	10 ft.
Rack storage >25 ft	10 ft.	10 ft.

Additionally, Table 20.6.4.3 provides a summary of requirements for clearances exceeding 20 ft. These tables essentially consolidate the requirements previously identified in NFPA 13-2016 section 12.1.3.4 along with corresponding requirements found in Chapters 14, 15, 16 and 17.

Table 20.6.4.3 Class I Through Class IV Commodities

Storage Configuration	Where the clearance to ceiling exceeds	Protection is based upon the storage height that would result in a clearance to ceiling of...	In-rack Sprinklers*
Palletized, solid-piled, bin box, shelf, or back-to-back shelf storage	20 ft.	20 ft.	N/A
Rack storage up to and including 25 ft in height	20 ft.	20 ft.	Permitted as alternative to presumed clearance of 20 ft
Rack storage over 25 ft in height	10 ft.	10 ft.	Permitted as alternative to presumed clearance of 10 ft

Roof vent and draft curtain requirements have not changed but have been relocated to Section 20.6.5. Requirements for “clearance from deflector to storage” have been added as Section 20.6.6. However, these requirements appear to have been intertwined with the roof vent and draft curtain requirements. This might be another section requiring a change in the 2022 edition since no subsections are provided in Section 20.6.5, and Section 20.6.6 includes roof vent and draft stop requirements.

The requirements for roof vents and draft curtains formerly included in NFPA 13-2016, Sections 12.1.1.1, 12.1.1.2, 12.1.1.3 and 12.1.1.3.1 are now found in NFPA 13-2019, Sections 20.6.6.2, 20.6.6.3, 20.6.6.6, and 20.6.6.6.1. Additionally, draft curtain requirements formerly included in NFPA 13-2016, Sections 8.4.6.4.1 and 8.4.6.4.2 are now found in NFPA 13-2019, Sections 20.6.6.6.2 and 20.6.6.6.3.

Clearance requirements are included as NFPA 13-2019, Sections 20.6.6.1, 20.6.6.4, 20.6.6.5, and 20.6.6.8. The base requirement of Section 20.6.6.1 references a clearance between the deflector and top of storage of 18 inches or greater. There is a reference to a clearance of 36 inches found in Section 20.6.6.8 for rubber tire storage. However, the requirements for a clearance of 36 inches based on NFPA 13-2016, Sections 8.11.6 and 8.12.6 for CMSA and ESRF would have to be assumed to be part of the requirement of Section 20.6.6.5 based on reference to “special sprinklers.” Again, clarification may be warranted as part of the 2022 edition.

continued on page 14

20.6.5 Roof Vents and Draft Curtains. See Section C.6.

20.6.6 Clearance from Defector to Storage.

20.6.6.1 Unless the requirements of 20.6.6.2 through 20.6.6.5 are met, the clearance between the defector and the top of storage or contents of the room shall be 18 in. or greater.

20.6.6.2* Manually operated roof vents or automatic roof vents with operating elements that have a higher temperature classification than the automatic sprinklers shall be permitted.

20.6.6.3 Early suppression fast-response (ESFR) sprinklers shall not be used in buildings with automatic heat or smoke vents unless the vents use a high-temperature rated, standard-response operating mechanism.

20.6.6.4 Where other standards specify greater clearance to storage minimums, they shall be followed.

20.6.6.5 A minimum clearance to storage of 36 in. shall be permitted for special sprinklers.

20.6.6.6* Draft curtains shall not be used within ESFR sprinkler systems.

20.6.6.6.1 Draft curtains separating ESFR sprinklers at system breaks or from control mode sprinklers or between hazards shall be permitted. (See 14.2.5.)

20.6.6.6.2 Where ESFR sprinkler systems are installed adjacent to sprinkler systems with standard response sprinklers, a draft curtain of noncombustible construction and at least 2 ft in depth shall be required to separate the two areas.

20.6.6.6.3 A clear aisle of at least 4 ft centered below the draft curtain shall be maintained for separation.

20.6.6.7 A minimum clearance to storage of less than 18 in. between the top of storage and ceiling sprinkler deflectors shall be permitted where proven by successful large-scale fire tests for the particular hazard.

20.6.6.8 The clearance from the top of storage to sprinkler deflectors shall be not less than 36 in. where rubber tires are stored.

High volume low speed (HVLS) fan requirements have been relocated to Section 20.6.7. The requirements are essentially the same, except that fan shutdown requirements have been clarified. The singular requirement to shutdown the fan upon waterflow alarm has been split into two separate requirements. The first waterflow related requirement is Section 20.6.7.1 (4), which states, “All HVLS fans shall be interlocked to shut down immediately upon a waterflow alarm.” The second waterflow related requirement is Section 20.6.7.1 (5), which states, “Where the building is protected

with a fire alarm system, this interlock shall be in accordance with the requirements of NFPA 72.”

The fourth step is to define the general protection criteria that are common to all storage protection options in accordance with Sections 20.7 through 20.15. Requirements for unsprinklered combustible concealed spaces have been relocated to Section 20.7. The requirements are essentially the same, except Section 20.7.2 includes a new ninth condition (9) that would not require a minimum 3,000 sqft. design area of sprinkler operation. This condition applies to “cavities within unsprinklered wall spaces.” The room design method requirements have been relocated to section 20.8 and are unchanged. High expansion foam system requirements have been relocated from Chapters 12, 15, 16 and 18 of NFPA 13-2016 into Section 20.9. Requirements regarding “adjacent hazards or design methods” have been relocated to Section 20.10 along with two additional clarifying requirements.

20.10* Adjacent Hazards or Design Methods.

20.10.1 For buildings with two or more adjacent hazards or design methods, the following shall apply:

- 1) Where areas are not physically separated by a barrier or partition capable of delaying heat from a fire in one area from fusing sprinklers in the adjacent area, the required sprinkler protection for the more demanding design basis shall extend 15 ft (4.6 m) beyond its perimeter.
- 2) The requirements of 20.10.1(1) shall not apply where the areas are separated by a draft curtain or barrier located above an aisle, horizontally a minimum of 24 in. (600 mm) from the adjacent hazard on each side, or a partition that is capable of delaying heat from a fire in one area from fusing sprinklers in the adjacent area.
- 3) The requirements of 20.10.1(1) shall not apply to the extension of more demanding criteria from an upper ceiling level to beneath a lower ceiling level where the difference in height between the ceiling levels is at least 24 in. (600 mm), located above an aisle, horizontally a minimum 24 in. (600 mm) from the adjacent hazard on each side.

20.10.2* Protection criteria for Group A plastics shall be permitted for the protection of the same storage height and configuration of Class I, II, III, and IV commodities.

20.10.3 CMSA and ESFR sprinklers shall be permitted to protect storage of Class I through Class IV commodities, Group A plastic commodities, miscellaneous storage, and other storage as specified in Chapters 20 through 25 or by other NFPA standards.

Requirements for hose connections have been relocated to Section 20.11. Hose stream allowance and water supply duration requirements have been relocated to Section 20.12. Table 20.12.2.6, Hose Stream Allowance and Water Supply Duration, has several changes to water supply duration requirements from what was previously included as Table 12.8.6 of NFPA 13-2016. First Revision 773

(FR773) indicated that water supply durations for ESFR protection of rubber tire storage were incorrectly changed to 180 minutes as part of the 2016 code cycle. FR773 corrects the requirements for storage of rubber tires up to 12 ft. to have a water supply duration requirement of 60 minutes. FR773 also changes the requirements for storage of rubber tires over 12 to 20 ft. to have a water supply duration requirement of 120 minutes. A footnote has been added to require water supply duration of 180 minutes if K-14.0 or K-16.8 ESFR sprinklers are used. However, a third change in water supply duration was added to the table for roll paper storage up to 12 ft. A duration of 120 minutes is now indicated. This was increased from 60 minutes; however, the substantiation for the FR773 change did not discuss why this change should have been made. I suspect this might be another change in the 2022 edition.

The fifth step is to select the appropriate system/sprinkler technology for protection criteria (Chapters 21 through 25). Chapter 21 provides requirements for CMDA sprinkler protection of high piled storage, Chapter 22 provides requirements for CMSA sprinkler protection of high piled storage, and Chapter 23 provides requirements for ESFR sprinkler protection of high piled storage. These requirements exclude in-rack sprinkler design options. Chapter 24 includes alternative sprinkler system design options. Chapter 25 includes in-rack sprinkler system design options. This is a change in the approach since previous editions of NFPA 13 contained consolidated protection requirements within specific chapters (NFPA 13-2016, Chapters 14, 15, 16 and 17) based on commodity classification, as a Class I through IV commodity or Group A plastic.

The sixth and final step is to design and install system in accordance with the remainder of this document (NFPA 13-2019).

In general, NFPA 13-2019 provides a better starting point for design and installation of sprinkler systems intended for the protection of storage facilities. Chapter 20 regarding the general requirements for storage provides a defined process and references Chapters 21 through 25 for specific protection requirements. Having the requirements arranged by sprinkler type rather than commodity classification will require some retraining in the way we think about sprinkler system design and layout, but ultimately should help to provide good fire protection for storage facilities. •



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Design Densities in the International Fire Code

by Jeffrey M. Hugo, CBO, [Director of Codes and Public Fire Protection](#)



When designing or laying out a fire sprinkler system, it is often habit to seek minimum design criteria from an installation standard (*NFPA 13, Standard for Installation of Sprinkler Systems*), manufacturers data (cut sheet), or from an insurance underwriter (FM). Often overlooked are the design densities for sprinkler systems in the model codes. Design densities for fire sprinkler systems in a model, state, or local codes, such as the International Fire Code (IFC) and International Building Code (IBC), will overrule any design criteria in a referenced standard, such as NFPA 13. The aim of this article is to point out all the design densities in the IFC for fire sprinkler systems.

Group H-5 Occupancies - Semiconductor Facilities

A Group H-5 occupancy is a semiconductor facility and is required to have a fire sprinkler system throughout the building. It is important to note there is a specific section on semiconductor construction in IBC Section 415.11 and the IFC dedicates Chapter 27 on semiconductor facilities as well as a reference to NFPA 318 for semiconductor facilities. In addition to the design densities in Table 903.2.5.2 (below) and number of corridor sprinklers in a design area, Chapter 27 of the IFC includes additional sprinkler locations in spaces, such as workstations.

From the 2018 edition of the International Fire Code

903.2.5.2 Group H-5 occupancies. An automatic sprinkler system shall be installed throughout buildings containing Group H-5 occupancies. The design of the sprinkler system shall be not less than that required under the International Building Code for the occupancy hazard classifications in accordance with Table 903.2.5.2. Where the design area of the sprinkler system consists of a corridor protected by one row of sprinklers, the maximum number of sprinklers required to be calculated is 13.

[F] TABLE 903.2.5.2
GROUP H-5 SPRINKLER DESIGN CRITERIA

LOCATION	OCCUPANCY HAZARD CLASSIFICATION
Fabrication areas	Ordinary Hazard Group 2
Service corridors	Ordinary Hazard Group 2
Storage rooms without dispensing	Ordinary Hazard Group 2
Storage rooms with dispensing	Extra Hazard Group 2
Corridors	Ordinary Hazard Group 2

IFC Table 903.2.5.2]

Hydrogen Motor Fuel-Dispensing and Generation Facilities.

Hydrogen fuel-dispensing canopies are required to have sprinklers protecting the areas where the fuel dispensing occurs. The IBC and IFC references NFPA 2 for hydrogen facilities, but it is important to review IBC Section 406.7, Section 421 and IFC Chapter 23 (2309 is hydrogen specific) for more in-depth construction and installation requirements.

From the 2018 edition of the International Fire Code

2309.3.1.5.2 Fire-extinguishing systems. (Hydrogen) Fuel-dispensing areas under canopies shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. The design of the sprinkler system shall be not less than that required for Extra Hazard Group 2 occupancies. Operation of the sprinkler system shall activate the emergency functions of Sections 2309.3.1.5.3 and 2309.3.1.5.4.

Indoor Manufacturing of Reinforced Plastics

Spray or hand applied reinforced plastic processes that use more than five gallons over a 24-hour period trigger the requirement for fire sprinklers over the application area. It is important to note that IFC Section 2409.3, below, provides a design density for the sprinklers protecting the application area but points to other criteria for material and storage of the reinforced plastic.

continued from page 16

From the 2018 edition of the International Fire Code

2409.3 Fire protection. Resin application areas shall be protected by an automatic sprinkler system. The sprinkler system design shall be not less than that required for Ordinary Hazard,

Group 2, with a minimum design area of 3,000 square feet (279 m²). Where the materials or storage arrangements are required by other regulations to be provided with a higher level of sprinkler system protection, the higher level of sprinkler system protection shall be provided.

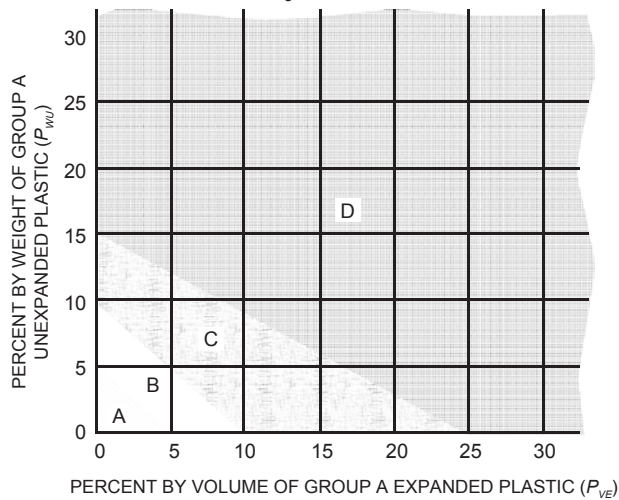
High-Piled Storage

The high-piled storage rules are in IFC Chapter 32. Several editions of the IFC and NFPA 13 have some conflicting rules, but much work has been done in the 2018 IFC Chapter 32 to correlate closer the 2016 edition of NFPA 13. The changes in the 2018 edition of the IFC, are explained further in the following NFSM articles

- *Significant Changes to the 2018 IFC, IBC, IRC and IEBC, Mar/Apr 2017*
- *2018 IFC Chapter 32 Changes, Mar/Apr 2018*

While there are no specific design densities in the IFC for high-piled storage, it is important to note the 2018 IFC and 2016 NFPA 13 have some differences in the amount of plastics in mixed commodities. In short, the 2018 IFC permits a small amount of plastic in Class I and II commodities, where the 2016 NFPA 13 increases the small amount of plastic to a Class III commodity.

From the 2018 edition of the International Fire Code



- A = CLASS I OR II COMMODITY, AS APPROPRIATE
- B = CLASS III COMMODITY
- C = CLASS IV COMMODITY
- D = HIGH-HAZARD COMMODITY

IFC, Figure 3203.9(1)]

Hazardous Materials

Chapter 50 of the IFC establishes the general hazardous materials rules for the remaining specific hazardous Chapters 51-67 in the

IFC. The new construction requirements can be found in IBC Section 414. In the IFC, when the other chapters (51-67) have more specific rules, they replace the general rules of Chapter 50. All through IFC Chapters 50-67 there are several places where sprinkler systems allow for a material increase in amount, quantity, height and arrangement. Some of the sections noted below show a fundamental shift in the overruling nature of codes over referenced standards. Here the IFC allows other standards such as NFPA standards, rules, and regulations to increase the design criteria above the IFC.

IFC Section 5004.5 provides general design densities for storage of hazardous materials in amounts exceeding the maximum allowable quantity (MAQ) per control area. Where the hazardous materials storage amounts are below the MAQs, the IFC directs the user to NFPA 13.

From the 2018 edition of the International Fire Code

5004.5 Automatic sprinkler systems. Indoor storage areas and storage buildings shall be equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1. The design of the sprinkler system shall be not less than that required for Ordinary Hazard Group 2 with a minimum design area of 3,000 square feet (279 m²). Where the materials or storage arrangement are required by other regulations to be provided with a higher level of sprinkler system protection, the higher level of sprinkler system protection shall be provided.

IFC Section 5005.1.8 provides the general design densities for the use, dispensing and handling of hazardous materials in amounts exceeding the maximum allowable quantity (MAQ) per control area. Where the hazardous materials storage amounts are below the MAQs, the IFC directs the user to NFPA 13.

From the 2018 edition of the International Fire Code

5005.1.8 Fire-extinguishing systems. Indoor rooms or areas in which hazardous materials are dispensed or used shall be protected by an automatic fire-extinguishing system in accordance with Chapter 9. Sprinkler system design shall be not less than that required for Ordinary Hazard, Group 2, with a minimum design area of 3,000 square feet (279 m²). Where the materials or storage arrangement are required by other regulations to be provided with a higher level of sprinkler system protection, the higher level of sprinkler system protection shall be provided.

Aerosols in Retail

Chapter 51 of the IFC is for aerosol products for the manufacturing, storage, and display of aerosol products. New construction requirements are found in IBC, Section 414 for hazardous materials. Compliance with the IFC also requires compliance with NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*. The IFC has numerous fire sprinkler installation and design criteria

continued on page 18

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for aerosol manufacturing and storage. Below are two sections specifically on design densities.

From the 2018 edition of the International Fire Code

**TABLE 5106.2.1
MAXIMUM QUANTITIES OF LEVEL 2 AND 3 AEROSOL
PRODUCTS AND AEROSOL COOKING SPRAY
PRODUCTS IN RETAIL DISPLAY AREAS**

MAXIMUM NET WEIGHT PER FLOOR (pounds) ^b			
Floor	Unprotected ^a	Protected in accordance with Section 5106.2 ^{a, c}	Protected in accordance with Section 5106.3 ^c
Basement	Not Allowed	500	500
Ground	2,500	10,000	10,000
Upper	500	2,000	Not Allowed

For SI: 1 pound = 0.454 kg, 1 square foot = 0.0929 m².

- a. The total quantity shall not exceed 1,000 pounds net weight in any one 100-square-foot retail display area.
- b. Per 25,000-square-foot retail display area.
- c. Minimum Ordinary Hazard Group 2 wet-pipe automatic sprinkler system throughout the retail sales occupancy.

Table 5106.2.1

5106.2.5 Retail display automatic sprinkler system. Where an automatic sprinkler system is required for the protected retail display of aerosol products, the wet-pipe automatic sprinkler system shall be in accordance with Section 903.3.1.1. The minimum system design shall be for an Ordinary Hazard Group 2 occupancy. The system shall be provided throughout the retail display area.

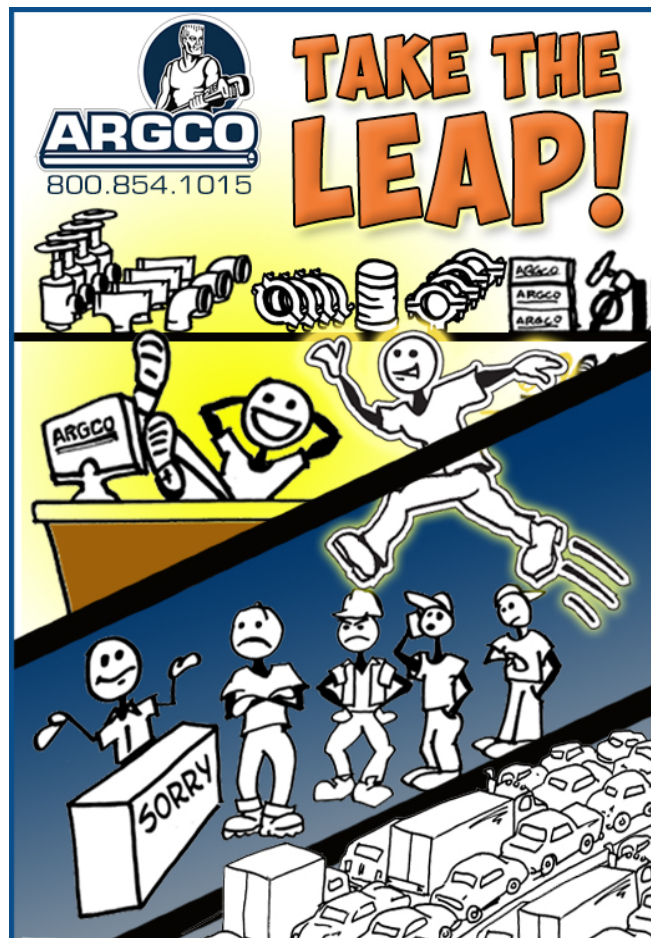
Flammable and Combustible Liquids

Chapter 57 of the IFC is for the storage, use, dispensing, mixing and handling of flammable and combustible liquids. New construction requirements are found in IBC Section 414 for hazardous materials. Compliance with the IFC also ties some section references to NFPA 30, the Flammable and Combustible Liquids Code. The IFC has numerous fire sprinkler installation and design criteria and several tables for protecting flammable and combustible liquids. Several articles could be written on Chapter 57 of the IFC alone. Instead of reproducing the numerous and extensive tables, here is a list of tables that specifically call out design densities:

- Table 5704.3.4.1: Maximum Allowable Quantity per Control Area of Flammable and Combustible Liquids in Wholesale and Retail Sales Occupancies
- Table 5704.3.6.3(4) Automatic Sprinkler Protection for Solid-Pile and Palletized Storage of Liquid in Metal Containers and Portable Tanks
- Table 5704.3.6.3(5) Automatic Sprinkler Protection Requirements for Rack Storage of Liquids in Containers of 5-Gallon Capacity or less with or without Cartons on Conventional Wood Pallets

- Table 5704.3.6.3(6) Automatic Sprinkler Protection Requirements for Rack Storage of Liquids in Metal Containers Greater than 5-Gallon Capacity
- Table 5704.3.6.3(7) Automatic AFFF Water Protection Requirements for Rack Storage of Liquids in Metal Containers Greater than 5-Gallon Capacity
- Table 5704.3.6.3(8) Automatic Sprinkler Protection Requirements for Class I Liquid Storage in Metal Containers of 1-Gallon Capacity or less with Uncartoned or Case-Cut Shelf Display up to 6.5 feet, and Palletized Storage above in a Double-Row Rack

The IFC is adopted in over 40 states. As discussed in this article, there are several cases where the IFC has specific design densities that may conflict with some NFPA standards. There are efforts by the NFSA to correlate the design densities of the IFC (where noted in the IFC) to the appropriate installation standard or testing documents. However, with the different codes and standards development cycles, it is not always possible to have the IFC updated with the latest technologies. The NFSA has an active role and extensive participation in the ICC and NFPA codes and standards process and many of these updates in the codes and standards world, in fire protection, come from the NFSA membership. •



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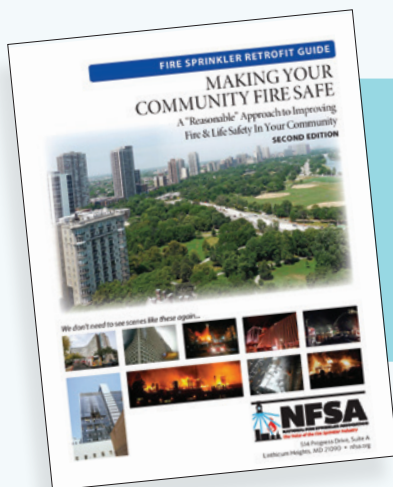
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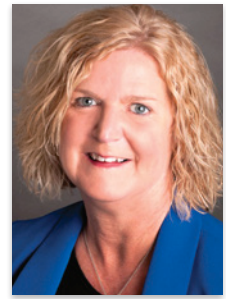
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2018: A Year to Remember



by Vickie Pritchett, **Director of Outreach & Government Relations**

This issue of NFSM is always a favorite, as we get to reflect on the past year and prepare for a new one. It's a time of family, friends, and hope for our future. For NFSA, 2018 will be remembered as a year of steady progress, growth, and outreach. We saw our fleet of side-by-side fire sprinkler trailers expand, and our media outreach continued to play a role in follow-up after tragic fires where there were no fire sprinklers.

Our NFSA Board of Directors authorized the development of a television commercial, and we have made that dream become a reality. The commercial supports the *"Fire Sprinklers Buy Time. Time Buys Life."* theme and utilizes a walk through showing the

devastation from fire and ending with the solution being fire sprinklers. The point is reinforced from homes to high rises, fire sprinklers are needed.

On the topic of our Board, I would be remiss to not say a big thank you to them for their steadfast support of Team NFSA and their leadership and vision for the fire sprinkler industry. The momentum we have enjoyed this year with our activities and actions is a result of our team working together to promote fire sprinklers.

We enjoyed an awesome Annual Seminar and Business & Leadership Conference in Ft. Lauderdale and we recognized many of our industry greats. It brings me an instant smile to remember those we honored this year:

Jay Livingston Inducted into National Fire Heritage Center Hall of Legends

The National Fire Heritage Center (NFHC) in Emmitsburg, Maryland, conducted a formal Ceremony for this year's Inductees into the Hall of Legends, Legacies and Leaders Class of 2018 during the NFHC's Annual Board of Directors Meeting. More than a dozen nationally prominent fire community leaders, past and present, were inducted bringing the total number of Inductees to 65 since its inception in 2010.



John C. "Jay" Livingston Jr. dedicated his life to the safety of others, from his years of service with the Silver Spring Fire Department to starting his own company installing fire sprinkler systems. During his 54-years in the sprinkler industry he has served on numerous NFPA technical committees, lobbied tirelessly for sprinklers to be mandated in single family homes in the State of Maryland. A generous businessman, he has donated sprinkler systems to many worthy causes in the Metropolitan Washington DC area.

Jay Livingston, accompanied by his wife and four children, was presented with the Hall of Legends, Legacies and Leaders Certificate by NFHC Vice President Billy Shelton.

The Hall of Legends, Legacies and Leaders provides individual recognition of significant contributions and distinguished service to the fire and emergency services mission. It is one of the most important initiatives undertaken each year by the National Fire Heritage Center. •

Golden Sprinkler Award – **John (Jay) C. Livingston**

Russell P. Fleming Technical Service Award – **George Stanley**

Public Safety Leadership Award – **Chief Charles Hood**

Hall of Fame Class of 2018 –

Rich Ackley • Neil Cahill • Frank Fee III • John Joyce

• George Laverick • Cary Nicol • Art O'Neil

We celebrated the inclusion of fire sprinkler incentives in the Tax Cuts and Jobs Act all year long as we worked to spread the good news to small business owners across America. We will continue this into the new year, and continue our work to expand retrofit incentives to corporations.

Speaking of new beginnings with the new year, I will close with the following wish to you and yours...

Enough...

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Enough sorrow to keep you human.

Enough hope to keep you happy.

Enough failure to keep you humble.

Enough success to keep you eager.

Enough friends to give you comfort.

Enough wealth to meet your needs.

Enough enthusiasm to make you

look forward to tomorrow.

Enough determination to make each day

better than the day before.

Till next time, stay safe,

Vickie

Old Man Winter – Cold weather Maintenance for Facility Owners

by Vince Powers, *NFSA's ITM Specialist*



Lack of proper maintenance is one of the leading causes of fire sprinkler system failure. Fire sprinkler systems shall be properly inspected, tested, and maintained (ITM) in accordance with NFPA 25, Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems. Systems exposed to cold weather are especially vulnerable. In the following article, I hope to lend

some understanding on how to ensure these systems are prepared for the upcoming winter season.

During cold months these systems are more susceptible to catastrophic failure. Frozen dry pipe systems are one of the more common service calls throughout winter months. In many cases, after the contractor has completed the annual test of a dry pipe valve and drains the low point drains they have completed their contractual obligations. After the annual or quarterly ITM, the auxiliary drains are typically not maintained again until the next scheduled inspection, or that elusive Sunday call for a frozen or ruptured system. There are other reasons for the freezing of dry pipe systems, such as improper pitch of the sprinkler pipe.

Wet systems typically have fewer freeze-ups than dry pipe systems, but it is still an area of concern. Some causes can be unheated spaces, such as entry ways (vestibules) and stairwells not maintained at 40°F, unoccupied spaces where the heat has been lowered, and areas that are not properly insulated.

Antifreeze systems typically freeze due to the solution not being maintained at the proper mixture.

Following are some guidelines that may assist with ensuring your sprinkler systems are prepared to survive the upcoming winter temperatures.

Wet Pipe Sprinkler Systems

Wet pipe sprinkler systems shall be maintained at a minimum 40°F or above and checked regularly to verify the temperature is being maintained. In some areas a listed heat trace can be useful.

Dry Pipe Sprinkler Systems

Dry Pipe Sprinkler System auxiliary or low point drains shall be drained when the annual ITM is performed. Typically, this maintenance is completed by the contractor at the time of the ITM, but

the overall requirements to properly maintain the sprinkler system is the responsibility of the owner or owner's representative. After the contractor has completed the ITM, there are requirements to continue to check and drain the low point drains on the sprinkler system as needed. Also to be noted, all wet portions of a dry pipe sprinkler system and the water-filled supply pipes shall be maintained at a minimum of 40°F.

From the 2017 edition of NFPA 25

13.4.5.3.2* - Auxiliary drains in dry pipe sprinkler systems shall be drained after each operation of the system, before the onset of freezing weather conditions, and thereafter as needed.

A 13.4.5.3.2 - Removing water from a dry system is an essential part of a good maintenance program. Failure to keep the dry system free of water can result in damage and expensive repairs to both the system and the building. A program for monitoring the condition of the system and the operation of the auxiliary drains should be instituted. Auxiliary drains should be operated on a daily basis after a dry sprinkler system operation until several days pass with no discharge of water from the drain valve. Thereafter it might be possible to decrease the frequency to weekly or longer intervals depending on the volume of water discharged. Likewise, when preparing for cold weather, the auxiliary drains should be operated daily with the frequency of operation decreasing depending on the discharge of accumulated water. In many cases, the frequency of the operation can decrease significantly if a system is shown to be dry. A quick-opening device, if installed, should be removed temporarily from service prior to draining low points.

Procedure for draining a drum drip drain:

1. Close upper valve.
2. Open the lower valve and drain accumulated water.
3. Close the lower valve, open the upper valve, and allow for additional water accumulation.
4. Repeat this procedure until water ceases to discharge.
5. Replace plug or nipple and cap in lower valve.

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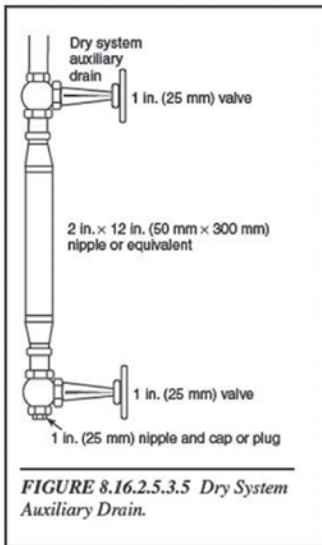


FIGURE 8.16.2.5.3.5 Dry System Auxiliary Drain.

NFPA 13 Auxiliary Drain Installation.
Figure courtesy of NFPA

Other types of valves may be installed and used as auxiliary and low point drains that are not a drum drip type drain in the dry pipe sprinkler system. This type of drain will require a more involved process than a drum drip to drain the water. Your fire protection contractor should be consulted for the proper procedures in draining this type of drain.

Antifreeze systems

Some wet pipe sprinkler systems may have a portion or all of the system that has an antifreeze solution added to protect the sprinkler system from freezing.

There are two different types of antifreeze for fire sprinkler systems, glycerin and propylene glycol. Care should be taken to ensure the correct antifreeze solution is present. Glycerin can be used in both CPVC (plastic) and steel sprinkler systems while propylene glycol is not listed for CPVC. The next concern is to determine the required percentage of mixture based on current NFPA standards. For existing antifreeze systems, the specific gravity reading of the sample shall be at a maximum concentration of 50% by volume for glycerin or 40% for propylene glycol to remain in service without replacing the solution. If these conditions are not met, the solution must be replaced with a premixed commercially available solution. The concentration of antifreeze solutions shall be limited to the minimum necessary for the anticipated minimum temperature. Among other places, the lowest one-day mean temperature can be found in NFPA 25, Table A.5.3.3.

Cold weather causes issues in all industries, in the fire protection industry it can wreak havoc. When not properly maintained, fire protection systems can freeze, burst and fail to function entirely if needed. It is extremely important to ensure that these systems are properly maintained so they are ready to operate in the event of an emergency.

Please note that this article was written for informational and guidance purposes only and that any applicable NFPA standards as well as local requirements should be followed to ensure that fire protection systems are being properly maintained. As always, contact your local fire protection contractor for assistance with your fire protection systems. •

From the 2017 edition of NFPA 25

5.3.3 - Annually, before the onset of freezing weather, the antifreeze solution shall be tested. This section then goes on to explain the procedures for properly testing existing antifreeze systems.

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Strange Bedfellows

by Bob Upson, *Manager of Engineering Services*

When I first came to NFSA five years ago, I don't think I ever anticipated that fire sprinklers would have anything to do with bedbugs. But bedbugs have been making a comeback across the United States and, as it turns out, one of the most popular ways to mitigate them is to raise the temperature in infested rooms to 140°F or more. Needless to say, this creates interesting complications if fire sprinklers happen to be installed in the room.

How widespread a problem are bedbugs? The United States has been experiencing a resurgence since the late 90s. The National Pest Management Association (NPMA) reports that bedbugs can be found all year round in all 50 states. In the 2015 *Bugs Without Borders* survey conducted by NPMA and the University of Kentucky, 99.6% of pest professionals surveyed reported that they had treated for bedbugs. The top three occupancies consistently reported were apartments, single family dwellings and hotels, but bedbugs can be found anywhere. Other common locations include nursing homes, college dormitories, offices, schools, daycare centers, and hospitals (NPMA n.d.). Many of these occupancies are likely to be protected by fire sprinkler systems that could be at risk during heat-based mitigation treatments.

NFSA first wrote about bedbugs in a Tuesday e-Tech Alert when a discussion surfaced on the Los Angeles Area Fire Marshals' Association website back in 2010 (Fleming 2010). The discussion brought up the problem of heat-based pest treatments and sprinkler systems, as well as the economic dilemma of doing costly sprinkler replacements during heat-based treatments versus less expensive strategies where sprinklers are left in place but covered with untested insulating covers.

The only real response that could be issued at that time was that the sprinkler standards did not directly address the problem and that the manufacturers of insulating devices should be encouraged to seek product listings to address potential damage issues.

"The vendor claimed being put at a disadvantage, however, from competitors who were simply installing insulated covers over the sprinklers or installing some type of ice-cooled covers during the treatment process."

Subsequent to that discussion, the Engineering Department was tasked to draft a white paper on the subject by the NFSA/UL/FM joint committee in 2011. A draft report was developed by Ken Isman, then Vice President of Engineering, but never published. In 2014, I inherited that draft and the task of completing the white

paper with the NFSA/UL/FM serving as a technical advisory panel. The final draft of *Heat Treatment for Bedbug Mitigation in Fire Sprinklered Properties* was completed in early 2016 and published on the NFSA website (Upson 2016). Prior to official publication, however, people in the pest management industry had already taken notice of a draft copy that escaped into the wild sometime during the review and revision process. At least two inquiries were received from presenters interested in including NFSA's bedbug report in their presentations based on that early draft. In the spring of 2017, after the final document was finally published online, Dr. Michael Bentley, Staff Entomologist for the National Pest Management Association, contacted the NFSA with an invitation to present at their annual conference, B'more Pestworld 2017.

Pestworld is NPMA's annual conference and expo event and, as

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luck would have it, it was held nearby at the Baltimore Convention Center in 2017. A presentation was developed to echo the information presented in the white paper (Upson 2017). The presentation would provide, not just an opportunity to present NFSA's position on heat-based treatments, but to get feedback from the pest industry about what protective steps are actually being taken in the field when heat-based treatments are used in sprinklered properties.



The Pestworld 2017 presentation laid out four learning objectives for the participants:

Understand the basics of fire sprinkler operation

This section covered the basics of how sprinklers operate as well as discussing why it is undesirable to heat sprinklers excessively, even if they are not heated to their operating temperatures.

Identify four sprinkler protection strategies used in the pest management industry

This section reviewed the four strategies commonly used by the pest management industry to protect sprinklers during heat-based treatments along with a discussion of why some of those strategies are potentially inadequate.

- Monitoring the Temperature at Sprinkler Locations
- Protecting Sprinklers from Elevated Temperatures
- Disabling Sprinkler Systems
- Removing/Replacing Sprinklers

Identify causes of fire sprinkler system impairment

This section outlined the sprinkler system conditions that would constitute impairments, such as shutting down systems during heat-based treatments, as well as explaining how the NFPA 25 impairment procedures work.

Identify the merits of three sprinkler removal/replacement options

This section presented the merits of three recommended ordinary temperature-rated sprinkler removal and replacement options from

NFSA's bedbug white paper. These options address the proper handling of sprinkler systems before, during, and after heat-based treatments. A detailed discussion of these three options appeared in a recent issue of NFSA TechNotes (Upson 2018).

• Remove/Plug/Replace

- This option is based on removing existing ordinary temperature-rated sprinklers in the treatment areas; replacing them with plugs during heat-based treatments; and replacing them with new ordinary temperature-rated sprinklers after treatment is complete.
- This option has the virtue of eliminating the possibility of unintentional sprinkler operation in the treatment area but also removes active fire protection from that area during treatment.

• Remove/Replace/Replace

- This option is based on removing existing ordinary temperature-rated sprinklers in the treatment areas; replacing them with temporary intermediate temperature-rated sprinklers during heat-based treatments; and replacing them with new ordinary temperature-rated sprinklers after treatment is complete.
- This option has the virtue of reducing the possibility of unintentional sprinkler operation in the treatment area while maintaining active fire protection in that area during treatment.

• Remove/Replace/Monitor

- This option is based on removing existing ordinary temperature-rated sprinklers in the treatment areas; replacing them with intermediate temperature-rated sprinklers during heat-based treatments; and carefully monitoring the temperature at each sprinkler during heat-based treatments. The new intermediate temperature-rated sprinklers can be left in place except for any exposed to more than 150° F during treatment.
- This option has the virtue of reducing the possibility of unintentional sprinkler operation in the treatment area while maintaining active fire protection in that area during treatment, reducing the time that the system needs to be shut down to remove/replace sprinklers, and leaves intermediate temperature-rated sprinklers in place to simplify repeat treatments in the future.

Lastly, the presentation urged the pest management industry to enlist the assistance of properly trained fire sprinkler professionals when developing strategies for heat-based treatments in any sprinklered property.

“NFSA's recommendation to the pest control industry is to consult a sprinkler contractor to assist in selecting and implementing the best strategy for safeguarding fire sprinklers whenever whole room/building heat treatment is used as a mitigation method for bedbugs.”

NFSA's recommendations were well received by the participants at Pestworld and, just this past June, Pest Control Technology / PCT Magazine ran an article in their special Bed Bug Supplement

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based on the NFSA's presentation (Lucas 2018). As a result, it is a good bet that more and more pest management professionals will be seeking support from fire sprinkler professionals in the future.

Despite making progress with the pest management industry at the trade association level, there are still any number of questionable sprinkler insulation products available on the market that may or may not provide sufficient protection to prevent damage if not outright sprinkler activations during heat-based treatments. As creative as some of those products may be, most of them violate sprinkler standards in one way or another. Some of the more Rube Goldberg-esque products not only violate sprinkler standards but can potentially damage sprinklers all by themselves.

Ultimately, this represents the same economic dilemma raised in the e-Tech Alert article of 2010. It is still likely to be less expensive on the surface to use unproven and potentially ineffective sprinkler insulation methods than to properly protect sprinklers with effective best practices. In reality, the best practices for protecting sprinklers during heat-based treatments exclude ordinary temperature-rated sprinklers altogether in favor of intermediate temperature-rated sprinklers and careful monitoring of ambient ceiling temperatures. Absent research into the effectiveness of strategies based on providing insulation to sprinklers during heat-based treatments, they are not an acceptable option where ordinary temperature-rated sprinklers are present.

The pest management industry has been exceptionally receptive

to guidance on the subject of protecting fire sprinkler systems during heat-based treatments. NPMA's Best Management Practices for Bed Bugs (NPMA 2016) includes two critical sections that apply to heat-based treatments:

11.4.3.3. Research and understand applicable fire codes, and local ordinances regarding the use of portable heaters, fire suppression systems and other heat treatment related concerns.

11.4.3.7.6. Potential heat damage to certain materials, including the risk of activating automatic fire suppression systems (sprinklers). Care should be taken to safeguard these materials and systems.

The text of paragraph 11.4.3.3 is new in the 2016 edition of the Best Practices and acknowledges that heat-based treatments often create situations of interest, least in part, to various fire code authorities. Paragraph 11.4.3.7.6 is an important acknowledgement that heat-based treatments can potentially damage fire sprinkler systems. These are both issues where the fire sprinkler professional can be an invaluable ally to the pest management professional. It was encouraging to learn at Pestworld that some pest management contractors have regular working relationships with their local sprinkler contractors to streamline the bedbug mitigation process in sprinklered buildings but there is still work left to do and more allies to recruit. •

REFERENCES

- Fleming, Russell P. 2010. "Dealing with Bedbugs Poses Threat to Sprinklers." Tuesday e-Tech Alert, November 16. Accessed July 6, 2018. <https://www.nfsa.tv/cgi-bin/download2.cgi?dir=etechnotes&ID=199>.
- Lucas, Nici. 2018. PCT Magazine / June 2018. Edited by Jodi Dorsch. PCT - Pest Control Technology. June 19. Accessed July 6, 2018. <http://www.pctonline.com/article/protecting-fire-sprinkler-systems/>.
- NPMA. n.d. "Bed Bug Facts & Statistics." www.pestworld.org. National Pest Management Association. Accessed July 6, 2018. <https://www.pestworld.org/all-things-bed-bugs/bed-bug-facts-statistics/>.
- . 2016. "Best Management Practices for Bed Bugs." www.pestworld.org. National Pest Management Association. July 28. Accessed July 6, 2018. <https://www.pestworld.org/media/562243/npma-bed-bug-bmps-approved-20160728-1.pdf>.
- Upton, Robert. 2016. "Heat Treatment for Bedbug Mitigation in Fire Sprinklered Properties." www.nfsa.org. March 3. Accessed July 6, 2018. https://cdn.ymaws.com/members.nfsa.org/resource/resmgr/docs/Heat_Treatment_for_Bedbug_Mi.pdf.
- Upton, Robert. 2017. Protecting Fire Sprinkler Systems During Bed Bug Heat Treatments. B'more Pestworld 2017, Baltimore. October 26.
- . 2018. "Preparing Sprinkler Systems for Heat-Based Bedbug Treatments." Tech Notes, August 28.

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Worst-Case Scenario Fires and Residential Sprinklers

by John R. Waters, EFO, MA, MS

National Fire Sprinkler Association Field Service Coordinator

As co-chair of the Pennsylvania Residential Sprinkler Coalition, I am always on the look-out for the root cause of sprinkler “failures”; i.e., the fire started on the outside of the building, climbed the walls and entered the un-sprinklered attic, or the fire started in the interstitial space within the truss and spread across the combustible floor assembly. These are not failures, per se, but scenarios outside of the design parameters of the residential sprinkler system; fires that the sprinkler system could not reasonably be expected to control. That said, opponents of sprinklers like to take these occasional failures of sprinklers, the anomalies, to indict the entire concept

I consider Christmas tree fires a worst-case-scenario. Given the time to peak heat release rates in such events, I have always wondered if such fires would overwhelm the residential sprinkler system, with its limited water delivery rate.

Christmas tree fires in dwellings result in about six civilian deaths, 16 civilian fire injuries and about \$16.2 million in direct property damage per year in the United States. In the overall scheme of the fire problem in this country, this is, admittedly, a small number.

This research took advantage of an opportunity to burn some Christmas trees in ATF’s Fire Research Lab in Beltsville, Maryland. The trees were delivered to the fire research lab and tests were scheduled during the first quarter of 2017. The plan was to conduct a baseline burn to determine the heat release rate and then to conduct fully-documented burns in a cell that included furniture to determine if the residential sprinkler system could prevent flashover in the burn cell.

The baseline burn resulted in a heat release rate of approximately 2.4 MW. The tests in the burn cells were undeniable; residential sprinklers can prevent flashover under worst-case scenario fires and preventing flashover will save lives.

Procedures

In order to conduct these experiments, I needed Christmas trees that did not travel 130 miles on the roof of a vehicle traveling 65-70 miles per hour. To that end, I contacted the Chief of the Prince George’s County Fire Department, Marc Bashoor, now retired, and told him of this opportunity.

He assigned the logistics of obtaining trees locally to Allen Doubleday, his Executive Officer and I am grateful for their

cooperation.

The trees were delivered to the fire research lab and tests were scheduled in the first quarter of 2017. The plan was to conduct a baseline burn, to determine the heat release rate and then to conduct burns in a cell that included furniture.

The baseline burn resulted in a heat release rate of approximately 2.4 MW. This comports with previous heat release experiments conducted by Stroup, Lee, & Roadarmel, who conducted tests in NIST’s burn lab in 1999 and documented heat release rates from 1.6 to 5.2 MW. In 2008, Madrzykowski conducted additional tests, documenting heat release rates of 3.2 to 4.3 MW.



Figure 1 – burning tree under the calorimeter

Next, we ran a series of 4 tests in the burn cell 2 with and 2 without sprinklers. In the interest of space, I am including the results of the last two tests. It should be noted here that all in the lab were surprised by the results of both sprinklered tests. The residential sprinklers did little to extinguish the fire at the Christmas tree.

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Figure 2 – burn cell in the FRL



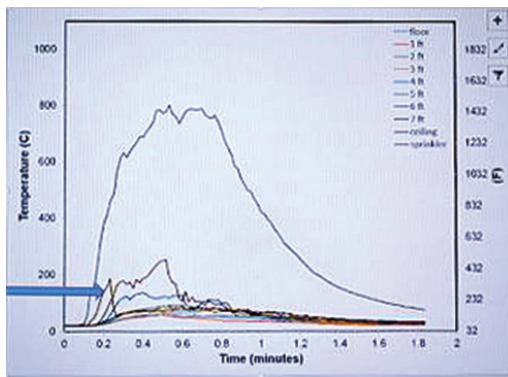
Figure 4 – test burn #4 – without sprinkler protection



Figure 3 – test burn #3 – with sprinkler protection



Figure 5 – the difference between test #3 and test #4



Graph -1 – test burn #3 - thermocouple tree results

Kindly note the indicated graph line – it shows the temperature at the sprinkler head itself. It is interesting to observe that the activation of the sprinkler did little to mitigate ceiling temperatures. We noticed this phenomenon during the first test also. It did, however, mitigate the effect of the radiant flux, preventing flashover.

The final test (test burn #4) replicated the third test, but without the sprinkler protection. The room achieved flashover in 1 minute, 45 seconds.

The comparison above is exceedingly dramatic. Sprinklers mitigated the effect of direct flame impingement on the couch and the radiant flux on the seat, thus preventing ignition and, more importantly, interrupting the march towards flashover.

The real question, the big question that these experiments attempted to answer, was to determine whether a residential sprinkler system could interdict in the growth of a worst-case scenario compartment fire in order to prevent flashover. Given the results of this testing, the research seems to indicate that answer to be yes; even in worst-case-scenarios, sprinklers can save lives by preventing flashover. •

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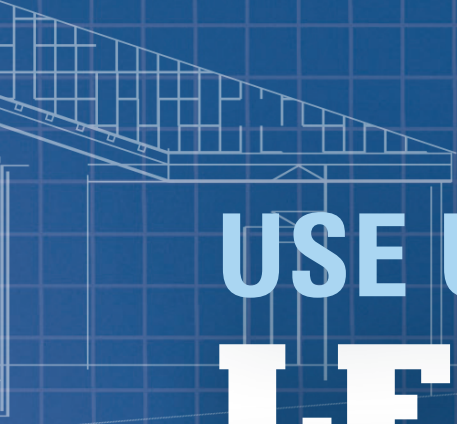
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Evolution of Fire Protection System Design and the Future with Revit: a Developer's Perspective

by Alexander Nikolayev and Rob Smith
Johnson Controls

Computer aided design (CAD) has long been the design tool of choice for fire sprinkler designers and the introduction of Building Information Modeling (BIM) has helped bring together the disparate parts of a building to create a streamlined approach to managing a building through the various phases of its lifecycle. The use of Revit by Autodesk within BIM has presented the fire protection industry with new challenges for both developers and users of design software. The Johnson Controls SprinkCAD development team has lived the evolution of CAD, BIM and REVIT—despite the challenges of Revit, the team has found many users wanting to take the plunge and start working with Revit as their primary design tool. This article offers a perspective on addressing some of the roadblocks faced by developers and software users.

When fire protection system designers moved off the drawing boards and into CAD, perhaps the greatest advantage was the ease with which designs and working drawings could be revised. Erasers and erasing shields gave way to the ability to make changes with a few clicks of a mouse, whether sweeping changes in design or small adjustments. Even given the steep learning curve of CAD systems and computers, expensive hardware, and once-primitive software, the fire protection industry quickly adopted CAD-based design.

Expanding features and abilities soon followed the introduction of basic drafting tools with AutoCAD leading the pack. By providing a set of powerful application programming interfaces (API), Autodesk opened the floodgate to thousands of developers who quickly introduced new and intelligent applications for the entire AEC industry, including fire sprinkler system design. Specialized applications to perform hydraulic calculations and generate industry-specific fabrication reports turned these simple line-drafting programs into smart, multi-functional applications.

One big problem overshadowed the successes during this period of CAD maturity - INTEROPERABILITY. Software used by the various stakeholders in a construction project did not generate intelligent objects that could “talk” to each other and “understand” one another’s needs, particularly in light of the life-cycle of a building. After design and construction comes the need for maintenance, servicing, even decommissioning of equipment and entire structures. Tackling these lifecycle issues was complex and almost unachievable - until the BIM concept was more fully realized.

Though the concepts have been around since 1970s (Wiki), today the most popular implementation of BIM in our AEC

industry is Revit. With each new release Revit is providing more robust features, an expanded API, and is generally becoming easier to use. Over time the larger file sizes and need for intensive processing power for the vast volumes of information became acceptable thanks to high-speed computers, modern video cards, and inexpensive solid-state drives.

Nevertheless, CAD is not dead. The transition to Revit, or other object-oriented systems, will take time. AutoCAD and its less-costly counterpart BricsCAD are still the tools of choice for the fire protection industry. There are literally eons of CAD experience accumulated by designers during last few decades. Yet change is on the way and seems inevitable. For the specialized fire protection software vendors the time to “jump on the Revit wagon” has come.

Consider the roadblocks in front of the Revit developer with extensive CAD experience:

- Revit program operation is conceptually different from CAD (as is design in Revit)
- Many specific functions developed previously in CAD are a part of core Revit functionality
- New functionality required by Revit users in fire protection design is quite different from what was offered in traditional CAD software
- The new “Routing preferences” approach in Revit is a paradigm shift for software developers used to generating fitting connections outside of the CAD environment
- The management of Revit Families is a challenge to both developers AND users - to build, to use, and to maintain. Most companies in the business of family building are trying to make them unique rather than trying to meet an industry standard (because there is no standard for Fire Protection families yet)
- And we cannot forget about the millions of existing CAD drawings which may be needed for retrofit projects or design updates. This is why our BIMport utility (for converting SprinkCAD drawings into Revit models) has been so popular in recent years.

The list is endless.

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As previously mentioned, the SprinkCAD team is finding many designers are ready to take on Revit despite the challenges. Their first hurdle is to find all the families needed for their projects. In some cases, the families they find do not ‘play’ well together or are missing important information like Construction Operations Building Information Exchange (COBie). Some families are unnecessarily large in file size due to excessive details such as embossed markings on frames and deflectors - completely invisible on a fire protection submittal document. Oversized families create project file sizes that explode into unmanageability.



Our Approach

SprinkCAD developers decided to save Revit operators from this headache by automatically building the families needed with a minimal level of detail. Designers choose only the parts they need. The Revit Family Builder tool, one of a suite of SprinkCAD for Revit tools, creates the family for them, ‘on-the fly’. Select the type of family you wish to add to your project, select the models and parts to include in that family, and the family is created and added to your project - including coarse, medium and fine presentations.

After initial generation these families can be re-used in future projects without re-building. If database updates affecting family content are delivered, you will be alerted that the family should be re-built.

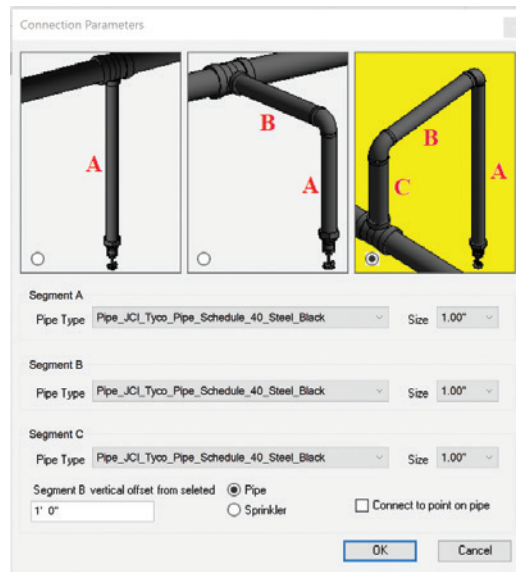
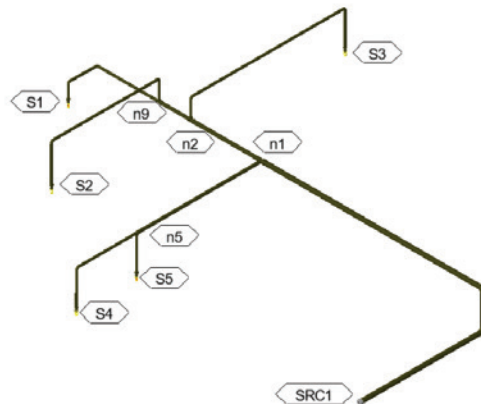
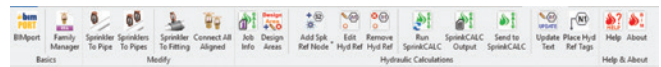
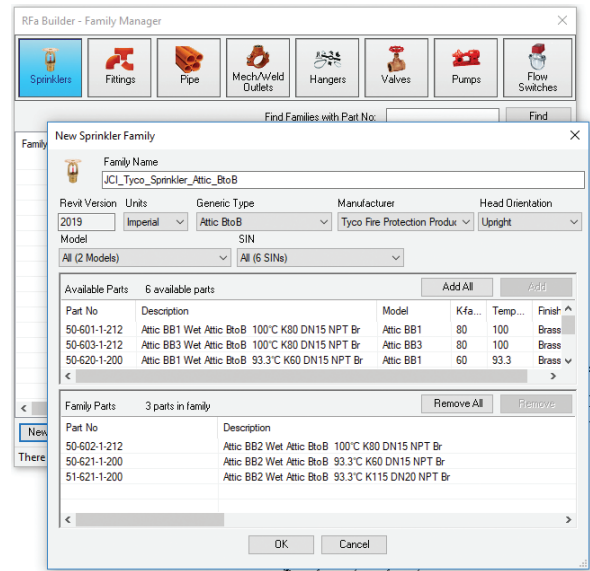
Another important need that SprinkCAD addresses is the desire by fire protection engineers and system designers to easily calculate sprinkler systems built in Revit, even when the model is not “perfect”. Problems like small gaps between model elements and incomplete hydraulic information in objects are overcome using specialized tools in our SprinkCAD for Revit toolset.

Both steady-state and non-steady state calculations may be performed on wet, dry, pre-action, and systems requiring Fluid Delivery Time analysis. Our approach is to remain flexible by allowing ANY Revit model to be mapped to our rich database of sprinkler system pipes, valves, pumps, heads and nozzles.

Any Revit sprinkler system may be traced and seamlessly delivered to the SprinkCALC / SprinkFDT software offering extensive calculation and reporting tools. Results are returned to your Revit project automatically, with tools to generate all code-required node labels, and to view and review most common hydraulic information right in the Revit model.

SprinkCAD for Revit tools are now offering layout functions to simplify the work of connecting heads to branch lines. Unlike native Revit commands, these tools allow you to set the schedule and size of multiple sections of a branch line or arm-over, individually.

As the adoption of Revit as a primary design tool continues, so will our development of tools and procedures. Tell us what tools you need to enhance your use of this exciting, new environment. Or, if you haven't yet, consider ‘dipping your toes’ into the Revit pool. Soon, the water may be over your head, so start learning to swim now! •





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The Science Behind Water Mist Technology

by Ian Jutras

Fire Protection Engineer Water Mist, Johnson Controls

Water mist fire suppression systems help protect buildings with high-value assets, since they cause less damage than a traditional fire sprinkler system. While there are a variety of water mist suppression systems on the market, understanding the technology behind them allows building owners and facility managers to select a system that is best suited for the application.

How Does Water Mist Work?

The key to water mist technology lies in the design of the nozzle along with pre-determined pressure criteria to create a mist of small water droplets. Smaller droplets absorb heat at a faster rate than larger droplets due to the higher surface-area-to-mass ratio. A volume of water that consists of smaller droplets has a comparatively larger cumulative surface area than the same volume of water made up of larger droplets – such as those from a standard spray sprinkler. As a result, a rapid absorption of heat occurs, causing temperatures to drop while oxygen is displaced due to the expansion upon water evaporation.

Faster vaporization allows oxygen to be rapidly displaced in the area of the fire, disrupting the Fire Tetrahedron. Any air the fire draws in becomes saturated with these droplets and vaporization occurs. Water mist also helps pre-wet and block the transfer of radiant heat to adjacent combustibles which decreases the risk that the fire will grow and spread.

Types of Water Mist Systems

There are three main categories of water mist systems: low pressure (175 psi or less), intermediate pressure (175-500 psi) and high pressure (500 psi or greater). Within these categories there are single-fluid systems (water only) or twin-fluid systems (water and an atomizing medium, like nitrogen).

All system types are tested and approved for a variety of fire hazards, each requiring specific design and calculation criteria. The high-pressure system typically produces very fine droplets (less than 50 micrometers) and uses even smaller pipe sizes than low to intermediate pressure systems. A twin-fluid system is a hybrid water mist system that requires water and inert gas to extinguish the fire. Both the water and the inert gas require separate piping toward the nozzle where the gas is used to “shear” the water stream

into fine water droplets.

A hybrid water mist system works by cooling the surroundings and displacing oxygen. The addition of inert gas helps to further reduce the overall oxygen level for faster fire extinguishment. This system also uses less inert gas than what’s required in a traditional clean agent system, since it aided by local oxygen displacement created by the conversion of water mist to steam.

Benefits of Water Mist Systems

The main benefit of water mist is that it uses less water. This minimizes damage to property and critical assets. Also, lower water requirements allow the system to use smaller diameter piping, reducing both material cost as well as the overall installation cost of the system.

Water mist system uses less water; therefore they typically require higher pressure than what a municipal water main can provide. This can be accomplished by using positive displacement pumps, which provide high-pressure output at lower water volumes, or by using stored nitrogen or air cylinders as a propellant for the water.

Since water demand is lower, water mist systems are suitable for standalone applications where access to water may be limited. In such situations, a water tank or cylinder(s) filled with water and pressurized by stored nitrogen can be used to supply the pump with water. However, with these standalone solutions there is a finite discharge duration due to the limited amount of stored water.

Ideal Applications for Water Mist

Water mist systems can be used as a complete solution for nearly every class of fire. Examples of where water mist systems have been used include archives, cable tunnels, data centers, heritage, hotels, industrial fryers, libraries, machinery spaces, offices and turbine enclosures.

The following considerations should be taken into account when specifying a water mist system. First is the on-site water supply. The available water pressure often dictates the required water supply for the system. If there’s an inadequate water supply, a standalone system may be required.

Second, water mist systems should conform to all local and state codes, where applicable, as well as the requirements of the author-

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The Big Picture: Empowering Survivors to Tell Their Stories with Purpose

by Amy Acton

Executive Director of Phoenix Society for Burn Survivors

The accident that caused my burn injury, and that caused someone else to lose his life, was preventable. I used to think about that a lot. After my injury, I became obsessed with understanding why it happened. What went wrong? Why did I survive? Why didn't he? And how could I prevent something like this from ever happening again?

When I became a burn nurse a few years later, I was reminded that my story was unusual. The mast of a sailboat hitting a high-tension wire above, electrocuting two people, was not the most common cause of burn injuries. Instead, I saw an endless stream of patients who were burned because buildings weren't up to code, codes didn't require life-saving protections, or codes were not properly enforced. Seeing all of these burn injuries, which were preventable, like mine, but much more common, and I realized there was a bigger picture, a bigger community, and a bigger problem.

When I joined Phoenix Society for Burn Survivors as Executive Director, I became deeply immersed in the burn community. I met burn survivors and their families at different points during their healing journeys, along with the health care providers caring for them, and I noticed a common thread. Many burn survivors were passionate about ensuring that what happened to them would never happen to anyone else. They wanted to stop fires and prevent burn injuries. We were all aware of the bigger problem, and we knew our stories were powerful. We believed we were part of the solution.

Since then, Phoenix Society has built a thriving advocacy program that amplifies the survivor voice around the globe. Our advocacy relates to three areas: burn aftercare and access to support, burn prevention, and acceptance.

One of our most significant advocacy efforts began on February 20, 2003, when a deadly fire tore through The Station nightclub, killing 100 people and injuring 230. The nightclub was not fitted with a fire sprinkler system, a key factor behind its devastating impact. Within weeks, we found ourselves testifying at a special hearing held by the NFPA regarding the fire and recommendations that could be made in order to ensure it would never happen again. Fire sprinklers would have changed the outcome for many at Station nightclub. Over the last 15 years, we have not only walked alongside many survivors in their emotional recovery, but we have assisted them in being part of the solution.

In 2007, the National Fire Sprinkler Association (NFSA) con-

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vened a group of advocates to ensure that such tragedies would never happen again. Phoenix Society was invited to join the group, because NFSA believed the survivor voice was key to furthering adoption of fire sprinklers. This group would later become Common Voices, incorporated in 2010.

I watched many of the Station nightclub survivors move through their healing journeys, and in some of them, I saw a little bit of myself: a drive to prevent injuries like theirs.

At first, many believed their voices wouldn't matter, but trained Phoenix Advocates like Rob Feeny became vital champions of the fire sprinkler tax incentive that passed last year. In the wake of unimaginable loss, they were the united voices at the forefront of this endeavor.

The fire sprinkler tax incentive, making it possible for small business owners to retrofit their buildings, was a victory 14 years in the making. It belongs to all of us – NFSA, Phoenix Society for Burn Survivors, the National Fire Protection Association, the National Fallen Firefighters Foundation, and all those who dedicated years to this effort.

But most of all, it belongs to the survivors and to those working to honor loved ones who were lost and no longer have a voice.

When our organizations united and brought the survivor voice into focus, something incredible happened. By empowering survivors to tell their stories, NFSA ensured that the fight for life safety would never be confined to industry data, codes and standards again. The human voice, sharing a human trauma, would always be present.

The partnership between survivor advocates, the fire protection industry, fire service, and codes and standards organizations is a sound model. The fire sprinkler tax incentive is proof that it works. When NFSA invested in survivor advocates, our stories

were amplified and our impact was magnified.

Through our work on the fire sprinkler tax incentive, Phoenix Society has built a sustainable and healthy program for training and supporting survivor advocates. As we learned through our work with NFSA, it's not enough to provide a platform for survivors to tell their story. We must remember that these stories are rooted in trauma and we must ensure survivor advocates are emotionally supported every step of the way.

A few key advocates helped to turn the tide in the battle for the fire sprinkler tax incentive. Imagine what we could accomplish if we had the resources to train, empower, and deploy all those who want to tell their story and make a difference. I envision a national network of survivors, and those who care for them, prepared to testify at the local, state, and national level to prevent fires and save lives. I envision survivors not just telling their stories, but guiding our work and leading the way.

Since my burn injury at age 18, there hasn't been a day without prevention and life safety at the forefront of my mind. I scan every building I enter for fire sprinklers, I know my exits, and I can spot a fire hazard a mile away. The movement for fire safety is greater than one person, one organization, and I'm in. I'll always be in.

Because that's the thing about burn survivors. For us, fire prevention is personal. Even when faced with enormous opposition, our community has told their stories and demanded model life safety and fire prevention measures. We will always answer a call for help, because we know the consequences if fire isn't taken seriously.

For the fire protection industry, it's a never-ending battle for the adoption of lifesaving codes and standards. Whatever happens, however long it takes, the burn community will be here to remind you it's worth the effort. Because of our work together, you will need to be ready to answer the call to sprinkler millions of homes and business. •

The Science Behind Water Mist Technology

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ity having jurisdiction (AHJ). For example, water mist systems should meet the requirements outlined by NFPA 750, "Standard on Water Mist Fire Protection Systems." Systems and/or components of water mist systems are tested and approved by certifying bodies such as Factory Mutual (FM), Underwriters Laboratory (UL), and VdS. These listings and approvals are often required by standards and AHJs.

Which System is Right for You?

Selecting the most appropriate water mist solution is not only about extinguishing the fire but is also about protecting the contents of the building. Look for a solution that meets the specific needs of your application and has been designed and rigorously tested to meet all applicable local and state requirements to ensure compliance. •

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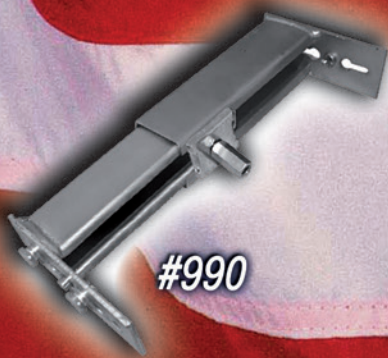
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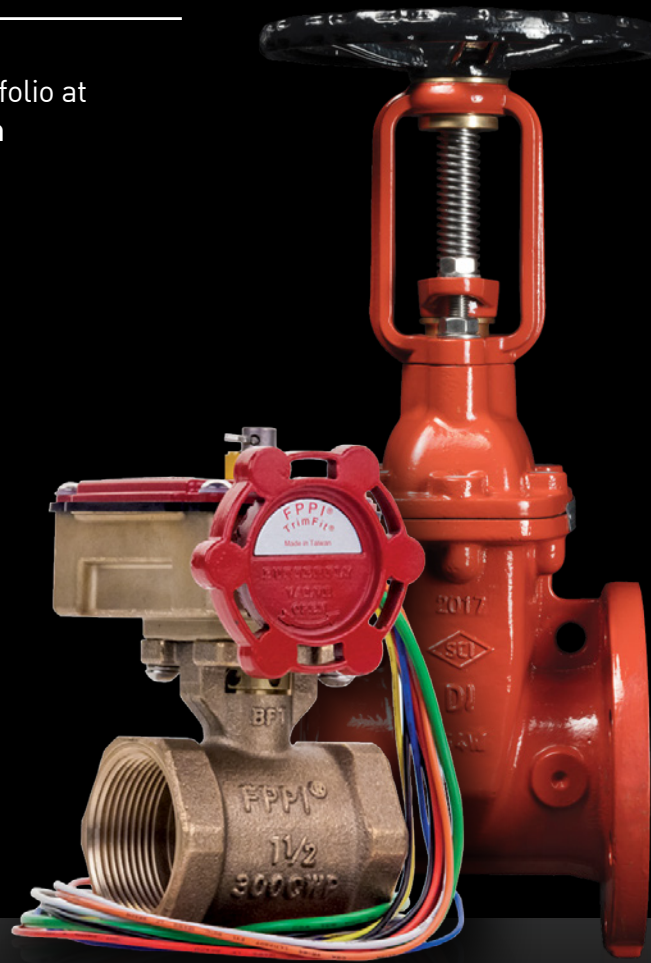


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The ITM of Things

by Jason Webb
Product Manager, Potter Electric Signal

One of the hottest topics being discussed today is the “*internet of things*” or IoT. It seems that nearly every conference you attend now, regardless of the industry, has at least one program dedicated to the subject. Almost everything we use is associated with something else and connected via the internet. Your refrigerator can sense when you are low on milk and automatically put it on your shopping list...or even order it for delivery right to your home. Your thermostat can “learn” when you come and go and adjust the temperature in your home accordingly...and maybe vary its settings based on swings in energy prices. Buying a carton of milk after you finish the last one or turning the heat up when you get out of bed isn’t anything new, but automatically linking these tasks together to accomplish the desired outcome is.

Our industry is no different than any other in this respect. Fire and life safety systems are becoming more interconnected every day. Very few systems stand alone in their attempt to meet life safety objectives. Sprinkler systems come pretty close, but even they rely on things that we usually have no real control over, like an adequate water supply. But with fire protection systems, we add another critical component to the mix. Since sprinkler systems protect such valuable assets, inspection, testing, and maintenance (ITM) in accordance with NFPA 25 is imperative. It ensures that the system will function when the need arises. While the bottom line is that the system just plain works as needed, IoT provides us with some pretty powerful tools to make ITM even more effective.

There is data, albeit somewhat lacking in detail, that shows us the most common causes of sprinkler system failures. Today, we can develop an ITM program, perform the needed tasks at an optimal frequency, and hopefully identify these potential failure points before they can cause problems. In very broad terms, that’s what NFPA 25 attempts to do. But imagine if we could predict failure based on factors we know, combine them with other data like the nature of the occupancy and average lifespan of the components used in the system itself, while tracking changes such as water sup-

ply fluctuations and corrosion rates. By processing that data in real time, perhaps we can perform some of these inspections and tests with increasing regularity as we approach the known failure point.

The key to using ITM to reduce risk is simple...shortening the time that a problem goes undetected, then doing something about it once you find it. We can do that now by increasing the number of times we repeat an inspection or test over a period of time. But that comes with its own set of problems including cost, inconvenience, and wear and tear just to name a few. However, there are a number of these tasks that can be automated to the point that they can essentially occur in the background without anyone really knowing they are happening.

Take your car for example. You may not know it’s monitoring your driving habits, but it’s probably shutting down cylinders as you cruise along the highway (increasing fuel economy and reducing wear and tear) and monitoring hundreds of data points while constantly calculating the lifespan of your engine oil or even some components. Then, through the IoT, it sends you or your mechanic an email or text letting you know service is due or a problem is looming.

Applying some of those same concepts to sprinkler systems, it’s not outside the realm of possibility that in the near future devices will not only automatically perform some tasks between technician maintenance, but constantly monitor a variety of critical functions. These won’t necessarily be the same tasks we’ve performed before, but new ones done in ways we’ve not seen in the past. Then, as problems are looming, a qualified person can be notified and take action before those issues put the system or building at risk.

Is any of this technology going to affect sprinkler system ITM soon? The answer is that it likely already is. Many fire pump controllers, some nitrogen generators, and countless other components are already using the internet to communicate today. They can do anything from warn of impending critical issues to simply sending maintenance due alerts. The real question is: where is all this headed? That one can’t be answered so easily. •

Help Wanted

by Robert Wilson

President of RL Wilson & Associates, LLC

This economic cycle is really setting records. We've had almost 10 years of U.S. economic growth, the unemployment rate is at a 30-year low (it is expected to go lower) and we hear everywhere how well the economy is performing. What does this mean for the Fire Protection Industry? While we don't have industry specific numbers, we do have a snapshot of the national employment picture.

The Numbers - according to the Bureau of Labor Statistics

- The national unemployment rate was 3.9 percent, the lowest rate since 2000 and a sign that the job market has become even more competitive.
- Approximately 201,000 jobs were created in August 2018
- The number of persons employed part time for economic reasons (sometimes referred to as involuntary part-time workers), was down by 830,000 over the year.
- Average earnings rose by 4 cents an hour last month and are up 2.6 percent over the past year.
- The jobless rate is reaching historically low levels. In the last 60 years, there has been only one sustained period where unemployment stayed below 4 percent: the late 1960s.

The Takeaway

American employers continue to find reasons to expand their payrolls. August marked the 95th consecutive month of job gains, far and away the longest streak of increases on record. The average monthly gain has declined each year since 2014, but that's normal for an economy that's been in recovery for such an extended period.

"We've continued to add jobs routinely every month for so long, and the unemployment rate we have reached is amazing," said Catherine Barrera, chief economist of the online job site ZipRecruiter. "It's very incredible."

Wages increased by 2.6 percent over the past year, not much faster than inflation. Projections released at a Fed meeting suggested that officials were leaning toward a total of three rate increases this year.

One mystery of the American economy is this: How can employers can continue to raise pay so gradually, when the labor market keeps getting tighter? In the 1990s and early 2000s, the last time the job market looked like this, wages for rank-and-file workers rose at an annual rate of around 4 percent. A host of explana-



tions — ranging from globalization to slow gains in productivity — have been offered to explain the disconnect. Ms. Barrera says businesses may just be stuck in their ways. "People are creatures of habit," Ms. Barrera said. "If you have been using a strategy that has been working for you for a number of years, you aren't going to suddenly change it." However, we expect this to soon change.

Who's Been Left Out

Even though the labor force shrank over all, the report offered signs that the strong economy is coaxing some people back into the working world. A measure of unemployment that includes people who had given up looking for work hit 7.8 percent, a level not seen since 2001.

"We have realized that there were even more workers on the sidelines than we previously thought," said Martha Gimbel, an economist at Indeed.com, a job-search site. Ms. Gimbel said that her site had seen an increase in people searching for things like "background check" and "full time," which could indicate that the bustling job market has become irresistible for workers who might have been discouraged by a particularly bruising recession a decade ago.

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There Are A Lot of Jobs, Just Not Enough Skills

Yes, there are a lot of jobs being created: more jobs than there are people in fact. Interestingly, most of these jobs demand soft skills not just technical skills. A study just completed by Bloomberg and Workday finds we are seeing an increasingly wide gap between the jobs being created and the skills and experiences in the workforce to fill them.

This creates stress among hiring managers, stress among HR teams, and stress among CEOs. The 2018 Conference Board CEO study found that “failure to attract and retain top talent” is now the No. 1 issue on the minds of CEOs, even more important than competition or the disruptive nature of technology.

Difficulty To Hire

Of course, the biggest challenge employers find in this kind of economy is how hard it is to attract the right people. Recruiters are arming up with lots of new weapons to find people, but they’re also finding a 40% increase in time to hire. This is simply the result of candidates being more picky, and even trends like “job ghosting,” where job candidates just “disappear.”

I hear of “walk-aways” all the time - people who accept jobs and then just “walk away” when they don’t understand what to do or see the grass greener on the other side. Now candidates are just “disappearing” in the interview process because they see so many other opportunities available. One company said they are now paying job candidates to take an interview, even though they may not get an offer!

What Does All This Mean?

Here are a few of the massive trends I see in my world of HR, business leadership, and the HR tech market.

- Focus on employee productivity and well-being. In this kind of job market, everyone feels under stress. Your job as a business leader has to focus on what you can do to make work easier. Reduce the hiring process clutter, help managers set clear goals, simplify your organizational structure, and make sure you have a rich set of well-being programs and other benefits to offer.
- Pay competitively or don’t be surprised when employees jump ship for more competitive pay.
- Get your recruitment house in order. The latest Bersin by Deloitte talent acquisition research found that 74% of companies are still doing what we call “transactional recruiting.” In other words, they take a job requisition, they post it on the internet, and they start the recruiting process. In today’s job market this is insane. If you aren’t honing your employment brand, seeking out passive candidates who fit your culture, actively engaging with senior leadership to improve your talent pipeline, and looking seriously at gig work and leveraging all talent pools, you’re fishing in a pond that is way overfished.
- Take your employee engagement problems very seriously. We all get tired of hearing about the topics of culture and engagement but the problem remains. Every day I read a story about some work-related practice (unfair pay, mistreatment of an employee, poor leadership decisions), and it hurts your own company. Yes, we all want to hire, grow, and gain market share - but if we don’t do it in a meaningful way, we will lose our best people and ultimately when the next recession comes, people simply will not make the sacrifices you need to keep your business growing.
- Simplify your technology. Despite all the wonderful new AI tools out there (most are very immature), a lot of these new tools are brand new. Don’t buy a bunch of them, buy only a few. Focus on making your core HR systems easy to use and well implemented. Utilize existing or buy new learning experience platforms so employees can easily share information and learn from each other. And stop buying more and more communication tools, all they do is make your employees lives harder. (The average company has more than four different ways to collaborate, including Slack, Microsoft Teams, Google G-Suite, Workplace by Facebook, Slack, Webex, Skype, Zoom, and the list goes on and on.) Do you really need them all? I doubt it.
- If you cannot find talent, don’t sit on open jobs. Go to a recruiting firm and have their specialist find talent for you. What is least costly, the loss of a sale/service and potentially future business from that client, or, paying a fee to have someone find you talent?
- Consider using gig employees. Use an agency to find contingency employees and “try before you buy” to fill gaps and cyclical needs. Don’t lose sales over lack of talent.
- Our industry, unlike the fast food industry, requires skills and we cannot just throw employees at a job without training and expertise. The unemployment rate for skilled employees is lower than the overall rate for unskilled jobs. For industries like Fire Protection, we have to consider new techniques to find talent and we have to develop ways to develop our employees. •

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We're Blowing Up the Twitterverse!

NFSAorg has had quite the year on Twitter! With over 12,000 tweets under our belt since inception, 2019 saw 1,407,600 Twitter users viewing our tweets! Using the Twitter platform, your association was able to promote sprinkler saves from across the country, the new fire sprinkler tax incentives, NFSA Chapter and national events and so much more, to an audience eager to receive the news and share it around the Twitterverse!

Twitter analytics offers some great insights into who is following us, helping us to determine how to phrase tweets, when to post them and to see what works and what doesn't. Following are some interesting audience statistics.

- As of this writing, our current follower audience size is 5,313. That's 82 more than the same time 30 days ago. We gain around 3 new followers per day.
- Marital status 55% married 45% single
- 85% male 15% female
- 82% homeowners 22% renters
- **Top six countries:**
 - United States 72%
 - United Kingdom 6%
 - Canada 6%
 - Mexico 2%
 - India 1%
 - Saudi Arabia 1%
 - Colombia 1%
- **Top U.S. States:**
 - Maryland 5%
 - California 5%
 - Pennsylvania 4%
 - Massachusetts 4%
 - Texas 4%
 - Florida 4%
 - New York 4%
 - Illinois 4%
- **Occupation**
 - Professional/technical . 36%
 - Homemaker 23%
 - Health services. 18%
 - White collar worker. . . 18%
 - Self-employed 16%
 - Management. 16%
 - Sales/marketing. 12%
 - Retired 11%
 - Tradesman/laborer 9%
 - Student 6%

I find these analytics very interesting. While we may think that we are always “preaching to the choir,” this data shows just the opposite. 23% of our audience are homemakers, 6% are students, 11% are retired. We are getting through to the audiences that will benefit from news about fire sprinklers. As we like to say, education is key. Day after day, your association posts relevant fire sprinkler news, keeping it fresh and driving home the point that fire sprinklers save lives!

Our #FastestwaterFriday Fact has become a staple in our arsenal and is always one of the top, if not the top, tweet of the week. These weekly facts range from who patented the first fire sprinkler system to how many minutes you have to escape a home fire. A new fact is posted every Friday morning and it is immediately shared, reaching an average audience of 2,000 users!

Our #fastestwater hashtag has been picked up by other accounts and now boasts a healthy viewership on Twitter! In the past month, we've reached almost 38,000 Twitter accounts and made 125,000 impressions through sharing and use of the hashtag by other accounts. In the past three days, 100 tweets have contained the #fastestwater hashtag and 78 of those have been retweeted. If you take the time to think about it, these numbers are astounding.

I invite all members to get involved! Watch for and use the #fastestwater hashtag on all of your social media accounts, put it on your website, add it to your stationery. Our message is getting around—*fire sprinklers save lives and property!* Numbers don't lie. We are making a big difference...every day. •

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CHAPTERS in ACTION

PenJerDel Chapter at University of Pennsylvania PennReady Program

The NFSA PenJerDel Chapter would like to thank the University of Pennsylvania Division of Public Safety for hosting the chapter at this year's PennReady Program. Chapter members worked alongside Local 692 Sprinkler Fitters to construct two rooms for a side-by-side burn. The team worked for days to coordinate, construct and furnish the two rooms for the burn. Their work paid off on



Friday, September 21st, when a phenomenal crowd of professionals and students came to see sprinklers in action.

NFSA Field Service Coordinator John Waters narrated the event and explained to the crowd how a fire spreads in a room and why sprinklers are so effective at combating it. The unsprinklered room reached flash-over in approximately six minutes, whereas the sprinklered room reacted at about a minute and thirty seconds.

The chapter would once again like to thank the UPenn Division of Public Safety and Local 692 Sprinkler Fitters for their efforts.

Pennsylvania Side-by-Sides

Staff at the PenJerDel Chapter have scheduled their first grant side by side burn in York, Pennsylvania. This is the second burn this year hosted by the Chapter that is for insurance professionals and attorneys. The previous burn, which happened just this past May in Sharon Hill, was so well received, the Chapter was asked to host another. At these burns, insurance professionals are able to see just how effective sprinklers are in containing fires as well as how quickly flashover occurs in an unprotected room.

Before attending these educational seminars, many adjusters may be misinformed about how these systems operate. It is the hope of the Chapter that these adjusters leave these seminars with the knowledge to promote the installation of these systems.

Mark Your Calendars for 2019 Florida Area Interest Meetings

Hydrant Flow Test

Water-based fire protection systems rely on a reliable source of water and the municipal water system is a common source of this water. The characteristics of a municipal water supply is typically determined through hydrant flow tests. NFPA 291, Recommended Practice for Fire Flow Testing and Marking of Hydrants, highlights the proper procedures, equipment and data collection for these vital tests. This seminar will highlight the requirements of this recommended practice and will include valuable information on the various aspects of hydrant flow testing including: Procedures, Test Layout, Equipment and Determination of Discharge as well as proper data collection and limitations of the tested data. Presented by: Roland Asp, NFSA, George Stanley, Wiginton Fire Systems and Pete Schwab, Wayne Automatic Fire Sprinklers.

<p>January 8 – Tampa Aparicio-Levy Technical College 10119 E. Ellicott Street Tampa, FL 33610</p>	<p>January 16 – Plantation Lunch Plantation Fire Rescue 550 NW 65th Avenue Plantation, FL 33317</p>
<p>January 9 – Orlando The Patio Grill Restaurant and Lounge* 2900 South Orlando Drive (17-92), Sanford, FL, 32773</p>	<p>January 17 – West Palm Palm Beach County Fire Rescue Herman W. Brice Complex 405 Pike Rd., Rooms 101 & 102 West Palm Beach, FL 33411</p>
<p>January 10 – Jacksonville **New Location** St Johns County Fire Rescue 3657 Gaines Rd. St. Augustine FL 32084</p>	<p>January 22 – Ft. Walton Beach Advanced Fire Protection 37 Tupelo Avenue Ft. Walton Beach FL</p>
<p>January 15 – Ft. Myers *Park in back of building* Tri County Apprenticeship Academy 13830 Jet Port Commerce Pkwy, Ste 5 Ft. Myers, FL</p>	<p>January 23 – Tallahassee Tallahassee Fire Dept Training Center 2964 Municipal Way Tallahassee, FL</p>

LUNCH Meetings 12:00 NOON – 1:00 PM, CHECK IN AT 11:30 AM Breakfast meeting check in at 7:30 Meeting starts at 8:00 AM. FREE Lunch or Breakfast, FREE CEU, FREE Networking

Contact Florida Regional Manager Lorrell Bush at bush@nfsa.org for more information.

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Columbia-Willamette and Puget Sound Chapters Hold Final Meetings of 2018

The final meetings for both the Columbia-Willamette and Puget Sound NFSA Chapters included a Fire Marshal Forum in October and a Supplier Showcase in December. Plans are underway for a great speaker series in 2019. The Columbia-Willamette Chapter continues its work towards statewide fire sprinkler contractor licensing.

Southwest Chapter News

ARIZONA

The Arizona State Chapter met at the Phoenix Fire Department Headquarters on September 11th for a lunch meeting where members shared local issues affecting the fire sprinkler industry and received reports on NFSA news and events from Regional Manager Bruce Lecair. Chapter members also received a special presentation by Carie Wilson, Water Quality Regulatory Manager with City of Scottsdale, discussing: “Changes in the Water Supply Requirements to the City of Scottsdale Municipal Code.” Chapter President Fred Graves followed with a presentation on NFPA 14 on the topic of; “Are You Calculating and Reviewing Standpipe Plans Correctly?”

The final meeting of the year will be held on November 13th.

LOS ANGELES

The Los Angeles Area NFSA Chapter met on August 16th for a dinner meeting at the Rio Hondo Golf and Event Center. Members in attendance discussed a wide range of topics and exchanged information, as well as receiving NFSA and statewide updates on the Office of the State Fire Marshal, and national events affecting the fire sprinkler industry by Regional Manager Bruce Lecair.

SAN FRANCISCO

The San Francisco Bay Area Chapter will meet on September 27th for the final meeting of 2018 at Saki’s Spin A Yarn Restaurant in Fremont, California. This meeting was the Chapter’s last meeting with Jack Thacker as Area Director and was the board member voting event for new Chapter officers.

North Texas Chapter to Hold Joint Meeting with SFPE

The NFSA North Texas Chapter is hosting a joint chapter meeting with SFPE – Dallas Fort Worth.

WHAT: “Fire Pump Need To Know” by Scott McCall Ruhrpumpen Pump Manufacturers.

WHERE: Construction Education Foundation, 1201 Royal Lane, Irving TX 75063

WHEN: 11:30 A.M. – 1:00 P.M.

WHO: NFSA Fire Sprinkler Members and DFW Engineers/Designers

HOW: Free Lunch sponsored by Ruhrpumpen

Speaker Bio: Scott McCall, fire division marketing manager with RUHRPUMPEN, will presenting on RUHRPUMPEN’s line of fire pumps and fire pumps need-to-know. Scott has a background in Industrial Management, and has worked in the process/API pump business for over 35 years, selling primarily to the oil and gas/chemical/offshore market.

Contact Regional Manager Cindy Giedraitis at cindyg@nfsa.org to RSVP.

NFSA Wisconsin Burn Center Golf Invitational Celebrates 30th Anniversary

The NFSA Wisconsin Chapter hosted the 30th Annual Burn Center Golf Invitational at the Grand Geneva Resort in Lake Geneva on August 27, 2018. The event was attended by 185 golfers who enjoyed either the Brute or Highlands courses at the resort. The day was hot and humid for the golfers, but scores were good in the scramble with three teams scoring a 10 under par on the Brute and 8 under on the Highlands. This event is mostly attended by the fire sprinkler industry – contractors, manufacturers and suppliers/manufacturers.

The evening program was well attended by over 180 participants in attendance to congratulate the 1st and 2nd place winners on the course. There was the presentation of the 32 sponsor awards representing Platinum (3), Diamond (5), Gold (14) and Silver (10) sponsorship levels. Their charitable giving allowed for us to break the \$100,000 mark. This year’s winner of the Ray Malek Award was Dr Tom Schneider, MD (Retired) from the Ascension Columbia St. Mary’s Hospital Burn Unit. The event emcee was Jim Lombardo from Bell Ambulance and Eli Islein, Burn Survivor.

The preliminary financial information has been calculated and it appears that about \$110,000 will be donated to the Ascension Columbia St. Mary’s Burn Center and Alliance for Fire Safety Youth Burn Camp. Since the beginning this event has raised almost \$2.5 million for burn prevention and treatment.

We are looking forward to the 31st Annual BCGI at Grand Geneva Resort in Lake Geneva on August 26th, 2019 – Hope to see you there.





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SRI's Don DeLuca Honored for 19 Years of Service to NFSA Board

Director of Outreach and Government Relations Vickie Pritchett presents a plaque to Don DeLuca of SRI Sprinkler in New York honoring his 19 years of service to the NFSA Board of Directors.



New York Regional Manager Dom Kasmauskas notes, "Of all the NFSA New York members, Don DeLuca and the folks at SRI are my #1 watchdog for issues affecting the fire sprinkler industry in the Hudson Valley and across New York State as well as Connecticut and beyond. Don has been the driving force, along with his son DJ, to successfully reinvigorate the Empire Chapter and has been promoting licensing for our industry in New York since 1996. As the recently retired Area Director, Don's leadership has been and still is instrumental in what our industry needs to advance in this state. His business experience and affiliation with several associations leads to excellent guidance in guarding and furthering success of all NFSA members".

Kevin Hall Joins NFSA Engineering Team

Please join us in welcoming Kevin Hall to the NFSA Engineering Team. Kevin is a registered P.E. with both B.S. and M.E. degrees in fire protection engineering from the University of Maryland at College Park. Kevin is a perfect fit for the Engineering team with his background, passion for fire protection and great attitude. Kevin also has some other favorable attributes such as being an Eagle Scout and Salamander National Fire Protection Engineering Honor Society Member. Both take dedication and hard work to obtain. We are very glad to have Kevin on staff and look forward to many years of great work from him.

From Kevin Hall:

I started my Fire Protection Engineering career at The University of Maryland, earning my B.S. in Fire Protection Engineering in 2013 and continuing on to earn an M.Eng. in Fire Protection Engineering in 2016. In the summer of 2012, I started working for one of our member contractors, Reliance Fire Protection (Baltimore), and worked there until this past summer. Six years on the contracting side of the business is an invaluable experience for any engineer, and I truly appreciate all of the opportunities and learning experiences that I had there. In addition, I was able to gain necessary experience to qualify for my P.E. license, which I attained last fall. I'm excited to get involved with the engineering department here at NFSA. I look forward to answering your EOD questions, teaching LITC and other classes, and working with you on committees.

On a personal level, I am a huge baseball fan (Go O's!), attending at least a dozen games every year, checking every MLB stadium off my list, and umpiring high school varsity and travel baseball in my spare time.

I volunteer on the Mount Saint Joseph Alumni Association Board of Directors, and am currently acting as their Treasurer. Surprisingly enough, that is where I first learned about Fire Protection Engineering. Thanks to John Denhardt for introducing me to this amazing industry ten years ago when I had no idea what type of engineer I wanted to be."

—Kevin Hall, P.E., *Manager of Engineering Research*

Kevin can be reached at hall@nfsa.org.

A Special Thank You

A special thank you to all our members for the support and resources to promote the fire sprinkler industry during Fire Prevention Week. NFSA and our partner organizations don't stop at just one week, we engage all year long. Our media presence in 2018 was more than ever in our history and Fire Prevention Week was just a sample. From 4 minutes and 10 seconds on Fox & Friends to several episodes of coverage in the DC, Northern Virginia and Maryland markets to Boston, fire sprinklers were portrayed positive in the news. Common Voices outreach to the media markets and NFSA's staff and mobile demonstration units makes a powerful team to promote fire sprinklers and dispel myths. We could not do this without a great team and the support of all the fire departments that help us across the country.



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Telgian Executive Chairman Russell Leavitt named Second Vice-Chair of NFPA

Russell B. Leavitt, Executive Chairman of Telgian Holdings, Inc. was recently named Second Vice-Chairman of the National Fire Protection Association (NFPA)

As Second Vice-Chairman, Leavitt will work with the association as it delivers information and knowledge nationwide through more than 300 consensus codes and standards, research, training, education, outreach and advocacy. In addition to this position, Leavitt also serves on a number of NFPA Technical Committees and is the Chair of the Technical Committee on Sprinkler System Discharge Criteria (NFPA 13).

NFPA Board Members are elected based on experience; respect of peers; respect as a member of the safety community; commitment to the association's goals; and appreciation for the relationship NFPA must maintain with the changing needs of society. Leavitt brings over 35 years of industry experience to the position including his fire protection expertise, managing a fire protection contracting firm, building a global fire protection services organization, and promoting life safety through speaking engagements and teaching opportunities.

Potter Announces New Executive Vice President of Global Operations and Supply Chain

Potter Electric Signal Company announces **Jon Veldman** as newly appointed Executive Vice President of Global Operations and Supply Chain. Having lived and worked in six countries over 19 years for five different prosperous companies, Jon has garnered a deep knowledge of global manufacturing. He brings to Potter a wealth of varied operations and supply chain experience and an enhanced perspective on the global market place.

Jon received a bachelor's degree in physics from Hope College in 1982, and an industrial engineering degree from the University of Michigan in 1983. He received his master's degree in business administration from Ashland University in 1987.

protection firm licensed in most of the 50 states. In 1988, Joe opened Quality Fabrication & Supply, and then in 1997, sons, Don and Alan, formed Wiginton Fire Protection Engineering, Inc. In 1999, the Wiginton brothers began developing additional capabilities in fire alarms, extinguishers and non-water based suppression. In 2008, Wiginton became a 100% employee owned company. This was very rewarding to Joe. Ownership thinking was backed up with actual ownership.

In 2017, Wiginton Corporation, now the parent company with 400 + employees strong, celebrated its 50th anniversary. Joe was there and loved every minute of it. Joe was a visionary and always had great leadership skills. He believed strongly in training and developing people. One thing that always stood out was the way he related to people. He knew everyone's name and had a sincere interest in what was going on with each of them. He made everyone feel like part of the Wiginton Family.

Joe served on the Board of Directors of the National Fire Sprinkler Association, chaired the Seminar and Membership Committees, and served as President of the Florida Fire Sprinkler Association. Joe was instrumental in forming NFSA's Florida Chapter. He served on the NFSA Board of Directors as an alternate Director for Board Chairman. His passion was to promote the concept of life saving fire sprinklers, through industry unity, high quality standards and training craftsmen, despite their labor affiliation. In 1995, Joe was selected by his peers to be presented with the highest honor in the fire sprinkler industry, NFSA's Golden Sprinkler Award, the first open-shop contractor to be presented with this prestigious award Joe was inducted into the NFSA Hall of Fame in 2009.

"Joe was a passionate and enthusiastic member of the NFSA who made many differences to our fire sprinkler industry throughout the years, he was a leader and a change agent" shared NFSA President Shane Ray. "As an NFSA Golden Sprinkler Award recipient and an NFSA Hall of Fame inductee, he was recognized for his service by his peers and the National Fire Sprinkler Association in a way held for the great ones. May we all say an extra prayer for Joe's family during this difficult time and honor his memory with our service going forward."

In Memoriam

Joe Wiginton

Former NFSA Board Member **Joe Wiginton** passed away on Friday, August 31, 2018. Joe's hard work ethic was instilled in him at a very early age as the son of a sharecropper in Texas. Joe began his career in the fire sprinkler industry at the age of 17 as a pipe fitter's helper at the Memphis, Texas Cotton Mill. Joe was drafted into the U.S. Army in 1950 and honorably discharged in 1953. After a tour of duty with the U.S. Army Combat Engineers, Joe returned to work in the fire sprinkler industry where he held increasingly more demanding positions in the industry in Texas, Tennessee, Georgia and Florida.

In 1967, Joe founded Wiginton Fire Sprinklers, Inc. in Orlando, Florida. Wiginton Fire Sprinklers evolved into a full-service fire

In Memoriam

Paul R. Meyers Sr.

Paul R. Meyers Sr. passed away on September 30th, 2018, surrounded by his loving family. Born on March 1, 1949, in Fort Wayne, Indiana, Paul graduated from Purdue University and was a controls engineer for Shambaugh & Sons for 27 years, retiring in 2015.

Paul's two sons currently are with Shambaugh. Paul R. Meyers, Jr. is Chief Executive Officer and William J. Meyer is Senior Vice President and General Counsel.

Shambaugh & Son has been in the construction/engineering services business since 1926. They are currently the largest MEP construction services contractor in Indiana and ranked the third largest specialty contractor in the United States. •

Johnson Controls Detect360 Area of Refuge Communications System

During fires and emergencies within commercial and public buildings, individuals with disabilities are often the most vulnerable and require quick, reliable communication with rescuers. As part of its ongoing commitment to keep every building occupant safe during times of crisis, regardless of ability, Johnson Controls announces the new Detect360 Building Communications System.



Johnson Controls Detect360 Area of Refuge Building Communications System

Featuring innovative audio capabilities that meet the requirements of the International Building Code (IBC) and Americans with Disabilities Act (ADA), the system offers greater reliability and peace of mind for those located in a building's area of refuge during a fire or emergency.

A simple easy-to-use interface, high-quality speaker and omnidirectional microphone provide superior two-way communication at the touch of a button. The system's visual status indicator ensures appropriate assistance is given to the hearing-impaired and includes backup batteries that provide hours of additional operation in the event of a power failure.

Under the IBC, emergency communication systems must connect to a public telephone system if the central control point is not constantly attended. The Detect360 Area of Refuge system does just that, allowing building occupants to contact first responders using the optional Automatic Telephone Dialer. First responders can communicate directly with occupants through a standard phone line or VOIP using the Supervised Digital Communicator. This feature enables first responders to be notified sooner and respond quicker to those in need.

Part of the Detect360 family of solutions, the system features addressable technology and provides significant benefits to occupants and building owners, including:

- Allowing each remote call station to be identified and supervised by the command panel, ensuring device failures are quickly detected and reported, while maintaining uptime of other call stations.
- Addressable call stations maintain their connections even if other devices on the network fail, providing greater survivability.
- All remote call stations can be connected to the command panel on a single circuit rather than wiring each one individually, significantly lowering installation and maintenance costs.

For more information on Johnson Controls' fire detection and alarm systems, visit <http://www.johnsoncontrols.com/buildings/security-and-fire-safety/fire-detection-and-alarm-systems>.

Potter Announces Release of Nitrogen Generator App

Potter Electric Signal Company announces the release of the IntelliView™ mobile app. Now available to download in the iOS and Google Play app stores, this app provides the same info as the web-based IntelliView dashboard but allows for easier access to monitor your nitrogen systems on all of your devices.

The IntelliView App allows the user to monitor their Potter IntelliGen™ nitrogen generator from anywhere in the world. Simply connect the nitrogen generator to the building's networked internet connection and download the IntelliView app to create an account and register your nitrogen generator. From here, you will be able to remotely view the status of your nitrogen generator and any networked IntelliPurge™ valves conveniently from your tablet or smartphone.

With the app, you will be able to monitor every facet of your Potter Intelligin system:

- **System Status**
System run times, advance leak rate, and automatic bypass capabilities are all monitored and can be viewed with the app.
- **System Analytics**
System leak rate, run time, and nitrogen purity are shown through easy to understand graphs that allow you to quickly monitor the performance of your IntelliGen units.
- **Multi-System Management**
Manage multiple buildings or a campus from one location using the IntelliView app.
- **User Administration**

System administrators can add and remove additional users to view system information and be alerted when maintenance alerts are triggered.

Leading Edge Seismic Fire Protection Design Software by Anvil International

The latest update to Anvil International's SeisBrace® Design Tool – Seismic Bracing Zone of Influence Calculation software – is groundbreaking in its options for calculating Cp following NFPA 13 (2016) and the referenced ASCE7 Standard.



It offers all new functionality and includes the entire brand of Anvil's Afcon® seismic bracing products. Improved features include:

- Calculation of Seismic Coefficient (Cp) following NFPA 13 (2016) tables and the ASCE7 formula referenced in NFPA 13, which can reduce the calculated seismic load up to 50% in

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SPRINKLING OF NEWS

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some applications, saving considerable material and labor cost and allowing more options for product solutions

- New “Prying factors” in NFPA 13 (2016) for concrete anchors for seismic brace structural attachment
- Calculates lateral braces working as both lateral and longitudinal in one calculation and submittal
- Calculation of riser braces in both wall and corner conditions
- Calculates brace loads at wide or narrow angles to maximize brace strength or allow for greater field adjustability during installation
- Inclusion of alternate components, calculated and included in submittal to allow last-minute field changes of material

All these new features are on top of the features and benefits from the previous release which include: specifying FM Approval or UL Listed components; Generate a submittal package with seismic bracing products with detail and individual product submittal sheets.

The software is provided free of charge with a registered account on Anvil’s website or by going direct to www.seisbrace.com.

For more information please contact your local Anvil Fire Protection Sales Associate. •

New Viking Video Series Highlights Valve Service, Maintenance, and Repair Topics

The Viking Corporation has produced a series of 31 videos, each providing step-by-step instructions for maintaining and repairing specific Viking valves and related system devices. Service Technicians can now follow Shaun Kramer, Viking’s Manager of Technical Support, as he delivers hands-on instructions for inspecting, repairing or replacing key components of Viking’s valves and devices. The entire series can be viewed on Viking’s web site and the Viking YouTube Channel (<https://www.youtube.com/user/Viking-sprinkler>). Additionally, customers can access many of the videos through Viking’s new Mobile App for wet and dry pipe systems, which is now available to download for Apple and Android devices.

Johnson Controls partners with Lumkani to bring fire safety to urban informal settlements

Families living in informal settlements in South Africa will now be better protected against devastating fires thanks to a newly announced partnership between Johnson Controls and Lumkani. The collaboration will provide networked, early warning fire detection technology for these communities.

For the 800 million people living in informal settlements around the world, this award-winning[1] smart device provides peace of mind and protection. These at-risk communities are often in danger of experiencing devastating fires due to dense housing

conditions and prevalent use of open fire methods for cooking, lighting and heating.

Fires in these settlements kill thousands of people every year and displace countless more. For survivors, the loss of a home, family necessities and other possessions make it even more difficult to secure economic wellbeing and protect their families from further harm. For the eight million South Africans living in informal settlements and in similar communities around the world, fires are a very real daily threat.

This year, with the support of Johnson Controls, which includes the Johnson Controls Foundation, 5,200 Lumkani fire detectors have been installed in Imizamo Yetho, an informal settlement in Cape Town, South Africa. These devices cover 95% percent of the homes in the area, providing safety for 14,000 residents and the broader community for years to come. Every dollar invested in Lumkani technology produces ten dollars in social value[2], generating a huge impact for vulnerable communities.

By combining Lumkani technology with insights from Johnson Controls, a higher performing solution is being delivered to informal settlements, helping to increase personal safety and mitigate loss of life, property and possessions.

As the urban population continues to increase globally, Johnson Controls is committed to developing safer, smarter buildings and cities to meet today’s needs and shape better tomorrows. For more information, please visit: <http://www.johnsoncontrols.com/corporate-sustainability/social>. •

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Fire is Fast!

Fire sprinklers are needed!



NFSA was happy to make sure that Lighthouse Point Fire Station had FIRE SPRINKLERS included in it's re-model! The station was selected by Designing Spaces to receive the station upgrade and NFSA stepped up to include fire sprinklers & protect the firefighters and the stations' apparatus! #fastestwater at its finest! Pictured are Joel Summerfield of Wiginton Fire Systems, Shane Ray, NFSA President, Lighthouse Point Chief David Donzella and Reggie Hancock of Wayne Automatic Fire Sprinklers. A special thanks to our Florida Chapter for true teamwork support and help!

We are proud to partner with the National Fallen Firefighters Foundation, and encourage all fire departments to embrace the 16 Firefighter Life Safety Initiatives. Pay special attention to Initiative #15 "Advocacy must be strengthened for the enforcement of codes and the installation of home fire sprinklers." For more information on NFFF visit firehero.org and join with us!

www.nfsa.org
#fastestwater

The National Fire Sprinkler Association is proud to partner with our nation's fire service. We continue to extend our special offer to the fire service – 6 months FREE membership (Subscriber membership category). We believe that partnerships that understand how we can help each other helps us make our communities safer and keep firefighters & citizens safe too! We want you to have the latest resources. Sign up today at nfsa.org.

Look for the Firehouse Ad icon in the bottom left hand corner on the home page.



Director of Outreach & Government Relations
Vickie Pritchett pritchett@nfsa.org
615-533-0305 @vickiep4

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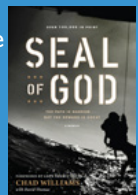
Keynote Speaker Chad Williams, Special Appearance and Music City Welcome by Grand Ole Opry Star Mike Snider

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Registration is underway: nfsa.org/annual-seminar/

We look forward to seeing you there!

Former U.S. Navy SEAL **Chad Williams** draws from his experience in the SEAL Teams to communicate an instructive perspective on teamwork, resilience, leadership and self-motivation. He is a bestselling author of SEAL of God.



When **Mike Snider** and his old-time string band take the stage of the Grand Ole Opry, they bring a combination of musical excellence and rural comedy that always leaves a delighted audience cheering. Mike's blend of irreverent humor and utter reverence for the old-time music tradition makes him a perennial favorite of Opry audiences.



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New England Region

MICHAEL YOUNG
Regional Manager

CONNECTICUT, MAINE, MASSACHUSETTS,
NEW HAMPSHIRE, RHODE ISLAND, VERMONT

40th Anniversary of the Connecticut Burns Care Foundation celebrated at 12th Annual “Chip In For Burn Camp” Charity Golf Tournament

All proceeds from the tournament benefitted the Arthur C. Luf Children’s Burn Camp in Union, Connecticut.

Thank you to Connecticut Burns Care for providing the following information.

Executive Director Kathlene Gerrity said that “The Burn Camp is the start of a journey to self-discovery for children with severe burn injuries.” Quality programs, concerned staff, the facility itself, as well as an unsurpassed natural setting all combine to



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CBCF • Celebrating 40 Years • 1978-2018

dancing and a scavenger hunt.

Campers and staff share the joys, comradery and kinship through social and physical activity to develop self-worth and allow them to see they are fully capable of moving beyond their injuries to achieve their goals.

Campers, ages 8 up to 18 attend the camp at no charge and are provided lodging, meals, arts and crafts and activities. Camp Medical Staff specialize in burn care, physical and occupational therapy and are affiliated with local and nationally recognized hospitals and burn care units. Active and retired firefighters, nurses, burn survivors and caring individuals all serve as volunteer counselors. NFSA was proud to be a sponsor of this event!

For more information go to www.ctburnsfoundation.org or call 203.878.6744.

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New York Region

DOMINICK KASMAUSKAS
Regional Manager

NEW YORK

Putnam County Licenses Updated with NICET Requirements

Starting January 1, 2024, the Putnam County Plumbing and Mechanical Trades licensing for Fire Sprinkler trade and journeymen and inspectors change.

A Master Fire Sprinkler Installer will need to be at least 23 years of age, have 5 years' experience, and have a NICET level 3 certificate in Layout.

A Journeyman Fire Sprinkler Installer will need to be 21, with 2 years' experience, and a NICET 2 in Layout.

Inspectors will need to be 23, with 5 years' experience, and a NICET Level 2 in Inspection & Testing.

This can of worms has been reopened once already after being rewritten and passed in March/April 2018. The Board insists on licensing Installers and not the company. NFSA Regional Manager, Dominick Kasmauskas has spent months working with the Board in asking them to copy the language of the NY State Bills that have been proposed, which licenses the entity and not the individuals, but to no avail.

Dominick stated he will, “keep communicating with this Board ... and it seems the NFSA contractor members that are most affected and have discussed this with me are fine with it”.

Please contact Dominick at Kasmauskas@NFSA.org or 518.937.6589 with your input.

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NY State Code Council Moving Forward with 2018 I-Codes Adoption

The 2018 I-Codes and NY State 2018 Supplement book were formally adopted in October, and an entire package will be rolled out in early to mid-2019.

NFPA 14 (2016) concern- The City of Ithaca brought forth a new concern for NFPA 14 in Chapter 11 that allows an AHJ to waive the flow tests. Ithaca has asked that the state remove these waivers when adopting the 2016 as a “referenced document”.

NYC Construction Safety Training and LL196-2017

Local Law 196 of 2017 requires workers and supervisors at certain construction sites receive safety training. The safety training requirements will be phased-in in three parts beginning on March 1, 2018, with full training being required no later than September 1, 2020.

For more information on Local Law 196 of 2017, including more detailed information on the types of construction sites where training will be required and the types of workers that must be trained, visit the Department’s website. <https://www1.nyc.gov/site/buildings/safety/safety.page>

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Mid-Atlantic Region

DELAWARE, NEW JERSEY, PENNSYLVANIA,

News from the New Jersey Fire Sprinkler Advisory Board

Staff members at the New Jersey Fire Sprinkler Advisory Board have been busy promoting New Jersey Assembly Bill A3974 and Senate Bill S2539. Both bills, sponsored by Assemblywoman Annette Quijano and Senator Teresa Ruiz, call for the installation of fire suppression systems in new single and two-family homes during the construction of the home.

To learn more about how you can take action to save lives and promote fire sprinklers in New Jersey, visit www.stopfiresavelives.com today.

In addition to promoting legislation in Trenton, the Board has been busy throughout the Garden State, with a successful side by side burn in Little Silver for National Night Out, as well as burns in Brick, Hackensack, Piscataway and at Drew University.

Pittsburgh Pursues High Rise Retrofit

Following a fire fatality in a non-fire-sprinklered, seven-alarm residential high-rise fire the Pittsburgh Fire Chief has been diligently working with the local BOMA, NFSA Regional Manager,

and other related organizations in real estate industry, condo associations, and fire safety associations to prepare for a proposal to the City Council.

The proposal was made and referred to the Public Safety Committee earlier this summer and was passed unanimously out of committee in October. As of this writing, it is going back to the full council for a vote in mid-October.

The ordinance would require all buildings to be fire-sprinklered throughout within 13 years of adoption that are 75 feet or more above lowest fire department access. The city is basically adopting Appendix M of the 2015 International Fire Code with a one-year requirement for approved Plans, and then 12 years to complete installation.

Chief Jones noted about 430 high-rise buildings and about 220 have been thoroughly inspected for what protections are in place now. Estimates are about half the buildings will need increased fire sprinkler systems or total retrofit.



Maryland Region

TERIN HOPKINS
Field Service Coordinator

MARYLAND, VIRGINIA, WASHINGTON D.C.

Free Inspector Training in Maryland

In 2014, the Capital Region Chapter of NFSA (CRFSA) joined in a partnership with the Maryland State Office of the Fire Marshal to provide free Inspector Training. This day long training program has continued to grow and evolve under the great leadership of the CRFSA. This includes, Training Committee Chair, Rich Kozel of Livingston Fire Protection, Member, Brian Geraci, The Maryland State Fire Marshal and longtime CRFSA Chair, Terry Victor of Grinnell Fire Protection.

The program is a continuation of a series of training events, now given three times a year, aimed at developing the Inspector and others interested in the industry. To date, we have produced ten free programs in five years with 40 unique presentations, all given by leaders in our industry. They include from subjects on NFPA 25 Inspection, Testing & Maintenance, NFPA and ICC Codes and Standards Updates, Fire Pumps, Plans Review, Arch Flash, Standpipe Systems, Side x Side Demo, Corrosion, High-rise, and NFPA 241 and more.

Attendance at this program regularly brings together 100 people, including fire marshals, building code officials, design professionals, building managers, contractors, plans reviewers and industry suppliers. This approach to training allows all attendees to better understand their role and to understand the roles of their partners in Life Safety.

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Now, with the completion of the November 2018 training program, we will have reached a measurable milestone with the training of approximately 1000 people of interest. This is leading us into 2019 and the expansion of the program into Virginia, with talks to include Washington, D.C.

This model of a training program, designed to bring leaders in the industry together with those doing installation, acceptance, maintenance and enforcement, is essential to public safety and generates a coordinated understanding of the various roles in Public Fire Prevention.

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Southeast Region



BRIAN BIGGS
 Regional Manager

ALABAMA, GEORGIA, MISSISSIPPI,
 NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE

Sprinkler Save at Oak Ridge, Tennessee Assisted Living Facility

Oak Ridge city officials credited a sprinkler system as key in putting out a fire at an assisted living facility before it spread to other parts of the building.

The fire was reported at NHC Healthcare. An employee reported seeing fire coming from a clothes dryer and then saw water in the dryer area.

The fire crew controlled the water coming from the sprinkler, closed the gas and disconnected power from all three dryers. No one was injured and there was no fire damage around the dryer.

The Oak Ridge Fire Department used the opportunity to remind citizens that having working smoke alarms and a working home sprinkler system increase your chances of surviving a fire by 80 percent. They also note that all sprinklers do not activate at once, only the one closest to the fire. Ninety percent of the time, one sprinkler contains the fire.

Southeast Regional Manager Brian Biggs stated, "I would like to thank the Oak Ridge Fire Department for alerting the public to this sprinkler save and for reminding all the profound difference fire sprinklers make during a fire."

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Florida & Puerto Rico



LORRELL BUSH
 Regional Manager

FLORIDA, PUERTO RICO

Side-by-Side Burn in Tampa

Please join the Florida Fire Sprinkler Association on November 20th at the Hillsborough County Holiday Safety Media Event in Tampa. We will be hosting a side-by-side burn demo. We encourage you to invite your family and friends. Find out the truth about how fire sprinklers work to save lives and property. Details will be posted on our website at www.floridafiresprinkler.com. If you would like to volunteer to help, please contact Lorrell Bush at bush@nfsa.org. Volunteers are needed.

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Great Lakes Region



RON RITCHEY
 Field Service Coordinator

INDIANA, MICHIGAN, OHIO, WEST VIRGINIA,
 KENTUCKY

NFSA President Visits Michigan

On August 6, 2018, NFSA's President Shane Ray and Director of Field Operations Gary West visited Michigan and attended a meeting to discuss the formation of a new NFSA Chapter in Michigan. This new chapter will allow us to more effectively serve all of our stakeholders (open shop & union contractors, suppliers/manufacturers, fire officials, and professional members) throughout the entire state of Michigan and compliment the efforts of the existing Detroit Fire Sprinkler Advisory Board (DFSAB).

The following day, President Ray and Director West participated in the DFSAB/NFSA 3rd Annual Golf Tournament held at Devil's Ridge Golf Club in Oxford, Michigan and met several of our members throughout the course of the day.

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Illinois Region

BOB TINUCCI
State Coordinator

ILLINOIS

NIFSAB Assists Local Fire Departments with Side-by-Side Demos

The Northern Illinois Fire Sprinkler Advisory Board (NIFSAB) is assisting local fire departments in conducting side-by-side live burn demonstrations to educate the public about how quickly fires can become deadly, as well as the important life- and property-saving benefits of fire sprinklers. The demonstrations also allow fire departments to talk to attendees about pre-fire planning, smoke alarms, and escape plans.

“Today’s fires can become deadly in as little as two minutes because of the contents we have in our homes,” said Fire Safety Advocate and NIFSAB Executive Director Tom Lia. “These demonstrations allow people to see how quickly everything in the room can burst into flames. It also allows fire departments to show how fire sprinklers truly work, how heat from the fire causes the sprinkler to activate and control or extinguish fires.”

By the end of the year, NIFSAB will have assisted with 42 side-by-side fire and sprinkler burn demonstrations, along with 51 fire sprinkler trailer demonstrations. That would bring NIFSAB’s total of side-by-side demonstrations in the last decade to 750.

More than 100 Illinois communities now require fire sprinklers in new construction homes — and many more require them in new multi-family and commercial buildings — because sprinklers not only protect occupants and property, but they also protect the lives of first responders.

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Wisconsin Region

MARTY KING
State Coordinator

WISCONSIN

La Crosse, Wisconsin Fire Sprinkler Save

Emergency services responded to a fire at Eagle Hall, a residence hall on the University of Wisconsin La Crosse (UW-L) campus.

Officials say a floor fan that was in the building to dry off carpets likely caught on fire. As firefighters entered the building, it was noted that the sprinkler system helped put out the fire.

The last time a major fire broke out in a residence hall was 2012. “When we had the Drake fire we learned a lot of things. Because the sprinklers worked the way that they needed to, it’s another good example of why as we renovate all of our residence halls we’ll be adding sprinklers to all of them. The older residence hall currently do not have sprinkler systems,” said UW-L Assistant Director of Residence Life Lisa Weston. Eagle Hall is UW-L’s newest residence hall, built in 2011. Weston says the fire should not impact move in day, which is at the end of August.

NFSA WI Note: The Drake Dorm fire occurred Sunday January 29, 2012 at 4:23 a.m. The dorm was not protected by a fire sprinkler system and caused significant damage to the basement common area, as well as to the mechanical and electrical systems. The 271 residents needed to be relocated. It was anticipated that the relocation would be for a couple days, but later determined that they would need to be relocated for the semester. Drake Hall was not updated with fire sprinkler protection as part of the renovations after the 2012 fire and remains unprotected.

Mobile Side-by-Side Trailer active in the Green Bay Area

The NFSA Wisconsin Chapter donated a mobile side-by-side trailer to the Green Bay Fire Department this summer. The trailer was placed into service last fall in the Green Bay area because of demand. Ten side-by-side demonstrations have been completed in the Green Bay area over that time and it was determined that this would be a great place to keep the trailer. The DePere Fire and Rescue Department had been the keepers of the trailer and will continue to coordinate it with fire departments in the north central and north east Wisconsin areas.

This past August, five fire departments presented seven side-by-side demonstrations at the Brown County Fair for an estimated 800 fair attendees. These demonstrations help support our efforts to educate the public about fire safety and fire sprinklers. We would like to thank the Green Bay, DePere, Ledgeview, Hobart-Lawrence, and Pulaski Fire Departments for their assistance with this educational message.

As of this writing, there are four more events scheduled for the Green Bay area by four fire departments over the next month with interest from other fire departments. With this interest here and in the Madison and Milwaukee areas we are hoping to add two more trailers to assist with these events.

NFSA Wisconsin Chapter supports this trailer, as well as a fire sprinkler demo trailer in the Milwaukee Area in partnership with Sprinkler Fitters Local 183. We provide grants to fire departments to build their own side-by-side demo units.

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Minnesota Region

TOM BRACE
State Coordinator

MINNESOTA

NFSA Presence at Minnesota State Fair

August 24, 2018 was the Governor's Fire Prevention Day at the Minnesota State Fair. Close to 900 volunteers celebrated the 20th Anniversary of the event by meeting with the general public and other fire service representatives. The Minnesota Chapter of NFSA had a booth and provided demonstrations all day regarding the effectiveness of fire sprinklers.

Burn Aid Golf Tournament

October 1, 2018 was the date of another successful Burn Aid Golf Tournament. In the 20 plus years of the tournament, over \$1 million has been donated to the Region's Burn Center in St. Paul.

The Burn Aid Golf Classic was recently recreated as a 501 c 3 organization which should help donors who support the mission of the Region's Burn Center.

Looking Forward

At a recent Chapter Meeting, preliminary plans for 2019 were discussed. One activity that is for certain is the Home and Garden Show in Minneapolis that runs over two successive weekends.

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Missouri Region

MISSOURI

Warrensburg Council Votes to Delete Sprinklers From Codes

In a split vote, the City Council decided to exempt several local establishments from a fire code provision that would require retrofitting existing buildings with fire sprinkler systems.

Surprisingly, Justin Burton, a consultant hired by American Legion Post 131, while claiming to be a strong supporter of sprinkler systems, said other passive systems provide a better level of safety.

Burton said those include adequate lighting, signs and evacuation plans that can be installed at less cost and make a building

as safe as sprinklers.

Fire Chief Jim Kushner said deleting the section of the code requiring the sprinklers is "allowing a known danger to continue."

Central Region

IOWA, KANSAS

Clinton, Iowa Amends Fire Code for Fireworks Facilities

A potential resolution is set to amend Clinton, Iowa's current fire code. The amendment will allow the city to "adopt the National Fire Protection Association standard 1124 with respect to the requirements for safe handling, storage, transportation, and retail of fireworks."

The resolution states that the amendment is set to correct a small error in the language of former city legislation, specifically the adoption of International Fire Code. The resolution explains that an exception of use of the code was originally granted to mercantile use in reference to the use of fire sprinkler systems, while the exception was intended to apply to "one- and two-family dwellings."



South Central Region

CYNTHIA GIEDRAITIS
Regional Manager

ARKANSAS, LOUISIANA, OKLAHOMA, TEXAS

Are You Ready For 2019 South Central State Legislatures?

The Texas Construction Association Walk On The Capitol is scheduled for January 29 & 30, 2019.

The SFFMA – Texas State Firefighters and Fire Marshals Association Biannual Legislative Lunch and Visit Day is scheduled for March 26, 2019. Please contact cindyg@nfsa.org if you would like to donate.

2017 Texas Legislative Bills That Affected Fire Sprinklers

HB 2814 was introduced by Representative Oliverson and Fire Chief Randy Parr to allow cities under 50,000 population to improve residential fire sprinkler inspection and code adoption. NFSA assisted on this bill.

HB 3405/SB 1759 was introduced by Representative Isaacs on March 8, 2017 and by Senator Campbell on March 9, 2017. HB

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3405 was a high-rise fire protection bill that attempted to limit high rise retrofit in Texas Cities between 750,000-850,000 population (which is only the City of Austin). NFSA helped to defeat this bill. Senator Campbell introduced the Senate Companion Bill SB 1759.

SB 636 was introduced by Senator Don Huffines of Denton, TX. The Bill would have required all cities to do a Cost Benefit analysis for each code adoption and/or amendment. NFSA opposed and helped to defeat this bill.

SB 237 was introduced by Senator Menendez and the FSCATX – Fire Sprinkler Contractors Association of Texas. This Bill was to create Fitter Licensing. NFSA was neutral on this bill – every legislative year; NFSA South Central surveys its members to determine how we will support or stay neutral on fitter licensing.

SB 1049 - related to safety requirements of assisted living facilities. When local and state authorities' inspection requirements conflict, the statute did not lay out a process for resolving the matter. S.B. 1049 provided clarity so disputes will not arise and allowed the Department of Aging and Disability Services (DADS) to use a more recent building code manual in order to minimize discrepancies in the first place. This bill passed and is being enforced. NFSA was neutral on this bill.

2017 Oklahoma Legislative Bills That Affected Fire Sprinklers

SB 283 The building codes and standards adopted by the Oklahoma Building Commission shall be valid and in effect from the date of adoption for a period of at least six (6) years and thereafter until the Commission adopts additional codes and standards.

HB 1168 The Department of Labor is authorized to administer the Oklahoma Uniform Building Code Commission Act and exercise all incidental powers necessary and proper to implement and enforce the provisions of the Oklahoma Uniform Building Code Commission Act and the rules promulgated thereto.

SB 1525 Senator Leewright chose not to hear SB 1525, which would have created negative amendments to the Alarm, Locksmith and Fire Sprinkler Act. NFSA South Central helped to defeat this bill

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Great Plains Region

ROBERT GEISLINGER
Field Service Coordinator

COLORADO, NEBRASKA, NORTH DAKOTA,
SOUTH DAKOTA, UTAH, WYOMING

Sprinkler Saves in the Great Plains

The past few months have seen a number of impressive sprinkler saves within the Great Plains region. Locations included: a live-work occupancy in Jackson Hole, Wyoming; a restaurant within a strip-mall in Loveland, Colorado; and a commercial laundry facility in Bismarck, North Dakota. Residential properties were the most common occupancies as sprinklers limited damage and injuries in fires at a fourplex in Rifle, Colorado; a hotel in Rapid City, South Dakota; and a senior-living apartment building in Broomfield, Colorado. In addition to the fire in Broomfield, seniors were protected after fires broke in a nursing home in Logan, Utah and an assisted living facility in Longmont, Colorado. No serious injuries were reported in any of these incidents and all of the occupancies were back in service within days.

Wyoming Residential Sprinkler Coalition

Mark Doyle, Fire Marshal of the Laramie, Wyoming Fire Department, has agreed to chair the Wyoming Residential Sprinkler Coalition. Mark takes over for Justin Smith who served in that role for the past few years. If you area interested in participating in the coalition, contact Mark.

Mountain Marshals Association

Kay Yeager, with the Grand Junction, Colorado Fire Department, is working to reinvigorate the Mountain (Fire) Marshal's group. This group met semiannually in order to bring training and CEUs to the underserved western-slope of the Colorado Rockies. Working with Kay, we hope to host the next meeting in early to mid-November. The meeting is open to anyone.

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Southwest Region

BRUCE LECAIR
Associate Director of Regional
Operations - WEST

CALIFORNIA, HAWAII, NEW MEXICO,
NEVADA, ARIZONA

Fire Sprinkler Fitter Certification

The Fire Sprinkler Fitter Certification regulations are effective as of July 1, 2017. The certification program aims to improve the quality of water-based fire extinguishing systems by providing a means to certify and register persons who install, modify or add accessories to such systems. The program's goal is to ensure that quality installation and maintenance of water-based fire extinguishing systems is provided throughout California. Orientation classes were taught to fire prevention officers throughout Southern California during the month of August by Supervising Deputy State Fire Marshal Jeffrey Schwartz, and in Northern California in September and October.

As of July 1, 2018, a Certification card is required for sprinkler fitters and at least one certified fitter is required per jobsite. On January 1, 2019 all sprinkler fitters shall possess a certification card, all trainees and apprentices shall possess a registration card.

2018 Southwest Training Success!

Training in the NFSA Southwest Region during 2018 has been very successful. The Southwest has completed seminars in Tucson, Arizona in January for a two-day Plan Review class, Atwater, California at the end of February for the two-day Plan Review class, Reno, Nevada at the end of April for the two-day plan review and San Marcos for the Fire Mains and Appurtenances and Rough-in and Final at the end of May and back again in San Marcos for the two-day plan review in October.

NFSA contract classes have also been conducted in Downey, California in August sponsored by the Fire Sprinkler Advisory Board of Southern California, the site of the two-day Plan Review class. Another contract class sponsored by the Advisory Board is scheduled in December for the Fire Sprinkler Installation Requirement and a Rough-in and Final of Fire Sprinkler Systems classes. The Santa Clara County Fire Prevention Officers contracted for a two-day Plan Review Class that took place in October.

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Northwest Region

SUZANNE MAYR
Regional Manager

ALASKA, IDAHO, MONTANA, OREGON,
WASHINGTON

Northwest News

Local 669 and the Fire Sprinkler Advisory Board teamed up for the annual Sprinklerman Shootout. Patriot Fire Protection earned top honors. Thank you to all of the golfers, contractors and suppliers who sponsored holes, and to Smith Fire Systems for sponsoring the breakfast and Victaulic for sponsoring the barbecue. A donation will be made to the Seattle's Bravest Charity through Seattle Firefighters.

The Washington Fire Sprinkler Coalition hosted its quarterly Best Practices Forum in September. The group discussed water meter costs, intermediate landings and 13D requirements, and inspection procedures. The Oregon Fire Sprinkler coalition continues its mission of education with presentations to the Oregon District Directors Association and the Oregon League of Cities.

Bozeman Fire Department is a recent recipient of an NFSA side-by-side burn demonstration trailer. Chief Josh Waldo will be featuring the trailer at several events around Montana in the coming year.

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REMINDER

SAM, Manufacturer and PRO Members - It's That Time of Year!

Be sure to fill out your Buyer's Guide Info Forms by January 15th, 2019 for inclusion in our May/June Buyer's Guide Issue!

SAM and Manufacturer Link:
nfsa.org/19SAM

PRO Link:
nfsa.org/19PRO

Questions? Contact NFSA Editor
Joanne Genadio at genadio@nfsa.org



National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

NFSM Article Submission Guidelines

National Fire Sprinkler Magazine (*NFSM*), a members-only publication of the National Fire Sprinkler Association, is published six times a year. It offers Fire Sprinkler Industry news and articles of interest to Association members.

Query

Send an e-mail or letter briefly describing your article proposal, why the topic is important, and how it is relevant to our audience. Say something about the sources of your information (*personal involvement? interviews?*) and about your present position and background. Tell us what types of photographs and graphics are available to illustrate your story. Be sure to include an email address and a daytime phone number.

NFSM runs full-length feature articles of approximately 800-1200 words.

Feature Articles

Articles for *NFSM* should be on a topic of significant interest to the industry. Articles promoting a specific product or service will not be published. We have advertising opportunities available to boost your sales.

Writing Guidelines

NFSM tries to maintain a straightforward style. Accuracy is vital. All facts should be double-checked before a manuscript is submitted. All manuscripts must be submitted as Word docs, single-spacing between sentences. Images must be submitted as separate hi-rez jpegs. Charts and tables must be submitted as separate pdfs.

Each manuscript should be accompanied by a list of resources on the topic at hand: relevant books and reports, conferences, and/or contact people and their phone numbers. To settle points of style, use *The Chicago Manual of Style* (University of Chicago Press).

Illustrations

NFSM uses a variety of photographs, line art, charts, and maps.

We prefer to receive artwork electronically, and all illustrations should include credit and caption information.

Copyrights

Articles must be exclusive to *NFSM* magazine and not submitted to any other industry publication, unless prior agreement has been reached. Author is responsible for the accuracy of article and that it does not infringe on any other copyright. All published submissions become the property of NFSA.

Payment

NFSM does not pay for articles; we do recognize an author with a byline and credit. NFSA reserves the right to reject any submission at its own discretion.

NFSM EDITOR:

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