

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

January-February 2023
No. 237



NFSA Live Fire Sprinkler Burn Demo on Fox & Friends



FOX SQUARE

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Our 2023 North American Fire Sprinkler Expo and Annual Seminar will be held May 3-6 at the JW Marriott in Austin, TX! Get ready for great sessions lead by industry experts, a full-scale expo featuring the newest fire sprinkler innovations and our highly awaited Top Tech Competition, live on the expo floor! Check our seminar web page at <https://nfsa.org/seminar/> for the latest up-to-date info! You can't miss this!



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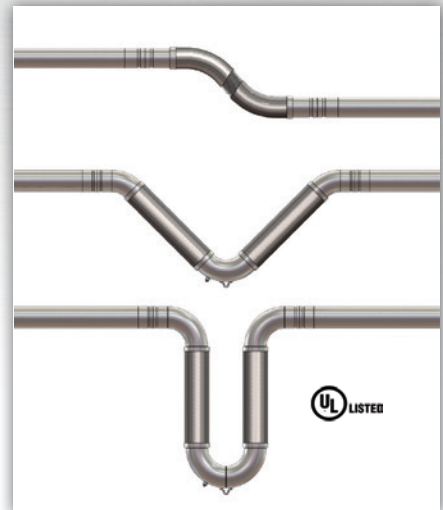
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Fire is fast. Fire sprinklers are faster.

Looking Forward—with Statistics to Back Us Up

Let me start 2023 with reporting a 240% increase in fire sprinkler shipments in the United States since 1980. Thank you to our Manufacturers Council for reporting this fantastic news. Also, there has been a 42% reduction in fire deaths since 1980, according to the National Fire Protection Association (NFPA) report, *Fire Loss in the United States During 2021* (Shelby Hall and Ben Evarts, September 2022). I would also like to brag about Maryland. The state has reduced fire deaths by 52% because they adopted residential fire sprinkler requirements through local and state adoption.

Codes and standards created through professional and consensus processes coupled with progressive public policy adopted at the local and state level saves lives, protects property, ensures business continuity, and preserves the environment. As one of my mentors, Chief Alan Brunacini used to say, “fire sprinklers save people, pets, and pills, which is what we all care about.” Don’t let me lose you here, I know you know some of this, but “wait, there is more.” (See my feature article, *Past...Present... and Future... Codes and Standards at NFSA included in this issue.*) Don’t go there yet! Patience is my word for 2023! The NFSA Staff is glad that’s my word and they hope I succeed.

As I write this, we have not closed out 2022, although you’re reading the Jan/Feb 2023 edition of the *National Fire Sprinkler Magazine*. However, I expect we will see the closing of 2022 take that 240% number higher with another record year. This great industry has enjoyed four years of record growth. 2019 was the first year that residential fire sprinklers reached 25% of the total number of units shipped. The third quarter of 2022 was a record for total number of units shipped.

These record years in the industry came from a great economy because of this presidential administration, oh wait, it was the last administration. Wrong to both. NFSA focuses on our mission and works with whatever administration is in office. For the most part, the real work isn’t even done at the federal level. However, the last two administrations pumped hundreds of millions of dollars into this industry with incentives and appropriations.

These record years came from years of investing in NFSA’s mission. It was an honor to celebrate with staff the responsibility of overseeing a 117-year-old institution. These record years of growth may have come from a great economy, but really came from the many years of work ensuring the codes and standards requiring fire sprinklers, then adopting rules, regulations, and laws that adopt the latest codes and standards unamended, or at least that don’t eliminate fire sprinklers because of politics or another technology.

As Chair Boulanger pointed out in his column, it is the fact that NFSA gives the industry a place to gather and give collective guidance and direction that improves fire protection. NFSA staff utilizes the “voices” of our members to do the work that is truly, “the voice of the fire sprinkler industry.” It is these years of commitment to the fire sprinkler industry that make a difference.

We can’t invest just one year! Former Chair and 2020 Golden Sprinkler Award recipient, Larry Thau of Victaulic, said this is “truly an investment in our market share and our members invest and will invest more.” We need these investments because it takes years to change the codes and standards and it takes many more years to adopt the laws that require fire sprinklers.

It was an honor to travel around the past few years honoring our members with their years of service awards. I had the chance to present an award for 65 years of membership to Viking Automatic Sprinkler Company in St. Paul, Minnesota just before Thanksgiving 2022. The potluck lunch was amazing as well, thank you Team Viking. It was also a privilege to honor our staff with their years of service awards during our staff meeting last month at NFSA Headquarters in Maryland.

During my presentation of the Viking’s award, I shared that 65 years ago, NFSA would have likely had less than five total employees and that Viking employees would have been installing fire sprinklers in basements, bowling alleys, and factories. I also shared my favorite line, and you know I wouldn’t



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From the President's Desk

Shane Ray

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say it if I didn't mean with all my heart, those in this industry more than 20 years would likely save more lives and property from fire than I did in my over 30 years in the fire department.

I expect this year the United States will experience more than 500,000 building fires and nearly 4,000 people will die in those fires. Based on the past decade of reviewing fire death information from NFPA and the United States Fire Administration (USFA), out of the 4,000 deaths, less than 10 of those will be in buildings protected with fire sprinklers. I know we will continue our efforts to do what our original incorporating documents stated, which started by saying, "*The objects of this Association shall be to promote and improve methods of fire protection, ...*" This is from our original incorporation document from November 22, 1905.

The fire sprinkler industry is doing its part to ensure thousands of lives are saved, billions of dollars' worth of property is preserved, business interruption is minimized, environmental pollution is reduced, tax bases are maintained, and the exposure of firefighters to cancer is limited. We have been and will be committed to our past, our present, and our future through the promotion of the widespread adoption of the fire sprinkler concept.

As our Vice President Jeff Hugo shared with the team at the staff meeting, we are working on standards for the 2025 cycle. We are also working on lobbyist contracts that will run through 2025. We are plotting strategies for legislation beyond 2025. Our 2023 Operations Plan and Budget will guide us in 2023. To provide a bigger picture, I asked Team NFSA to focus on building better data and documentation, pass more laws, make more member contacts, and continually improve this great institution. We are all committed to this great industry, and we will fulfill our duties during our time.

Thank you for investing in us, but most of all thank you for trusting us with this great institution.

God Bless the Fire Sprinkler Industry,



Shane Ray, President

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Third: The annual meeting of the Association shall be held in St. Louis, Missouri, on the second Tuesday of November of each year.

Fourth: Special meetings shall be called by the President whenever he deems it necessary for the best interests of the Association, by giving three days' written notice of time and place.

Fifth: The objects of this Association shall be to promote and improve the methods of fire protection, the discussion and consideration of all such matters as may be of general interest to the welfare, progress and building up of the automatic sprinkler equipment business, including all rules and regulations which have been, or may hereafter be, promulgated by the National Fire Protection Association and for the purpose of carrying out and obeying such rules and regulations as may be adopted and required by such Association. And also to discuss and adopt such rules and regulations as will give to the public the best service possible. Also to adopt such measures as will produce the best and most satisfactory equipments and give to the public the highest standard of fire protection that can be afforded by such systems. And further to take all necessary steps towards ascertaining and carrying out the laws of the country, that in any way affect the automatic sprinkler equipment business. And to adopt all other lawful measures that may be deemed necessary and proper to promote and protect the best interests of the Association.

OFFICERS.

I. The officers of this Association shall consist of a President, Secretary, and Treasurer, all of whom shall be elected by ballot, and shall serve in their respective offices for a

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Codes and Standards

If you have been following my “From the Chair’s Desk” articles for this magazine, you are a very special individual. Thank you.

Writing was never my specialty; you can easily gather that by continuing to read this article. If my late 7th grade teacher, Sister Joseph Helene was here, she would most certainly confirm it. I will not be looking for a Pulitzer in my mailbox any time soon.

So, if you have not been one of those special individuals following my articles, it is time to pay some attention. This week I was asked to speak to our entire NFSA staff gathered at headquarters in Maryland for their bi-yearly meeting. Most all the 49 employees were in attendance, and I was honored to say thank you on behalf of our entire membership.

As I prepared my remarks, I reminisced about my 44 years in this industry and all the changes that have taken place since the day I started. I was reminded that in 1978 no one, and I mean no one, put fire sprinklers in their homes; it was unheard of. At the same time apartments and town-houses were being built everywhere - never with a consideration to add fire sprinklers.

As a young sprinkler estimator, no one asked us to bid fire sprinklers for schools. Maybe a stage in their auditorium was the extent of our scope of work. Office buildings? They did have some sprinklers, but generally only the floors below grade. We had just started sprinkling new and existing nursing homes, but for decades earlier they had no fire sprinklers. In that era all the hi-rise buildings in our major cities had no fire sprinklers except those less than ten years old. Our fire sprinkler market in Washington State was somewhat limited to lumber mills and airplane factories. We did protect a lot of wood wharves and piers for the ports, but cargo and infrastructure are not really life safety. As for new hotels and convention centers, I recall being asked to just protect the lobbies or the hallways for exiting. After an installation, no one inspected the fire sprinkler systems we put in other than a walk-around by random insurance companies every once in a while. We installed systems, then left them totally confident they would work forever. 13D, 13R, NFPA 25 what were those?

So, what happened? Why were new codes, ordinances and better standards enacted that now have us sprinkling most of the new construction in this country? What made us retrofit a hi-rise, a nursing home, a student dormitory or a Greek college campus house? Why do we inspect all systems in 2022 on at least a yearly basis when we never did it in 1978? When did we professionalize the designer with NICET certification? It has only been about 44 years, what happened? NFSA happened!

As I told our dedicated staff, do you really think several hundred independent contractors and a few manufacturers could individually promote all those improvements on their own? Let’s face it, sprinkler contractors competing every day in the marketplace barely get along with one another. In many cases Brand X is always considered the enemy to beat - hardly a partner in building an industry. The industry will always need a strong independent association pulling everyone in the same direction in spite of themselves.

The truth is we continued to collectively gather together, leaving most of our guns at the door and funded, motivated and ultimately charged NFSA with achieving our future. Today, we are all living that future. Without NFSA I am convinced the markets we enjoy, and the safety and property protection we have provided to the entire country would never have been achieved to the levels we take for granted today.

I must again applaud the NFSA staff, past and present, who worked so relentlessly on codes and standards and for the success they achieved. Someday 100% of all structures in this country will be protected from fire - it might be slightly different technology, but it will happen. A modern world will eventually eliminate the fire menace and NFSA will be the leading the charge.

A sincere thank you to all staff at NFSA from your Chair of The Board who is representing a very grateful manufacturing, supplying and contracting fire sprinkler industry! Have a Happy New year.

All my best,

Jim



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The Art of Negotiating

by Liz Tahir

When we realize that virtually every aspect of our business and personal life requires negotiation, the benefit of being a better, more efficient negotiator is clear.

Negotiating skills are not usually part of our formal education, though we use these skills all day, every day. These skills are at the very core of both our professional and personal lives. It doesn't matter if we run General Motors or the corner snowball stand or our households, we all must communicate and convince effectively.

What is negotiation, anyway? Negotiating can be explained as simply as "working side-by-side with other to achieve some beneficial result." Luckily, it is a practical skill that can be learned. It is not a genetic trait we're born with, like blue eyes or black hair. So, no matter what our age or our position in life, if we develop a certain attitude about negotiating, pay attention to honing our skills, then our life will run smoother.

Some things to remember when developing a negotiating strategy:

- **Act collaboratively, not competitively.** It is not "me against you." When we see the other person as a bargaining partner, we are aware that everyone must come away with a benefit. It is a big mistake to think someone is going to give you something for nothing. So, try to determine what it is the other person might want, in exchange for what you want. And then present your case to show them that, if they will help you get what you need, you will help them get what they need. Make "Mutual Benefit" your mantra.
- **Personalize the situation, deal as individuals, not as institutions or corporations.** You are not talking to "The Bank of America" but to Charlie Smith, the person sitting in front of you, who represents the bank. Flesh and blood Charlie Smith. Realize that you negotiate on behalf of yourself, representing the company. When you see the other person in this light, you can look them in the eye.
- **Increase your expectations.** You usually get what you expect to get. If you don't think you will get the promotion, you probably won't. If you don't think you will land the contract, you probably won't. There is no way you will put your best effort forward if you think, in the back of your mind, you won't succeed anyway. So, you might as well act as if you expect to get whatever it is you want. You will be pleasantly surprised when you do! You see, when you truly expect to get what it is you are seeking, others see this in you.

- **Know what you want.** Sounds simple, doesn't it? But surprisingly, there are many times when we go into a negotiating session saying, "Let's see what they offer us." Why let the other person decide what you will get? Nobody knows your business or your life as you do. Being able to state specific proposals gives you strength.
- **Stay focused on the real issues.** Decide what you absolutely want to come away with; what extras it would be nice to come away with; and what you can do without if you need to give them up to reach an agreement. Why do you need to determine these things in advance? Because in the "heat of battle" you won't be able to focus on these issues so easily, and you could be very surprised at what you didn't get or at what you gave away.
- **Prepare.** Do your homework; thoroughly research the person or company with which you'll be dealing. Is the company an innovative one or a staid one? Is the person with whom you are negotiating known for being creative or for being more traditional? With all the information available on the internet today, there is virtually nothing we can't find out beforehand. Whether we are researching a corporation or a person. Just Googling someone is likely to bring up something we didn't know. And of course, there is the old-fashioned way: just ask. Ask industry colleagues (non-competing ones) or acquaintances. It should not surprise you how much people like to talk about what and who and how much they know!
- **Make time your ally.** Try to know your counterpart's deadline without giving away yours. Why? Because if I know your deadline to solve a problem or come to an agreement, I can stall any decision up to the point I know you have to make a decision. Most concessionary behavior and settlement action occur close to someone's deadline; don't let it be yours.

These are just a few of the many points necessary to knowing more about the negotiating process. Will practicing negotiation skills take time and effort? Of course. But becoming a more efficient, smarter negotiator will bring you many rewards in both your professional and personal life.

About the Author: Liz Tahir is an international marketing consultant, speaker, and seminar leader, whose mission is to help companies be more effective and profitable.

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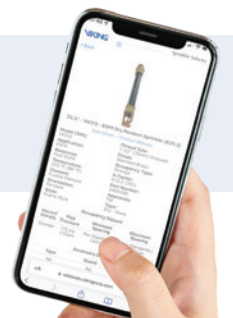
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Three NFPA 13 Revisions You May Want to Consider Using Now

by Michael J. Joanis, P.E., **Chief Engineer**



The 2022 edition of NFPA 13, *Standard for the Installation of Sprinkler Systems*, has been available since its effective date of September 15, 2021. While not currently adopted by reference in the model building and fire codes, it is the most up to date information available for the installation of sprinkler systems.

Based on the location of your projects and the applicable codes and standards for that jurisdiction, you are using older editions of NFPA 13. The codes and standards adoption process moves painfully slow, but eventually the provisions of the 2022 edition will be adopted. The latest edition of the standard provides insights into what changes are coming and provides valuable alternatives to challenges in previous editions of the standard.

While the standard includes hundreds of changes with each edition, here is my pick for three significant changes you may want to consider implementing into your designs and installations now. Consider these changes to ensure your sprinkler system design and installation is based on the latest information available and provides the highest degree of life and property protection from fire.

As a cautionary note, you cannot simply decide what edition or portions of the standard you want to use. The legally adopted and enforceable edition of the standard is determined by reference from the applicable building and fire codes in the jurisdiction where the project is located. However, this does not mean we have to follow older editions of the standard when the current edition provides provisions that are equivalent, new, or more stringent.



These concepts are outlined in Chapter 1 of both NFPA 13 and the model building and fire codes. Design and permit documents must make it clear you intend to use equivalent or new technology and will include documentation to demonstrate equivalency. This also requires review and approval by the authority having jurisdiction. The following changes are worth the extra effort.

Updated ESFR Installation Rules

The installation rules for early suppression fast response (ESFR) sprinklers have undergone significant changes based on the NFPA Research Foundation Report, *Obstructions and Early Suppression Fast Response Sprinklers, (use QR code)*. If you design and install systems for protection of storage occupancies, these new ESFR installation rules are important to be aware of and will improve your designs and installations.



We know that the minimum ESFR sprinkler coverage area is 64 ft² per sprinkler and the minimum spacing is 8 ft. In previous editions of the standard, this was a hard rule with no exceptions, and was based on the concern that too many ESFR sprinklers could operate or skipping would occur. The minimum area and spacing rules frequently caused layout issues as they were not always possible to achieve.

Section 14.2.8.3.1 for the minimum protection area now permits an exception. ESFR sprinklers in unobstructed construction located on both sides and entirely above the bottom of adjacent solid structural members may now be spaced less than 64 ft² per sprinkler. Section 14.2.9.4 also now permits the use of baffles to locate ESFR sprinklers less than 8 ft. apart. These concepts are included in Section 14.2.4 for protection of buildings with obstructed construction.

The standard has always allowed ESFR sprinklers to be used to protect light and ordinary hazard occupancies. However, previous editions of the standard required the ESFR installation and obstruction rules to be followed even though they were only protecting a light or ordinary hazard occupancy. This caused many issues when ESFR sprinklers were located above light or ordinary hazard areas in a warehouse such as offices, loading docks, and

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maintenance areas.

Section 14.2.7 now addresses this issue. In light hazard occupancies, the maximum area per sprinkler may comply with the requirements for standard spray sprinklers as outlined in Section 10.2.4.2.1. This would permit an ESFR sprinkler, located in a light hazard occupancy, with noncombustible unobstructed construction, on a hydraulically calculated system, to have a maximum protection area of 225 ft².

In light and ordinary hazard occupancies, the maximum ESFR sprinkler spacing may comply with the requirements for standard spray sprinklers as outlined in Section 10.2.5. This would permit an ESFR sprinkler, located in a light hazard occupancy, with noncombustible unobstructed construction, on a hydraulically calculated system, to have a maximum sprinkler spacing of 15 ft.

The standard now also addresses obstructions to ESFR sprinklers in light and ordinary hazard occupancies. The obstruction rules for standard spray sprinklers as outlined in Section 10.2.7.2 may be used. The obstruction rules for ESFR sprinklers are completely different than those for standard spray sprinklers. This can provide a significant design and installation benefit when coordinating with obstructions.

The ESFR obstruction rules have also been significantly revised. The first thing we learned when dealing with ESFR obstructions was, you must be a foot away from everything, no matter what, even all the way down to the floor. Designers spend hours working the minimum and maximum spacing against requirements to be 1 ft. away from everything. Well, that has changed.

Section 14.2.11.2 for isolated obstructions and Section 14.2.11.3 for continuous obstructions both permit obstructions 1-1/2 in. or less in width, located a minimum of 12 in. below the sprinkler deflector, obstructions 6 in. or less in width and located 6 in. horizontally or more from the sprinkler, and obstructions 24 in. or less in width and located 12 in. or more horizontally from the sprinkler.

Obstructions from the bottom chords of joists and trusses are addressed in Section 14.2.11.3.2. In previous editions of the standard, you were required to be a minimum of 12 in. from joists and trusses up to a 12 in. width. Now, when the bottom chord is 6 in. or less in width, you are only required to be 6 in. away. When the bottom chord is greater than 6 in. and less than 24 in. wide, you must be 12 in. away.

Previous editions of the standard did not specifically address upright ESFR sprinklers. This is now addressed in Section 14.2.11.3.3. Upright sprinklers may be installed directly on branch lines 4 in. or less, offset a minimum of 12 in. horizontally, or installed on a riser nipple (sprig) with the sprinkler deflector 12 in. above the centerline of pipe.

Most modern warehouses have conveyors, and generally lots of them. Previous editions of the standard did not address conveyors and we were left to interpret other obstruction rules to manage them. This often led to installing sprinklers below all the conveyors. Section 14.2.11.4 provides six options for protection under conveyors as follows:

1. Provide quick-response standard spray sprinklers below conveyors that do not have high-piled storage located underneath.
2. Install the same ceiling level sprinklers below conveyors with high-piled storage located underneath.
3. Sprinklers are not required below belt conveyors where they are at least 70 percent open.
4. Sprinklers are not required below belt conveyors less than 4 ft. wide with no high-piled storage located below.
5. Sprinklers are not required below roller conveyors when the opening between rollers is equal to or exceeds the width of the roller.
6. Sprinklers are not required below roller conveyors when there is no high-piled storage located below.

Reduced Friction Loss for Dry Pipe Systems Using Nitrogen

The friction loss coefficient (C value) represents the internal roughness of the pipe, is influenced by the rate of internal corrosion, and directly affects friction loss. Traditionally, dry and preaction systems were filled with air. Using nitrogen in lieu of air provides an opportunity to reduce corrosion, increase the C value, reduce friction loss, decrease pipe size, reduce system volume, reduce water delivery times, and provide improved fire protection.

Section 28.2.4.8.1 now provides an allowance for an increased C value when using nitrogen.

Table 28.2.4.8.1 for the Hazen-Williams C values indicates that black steel and galvanized steel pipe, for both dry and preaction systems, using nitrogen in accordance with Section 8.2.6.9, can have the C value increased from 100 to 120.

Section 8.2.6.9 was added to ensure the nitrogen supply is properly installed and maintained. The nitrogen supply must be listed, permanently installed, maintain 98 percent nitrogen concentration, have a means for verifying the nitrogen concentration, installed per the manufacturer's instructions, and maintained in accordance with the 2020 (or later) edition of NFPA 25.

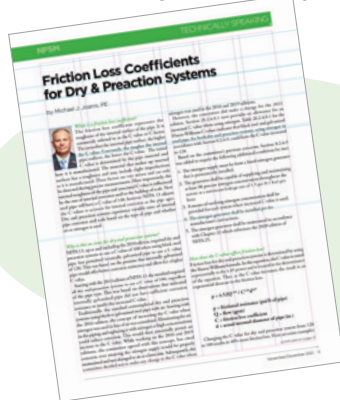
Friction loss is typically determined by using the Hazen-Williams formula. In this equation, the C value is raised exponentially to the 1.85 power and is in the denominator of the equation. Thus, as the C value increases, the result is an exponential decrease in the friction loss. Changing the C value from 120 to 100 results



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in 40% more friction loss.

When designing your next dry or preaction system, we recommend you investigate the corrosion and hydraulic advantages of using nitrogen in lieu of air. For more information on this topic, please reference the *NFSM* Nov/Dec 2021 issue No. 229 **Technically Speaking** article on page 11. (scan QR code below)



Parking Garages and Car Stackers

Today's cars have more plastics, and many are powered by lithium-ion batteries. The NFPA Research Foundation Report, *Modern Vehicles Hazards in Parking Structures and Vehicle Carriers*, (LINK) detailed these changes and raised concerns regarding the need for additional research to verify the existing sprinkler system hazard classification and associated design criteria is appropriate going forward for modern vehicles.

Based on this report, and without the needed additional research, the committee preemptively reevaluated the hazard classification of automobile parking garages. The annex material



has long listed automobile parking as an example of ordinary hazard group 1. Section A.4.3.2.2 now lists automobile parking garages as an example of ordinary hazard group 2. This would be in line with a change from spaces with a moderate quantity and low combustibility of contents to spaces with moderate to high quantity and combustibility of contents.

Eventually additional research will be available to properly address this issue. Until that time, the hazard classification for automobile parking garages has been increased to ordinary hazard group 2. Continuing to use older editions of the standard may put you at risk. Not being aware of or implementing the newer and more restrictive requirements may be challenged. The standard is a minimum requirement and increasing the hazard classification is certainly permitted. It may be time to make this change, even for your projects based on previous editions of the standard, to avoid potential liability.

For additional information regarding updates to NFPA 13, including the 2022 and previous editions, please visit the NFSA's Learning and Development web site at <https://community.nfsa.org/learning/home>.

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Significant Changes to the 2024 ICC and NFPA Model Codes

by Jeffrey M. Hugo, CBO, VP of Codes, Standards and Public Fire Protection



The National Fire Sprinkler Association (NFSA) Codes and Standards Team generated dozens of proposals to the 2024 International Code Council (ICC) and National Fire Protection Association (NFPA) model code development cycles. While ICC and NFPA have yet to publish the 2024 editions (expected by Fall of 2023) this article highlights some of the significant changes to the 2024 International Building Code (IBC), International Fire Code (IFC), NFPA 1 *Fire Code*, NFPA 5000 *Building Construction and Safety Code* and NFPA 101 *Life Safety Code* (LSC) for the fire sprinkler industry.

Very tall buildings—high-rises over 420 feet

High-rise building criteria over 420 feet first came into the 2009 IBC, as a reaction to the September 11, 2001, attacks on the World Trade Centers in New York City. The core change to the 2009 IBC was to require water supply and fire sprinkler system redundancy, or where the supply or system was compromised, an additional supply and path was provided. The application of the IBC code language was difficult to interpret. The use of the term, “zone” was confusing because the IBC/IFC did not define what it meant while other standards, like NFPA 72, NFPA 14, and NFPA 20 all used the term zone differently, whereas NFPA 13 did not use zone at all. In short, a uniform and prescriptive path to redundancy was not clear, so NFSA partnered up with allies to make changes that the ICC membership agreed with.

The 2024 IBC changes to IBC Section 403 for high-rise buildings, proposals G56-21, G57-21 clarified several areas, such as what a zone is, and the redundancy requirements. It is important to note that NFSA worked and was successful in getting NFPA 13, NFPA 14, and NFPA 20 in line with similar language to assist in the correlation of the IBC and its referenced standards. These changes will improve consistency of application in all high-rise buildings:

- **The IBC added definitions for sprinkler express riser and vertical water supply zone:**
 - **Sprinkler express riser:** A vertical pipe used to supply water to sprinkler systems in a multiple story building.

- **Vertical water supply zone:** A vertical fire protection zone within the standpipe system or group of floors supplied by a single sprinkler express riser in a high-rise building established by pressure limitations based on the design.

- **Differentiated standpipe and fire sprinkler system redundancy requirements for buildings above and below 420 feet.**

- In buildings 420 feet or less in height, sprinkler systems shall be supplied by a single standpipe or sprinkler express riser within each vertical water supply zone.
- In buildings over 420 feet in height, a minimum of two standpipes or sprinkler express risers shall supply automatic sprinkler systems within each vertical water supply zone. Each standpipe or sprinkler express riser shall supply automatic sprinkler systems on alternating floors within the vertical water supply zone such that two adjacent floors are not supplied from the same riser.

Inspection, testing, and maintenance

The IBC well references fire sprinkler and fire alarm system inspection, testing, and maintenance (ITM), IFC, NFPA 1, and other model codes. These codes allow over 125 tradeoffs, or as we like to say, tradeups for fire sprinkler systems. The need to perform when a fire occurs is critical, because of the wide swath that tradeups occur in these codes, other system ITM, like passive systems, cannot be left neglected or ignored. NFSA added some language in Chapter 7 and Chapter 9 of the IFC to reference the recordkeeping criteria in Chapter 1 to provide correlation and consistency for record keeping requirements throughout the IFC. Current IFC does not provide guidance for owners to maintain their records to Section 109.3. Also the current IFC, does not provide a requirement for owners to maintain their records to Chapter 1. The changes to the 2024 IFC clarifies and provides uniform application of records and responsibilities.

The IFC has an adoptable appendix (Appendix I) for fire departments or code officials who do existing building inspections. For example, some fire departments adopt Appendix I for fire companies to perform fire inspections on existing buildings for compliance with operational permits or local business licensing

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requirements. NFSA, along with the Automatic Fire Alarm Association (AFAA), was successful with some critical changes to Appendix I that every code official should know:

- Identify valve positions and report impairments. Shut valves on water supplies, floor control valves, fuel supply valves for fire pumps, fire alarms without power are all considered impairments that require immediate action.
- Several other changes were made to Appendix I to correlate language and terminology with the NFPA 25 and NFPA 72 ITM standards.

NFPA 1, in the 2024 edition established a first for a fire code for ITM, by requiring impairments and deficiencies to be corrected or repaired in a timeframe approved by the authority having jurisdiction (AHJ). The change, found in Section 13.1.9, also requires the impairment or deficiency program in place while the system is being repaired. Also new to this section, in A.13.1.9, are suggested repair timeframes for AHJs to follow, such as impairments need immediate attention, critical deficiencies repaired in 30 days, and non-critical deficiencies repaired within 90 days.

The 2024 editions also updated referenced standards. New construction through the IBC, NFPA 5000, and NFPA 101 will reference the 2022 editions of NFPA 13, NFPA 13R, etc. Fire sprinkler ITM through the IFC, NFPA 1, and NFPA 101 will reference the 2023 edition of NFPA 25.

Parking Structures

Where the 2021 IBC had a huge change to require sprinkler systems in open parking garages when the fire area exceeds 48,000 sq. ft. or 55 ft. in height, the 2024 editions of NFPA 101 and NFPA 5000, require sprinklers at lower threshold. NFPA 101 and NFPA 5000 refer to NFPA 88A, Standard for Parking Structures, for construction and protection of open, enclosed, and other parking systems. During this cycle, for the 2023 edition of NFPA 88A, the technical committee removed all open parking sprinkler exceptions and replaced with Section 6.4.1 which states, “Automatic sprinkler systems shall be installed in all parking structures...”. These codes (NFPA 1, NFPA 101 and NFPA 5000) extract and reference NFPA 88A and now require sprinklers in all open and enclosed parking structures.



The changes for parking structures also exist in the 2022 NFPA 13 (referenced by the 2024 model codes). The NFPA 13 technical committees made several changes related to parking, such as:

- Increasing the occupancy of parking from ordinary hazard group 1 (OH1) to ordinary hazard group 2 (OH2).
- Where car stackers are installed, the ceiling system is OH2 if sidewall sprinklers are installed under each stacked car.
- Where car stackers do not have sidewalls under each car, the ceiling system is increased to extra hazard group 2 (EH2).

Distilled spirits criteria

Fire sprinkler design criteria belongs in installation standards, however, sometimes in codes and standards development, criteria are placed in a model code for a variety of reasons. The 2024 IFC has new guidance for storage and associated fire protection of alcoholic beverages, specifically distilled spirits, both in warehouse and in small distillery facilities. The design criteria contained in



this major 2024 IFC change comes from FM Data Sheet 7-29 Ignitable Liquid Storage in Portable Containers and the Distilled Spirits Council of the United States (DISCUS) Recommended Fire Protection Practices for Distilled Spirits Beverage Facilities. The 2024 IFC will provide fire sprinkler design criteria in Subchapter 4005 for the storage of distilled spirits when stored on racks (barrels on their side or barrels on-end) or when palletized. It is also important to note in the current development of the 2024 edition of NFPA 30 (Section 16.10) similar criteria for distilled spirits has also been added. As with the IFC, NFPA 30 did not have protection criteria for distilled spirits in wooden barrels. A full-scale fire test program was completed to define fire protection for rack and palletized storage of wooden barrels using wet and dry sprinkler systems.

Summary

Contrary to the traditional Looney Tunes ending, that is not all folks, when it comes to changes in the 2024 model codes. There are many other changes that affect fire sprinkler systems, standpipes, and other fire protection systems. There was a huge effort to correlate electrical supervision requirements of waterflow and tamper switches in the IBC, IFC, NFPA 1, NFPA 101, and NFPA 5000. A majority of that push was successful, as well as correlating terminology between all of the codes and standards our industry touches. NFSA Codes, Standards and Engineering departments are constantly engaged in bettering language and increasing the fire sprinkler markets. Have a code change idea? Send it in, and we will put the power of 80+ staff and NFSA subject matter experts behind it. •



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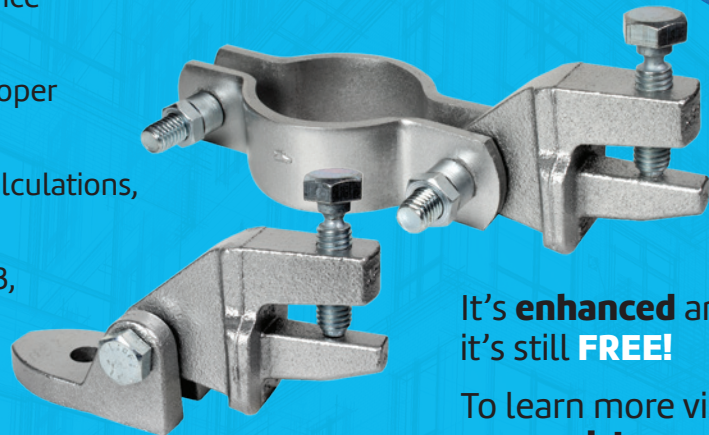
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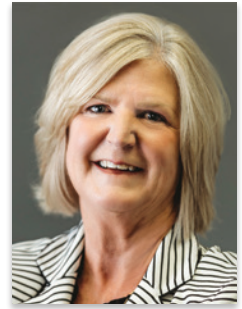
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by Vickie Pritchett,
Vice President of Advocacy and Outreach

2022-A Banner Year for NFSA Accomplishments

I hope your new year is off to a fabulous start, and you're ready for the best year yet! New years bring new opportunities and the chance for us to engage in ways that further promote the fire sprinkler industry.

I can report to you that Team NFSA has never been stronger, and our end of year staff meeting was an opportunity for that to shine! Everyone gathered at headquarters the first week of December, and it was so good to be together in person! Our last in-person staff meeting takes us all the way back to 2018! *(We alternate years for full staff meetings, so 2020 was wiped out by the pandemic and travel restrictions.)*

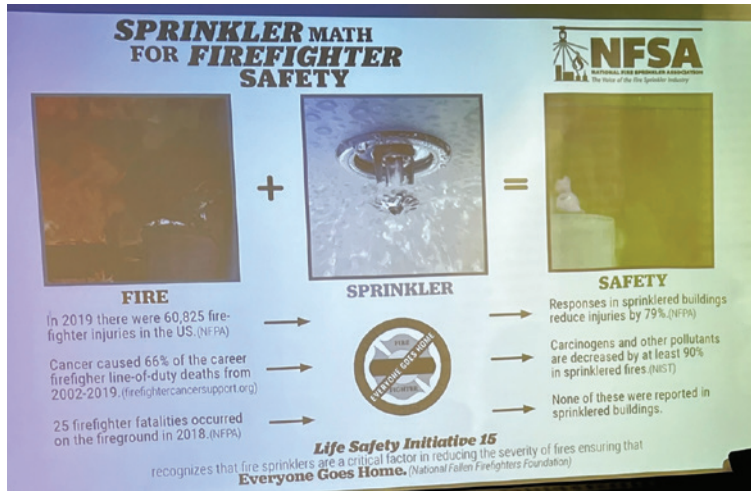
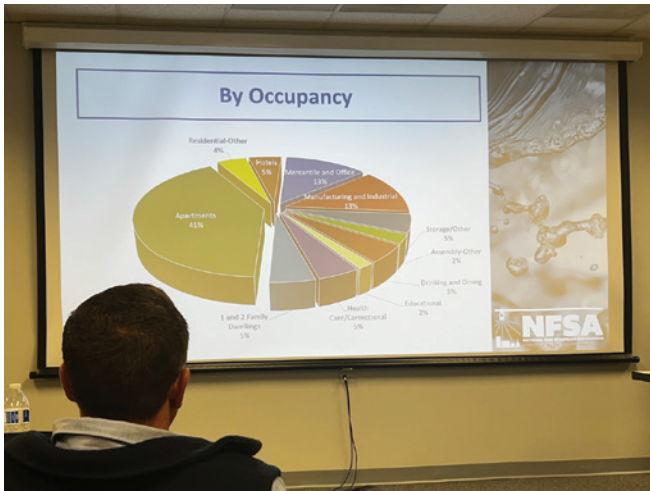
NFSA's Leadership Team planned an agenda that incorporated ideas from all employees via an employee survey administered

before. What fun we had, as reports titled "What's Going On" from over 25 team members brought what we do to life in a way that energized and inspired us all! A big thank you to all the team members who made that happen!

We also spent considerable time on the 2023 Operational Plan, and we are excited about the goals and objectives set forth by President Shane Ray that will help us live NFSA's mission every day *"To protect lives and property from fire through the widespread acceptance of the fire sprinkler concept."*

Team NFSA listed 2023's Annual Seminar and North American Fire Sprinkler Expo the top pick for what they are most excited about! Have you registered? You can find all things conference here: <https://nfsa.org/seminar/>. The hotel room block is filling fast, I





encourage you to act soon! You will want to be with us in Austin, Texas as we bring *#fastestwaterRoundup* to life!

We also took time to have some fun with an awesome team building segment facilitated by Adventure Associates. What fun we had learning more about our teammates. Laughter is truly the best medicine, and we had plenty of that.

In closing, I couldn't let this issue pass by without a "tip of the helmet" to our Codes and Standards Team and NFSA's presence in this arena. The impact that has been realized by our Codes and Standards team is significant, and includes our Engineering and Standards Committee, which is comprised of so many of our members. Thank you to everyone who works tirelessly to ensure that fire sprinklers are a priority in this important and lifesaving work.

Cheers to 2023, I hope you've all planned for a positive year, and

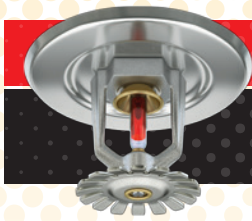
if you haven't selected a word (One Word) to guide you through the year I hope that you'll consider doing so! So much simpler than a New Year's resolution, and fun to watch it work throughout the year. Last year my word was "intentional," and it was a good one! I was more intentional with choices and decisions and used that word to help me know the best answer. This year, I've selected the word "Live." I hope to Live with enthusiasm, purpose, passion, and more! I am reminded that "life is short," so what better word to guide than one that captures that essence! As I think of so many of you during this season of new beginnings, I am most grateful. Please know that we appreciate you as a member of this great Association, and we look forward to an awesome year! As we move forward into this new year, remember; live like someone left the gate open!

Stay Safe, Until Next Time,

Vickie

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FIRE SPRINKLERS IN ACTION

Editor's note: The following saves were submitted by our members. If you have a save you'd like to see featured, use this QR code or email me at genadio@nfsa.org. Please include photos if available!



Florida

Three Saves in Florida!

Thanks to Charlotte County, FL Fire Marshal Scott Morris for sending in the following three sprinkler saves.

Fire Sprinklers Extinguish Fire at College

On October 3rd, an accidental fire occurred at a local college (FSW). A small data card machine caught fire and two fire sprinklers put the fire out. Minimum damage to the facility from the fire.



Single Sprinkler Controls Shopping Mall Fire

On November 10th, a possible intentionally set fire began at the Promenades Shopping Mall in Port Charlotte. One fire sprinkler kept the fire in check until fire crews arrived to extinguish what remained.



Single Sprinkler Extinguishes Fire at Assisted Living Facility

On July 7th, an accidental fire broke out at an assisted living facility. A resident was smoking outside of an exit. Unknowingly, his cigarette fell in the cushion of a chair. The resident thought he discarded the cigarette in the ash tray. One fire sprinkler activated and extinguished the fire, protecting the interior egress.



Single Fire Sprinkler Controls Kitchen Fire

Thanks go to Judd Mickler, Vice President of Construction at Advanced Fire Protection Services, Inc. for sending in this sprinkler save.

Another shining example of the good that comes out of what we do every day. A fire began at 2:00am in an Okaloosa Island, FL apartment kitchen. One fire sprinkler put the fire out with minimal damage. We got the head replaced and the system back up by 4:00am.

Lives and property saved again!

Smile everyone, our industry is cool!

Illinois

Single Sprinkler Extinguishes Fire at Cancer Treatment Center

Thanks to Zion, IL Fire-Rescue Dept. Fire Chief Justin Stried for alerting us to this sprinkler save!

On November 14th, a fire occurred at Cancer Treatment Centers of America in Zion, IL. The fire occurred in an area of the hospital that was under construction. An investigation showed that workers cutting some type of material led to a power cord, which was in contact with copper and flammable materials, being damaged and causing the fire.

The hospital's sprinkler system did its job. A single sprinkler was activated, which contained the fire until crews arrived and ensured no fire extension. No injuries reported.



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Michigan

Fire Sprinkler System Extinguishes High School Woodshop Fire

Thanks go to Rod Mathis and Kevin Shaw of the John E. Green Company in Highland Park, MI for sending us this sprinkler save.

On November 18th, Sault Fire Department responded to a fire alarm at Sault Area High School in Sault St. Marie, MI just before 2:00am. A small fire in the woodshop area was extinguished by the school's fire sprinkler system.

Minnesota

Fire Sprinkler System Contains Apartment Kitchen Fire

Thanks go to MN Fire Marshal Daniel Krier for sending us this sprinkler save.

The Brooklyn Park Fire Department was called out to an apartment for a waterflow alarm. Units arrived on scene and found fire in the kitchen of one unit.

The fire was controlled and mostly suppressed by the fire sprinkler system. Crews only had to perform salvage, overhaul, and cleanup of hot spots. The resident was not home at the time of the fire and left the stove burner on with a pan on top.

Missouri

Thanks to Metro West Fire Protection District Fire Inspector Kevin Glock for sending in this sprinkler save.

We had a great sprinkler save on Friday, September 30th at approximately 2:30am. Texas Roadhouse in Ballwin, MO had a fire in the rear receiving/loading dock area near a cigarette tray. One exterior fire sprinkler located in the overhead above contained the fire. The restaurant was able to open for business the next day!!

This occurred after hours with nobody in the building. The fire was reported by a passerby. Imagine the extent of the damage had this fire spread into the attic area! Probably a total loss.

Texas

Two Saves in Farmers Branch, TX in One Week!

Thanks go to Farmers Branch Fire Inspector Brandon Laird for sending us both saves.

Single Sprinkler Extinguishes Apt Kitchen Fire

A single fire sprinkler activated Tuesday, November 15, 2022, in a two-bedroom apartment. The Farmers Branch Fire Department was dispatched at approximately 11:41am for an automatic fire alarm. While enroute, dispatch notified the responding companies the alarm was a water flow alarm on the third floor.

First arriving Truck Company responded to a unit where they observed water coming from the unit. A pan of grease ignited on the stove top after the pan was left unattended. The fire sprinkler above the oven activated and extinguished the fire.



Single Sprinkler Extinguishes Fire in Child's Bedroom

A single fire sprinkler activated Monday, November 14th in a two-bedroom apartment. The Farmers Branch Fire Department was dispatched at approximately 2:49pm for an automatic fire alarm. While enroute, dispatch notified the responding companies the cause of the alarm was a water flow alarm on the first floor.

First arriving engine company responded to a unit where they observed water coming from the unit. The presumed area of origin was in the back of a child's bedroom closet, where a pile of burned debris was found on the floor. The fire sprinkler directly above the burned debris activated and extinguished the fire, containing the fire damage to the floor of the closet.

The fire sprinkler was shut off using the floor control valve. A fire sprinkler company arrived on scene and placed the fire sprinkler system back in service quickly. No injuries were reported as the property staff acted quickly to evacuate the occupants of the affected unit.

Washington

Apartment Building Saved by Sprinklers

Thanks to Thomas J. Maloney, Deputy Chief / Fire Marshal of Marysville, WA Fire District Regional Fire Authority for sharing this sprinkler save!

On Oct. 25th, a 20-unit apartment building was saved by fire sprinklers. The resident was playing with a lighter and igniting Halloween decorations. The outcome could have had a scier ending had the sprinkler system not confined to the area of origin with minimal damage to the fire apartment and apartment below. Fire Marshal Maloney estimated total value with contents of the building was \$5.6 million, while the fire loss in this case was estimated at \$10,404. •





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NFPA Conference & Expo Technical Meeting—An Insider’s Look

by Vince Powers, *Inspection, Testing and Maintenance Specialist*



This year’s meeting was held in June of 2022 and was the first in-person meeting for the Annual NFPA Conference and Expo since 2019, and it did not disappoint. The attendance was great with over 110 live education sessions over three days and more than 200 exhibitors. This conference and expo also is a fantastic opportunity to network with some industry leaders from all over the world, as well as see some of the latest products. This is also where the technical meeting is held for the current codes and standards in cycle. The technical meeting is where the CAMs are debated, and a final vote is made on the amending motions. Only NFPA members in attendance can vote on the amending motions (CAMs)

For the full process of NFPA standards development, scan this QR code.



This year’s tech session included amending motions for the following NFPA codes and standards; 86,130,285,502,855,70, and 25.

For this article we will focus on NFPA 25.

Many states and jurisdictions have adopted the 2014 or 2017 editions of NFPA 25, but the process for the standards is always in motion. The 2023 edition of NFPA 25 opened for public inputs, also known as first draft, early in 2020. There were approximately

270 suggested changes to the standard and approximately 160 public comments submitted during the second draft of the process. In the end there were approximately 80 changes to the 2020 to the 2023 edition of NFPA 25. These changes include but are not limited to addition or deletion of entire sections, and changes to how a section is written. Seldom are there changes to frequency requirements.

One of the biggest changes since the 2014 edition of NFPA 25 was requiring existing antifreeze to be replaced with a listed antifreeze solution by September 30, 2022. This will no longer be required, if the legacy antifreeze does not exceed 30% glycol or 38% glycerin by volume and protects to the temperature required for the area, then the solution can remain in service. However, if the solution needs to be replaced, it can only be replaced with a listed antifreeze. No legacy antifreeze can be introduced to existing or new systems. Below is Tech Notes #484 explaining the reasons for the requirements for listed antifreeze.

Some other changes that will be in the 2023 edition.

1. Water to outlet (inspector’s test valves) for dry and double interlock preaction systems in Chapter 14 Section 14.3.1(15) stated when there is a 50% increase for water to reach the inspector’s test valve an obstruction investigation is required. The 2023 edition will reduce that to 25% and adds additional language for dry systems protecting dwelling units as well as requirements for other hazard classifications.
2. Testing requirements to verify nitrogen systems are maintained at 98%.

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3. Fast response sprinklers will be extended to a 25-year testing requirement.
4. There will be language stating that screwdrivers and other means to jam a paddle-type flow from operating is prohibited.
5. A complete rewrite of Chapter 11 (foam-water systems)
6. A label or tag will be required near a pressure reducing valve(s) to indicate the test results.
7. Added detrimental to sprinkler performance for replacing sprinklers with paint on them.
8. Head guards, where required must be inspected.
9. Extended fast response sprinkler testing to 25 years.
10. Moved all waterflow alarm device testing to chapter 13.
11. Added requirements to supervise alarm line valves.

This list is certainly not all inclusive, but just a quick look at some of the latest changes. Here are a few submissions that did not make it into the 2023 edition of the standard.

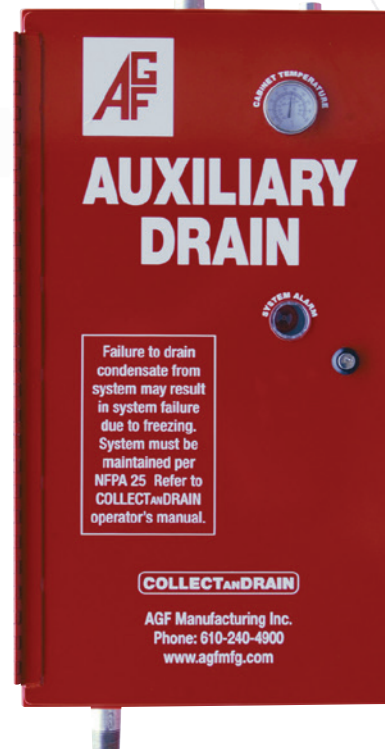
1. Requirement to remove concealed plates and inspect a percentage of concealed sprinklers every five years. This motion failed because there is no data to determine if this task should or should not be completed. The health care industry has agreed to provide data on potential problems with concealed sprinklers.
2. The inspector to verify that non compatible materials are in contact with CPVC pipe
3. The definition of accessible.

Again, not an all-inclusive list. The 2023 edition of NFPA was released to the public in late October of 2022, soon the process starts all over again. In early 2023 NFPA 25 will open for public inputs, where anyone can make new suggestions for changes to the standard. Please visit the link above for the standards process and if you have any suggestions for changes, submit them. Get involved in the process rather than gripe about what the standard requires or does not require. •

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Working together, we can create resources to educate those who make the decisions regarding community fire protection. Our goal is to be a go-to resource for community leaders who need a first-person account of the devastating impact fire can have on a community and a family. We can prevent future tragedies, and we believe that our stories help everyone understand in a way that makes a difference. Visit our website for additional resources and information. Order our Media Kit for a complete package of PSAs, media information, talking points, statistics and actual examples of resources used in communities. Your support is greatly appreciated, and as a non-profit 501(c)3 we are now ready to grow our mission and expand our efforts. We hope you'll support our team as an Advocate, Supporter or Corporate member (details on reverse side, along with form).

 CommonVoices1

 CommonVoices1

fireadvocates.org
Fire Sprinklers Save Lives



Did you see us on Fox & Friends and Good Morning America?



FOX & friends

GOOD MORNING AMERICA



Past... Present... Future, Codes and Standards at NFSA

by Shane Ray, *NFSA President*

Thanks for taking an Association trip in your mind with me. Chair Jim Boulanger's column and our Vice President's article *60 Years of Model Code Involvement* (Sept/Oct 2019 Edition), coupled with the fact we had an IP Trustee meeting on NFSA's birthday, November 22nd, inspired me to share this piece.

I am the fifth president of this great association and all four before me committed to being involved in the codes and standards process. In my first meeting with President and CEO of NFPA Jim Pauley, I presented him a copy of NFSA's 1914 hand-written minutes that included the business of determining NFSA's membership status with NFPA. Our partnership with NFPA has existed since we have existed, and I hope it continues beyond my time here.

NFSA has always been focused on doing the right thing with a diverse group of members and staff involved. It is an honor to share a little piece of history. If you ever visit our headquarters in Maryland, I will be more than honored to share the history of this great industry.

Let me share some of this valuable history from our initial meeting in St. Louis, Missouri on November 22nd, 1905, included the following in the Rules and By-Laws:

The objects of this Association shall be to promote and improve methods of fire protection, the discussion, and consideration of all such matters as may be of general interest to the welfare, progress, and building up of the automatic sprinkler equipment business, including all rules and regulations which have been, or may hereafter be, promulgated by the National Fire Protection Association for the purpose of carrying out and obeying such rules and regulations as may be adopted and required by such Association. Also, to discuss and adopt such rules and regulations as will give to the public the best service possible. Also, to adopt such measures as will produce the best and most satisfactory equipments and give to the public the highest standard of fire protection that can be afforded by such systems. And further to take all necessary steps towards ascertaining and carrying out the laws of the country, that in any way affect the automatic sprinkler equipment business. And to adopt all other lawful measures that may be deemed necessary and proper to promote and protect the best interests of the Association.

Since the formation of NFSA, the involvement in the codes and standards arena has been a very important part of our mission. As the Bible states, there is nothing new under the sun. It is amazing to see the NFSA's commitment to be involved in the process in 1905. Our success then and now depends on partnerships with other associations. NFSA invests a lot of resources into our partners and the return on that investment is mutually beneficial.

Prior to becoming your president, I played my role in the codes arena and implemented public policy that ensured the installation of fire sprinkler systems. However, I would not have been near as successful without NFSA and the volume of resources you invested in the process. Back then it was Codes Manager Jeff Hugo standing at the microphone at the ICC hearings and our "secret weapon" (you must read the whole article to see who that is). Many of our members played an important role during those times as well. Darren Palmieri, who now chairs our Marketing and Outreach Committee, was very active back then and instrumental in getting resources. We just looked at the NFSA Exhibition Booth (thank you Manufacturers Council and Labor Relations Advisory Committee for the initial funding) with Darren Palmieri and SAM Council Chair, Jim McHugh. This booth is used at the International Builders Show in Orlando, Florida or Las Vegas, Nevada now, with many of the same faces who were active in the process back then.


I am referring to 2007-2009 for the International Residential Code (IRC) vote for fire sprinklers. In looking around my office, I found my badges and the buttons we had made, *It's Time for RB 64*, and the year to keep fire sprinklers in the IRC (Baltimore, where many of you showed up) and NFSA raised a lot of money for support. The theme that year was *It's Time, VOTE YES*. It was time, and we are now enjoying the fruits of our labor. 2019 was the first time 25% of fire sprinkler shipments were residential. This is a decade after the IRC, but we also know it's nearly 20 years since the 2003 requirement for fire sprinklers in all new multi-family residences (apartments, condos, and hotels). Thanks to the Manufacturers Council and the Labor Relations Advisory Committee for funding a full-time data specialist. Because of this, we now know that 42% of fire sprinkler saves are in apartments. This is thanks to information that fire departments report to the National Fire Incident Reporting System (NFIRS) at the United States Fire Administration (USFA). A shout out to our United States Fire Administrator Dr. Lori Moore-Merrill and the NFIRS

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... from the Executive Director's Desk

Building Codes

ARENA FOR MARKETS



"Where've you been for the last forty years?" That's how a crusty old building official put the question to us a few years ago. We were attending an annual session of a model code congress where decisions were being made about where to install or omit automatic sprinklers.

The question was an honest and frank one.

The sprinkler industry had neglected the building code congresses until 1960. Before then, our industry was unknown. Our product was a mystery to building officials and building codes were as mysterious to this industry as sprinklers were to building officials.

We had weak sprinkler sections and chapters in codes. And we deserved what we had.

But that changed when we plunged trained men and well spent money into the building code arena. Unparalleled progress has been made in eight years. Sprinkler chapters of two of the four nationally recognized model codes have been completely re-written thanks to the tireless efforts of Association representatives who have battled on your behalf on and off the floor of the big building code congresses.

Nursing homes, hospitals, mercantiles, places of assembly are required to be sprinklered in these codes today. Area allowances, height increases and construction economies have been woven into the fabric of building codes. The result: more sprinklers are being installed today than during any time in the industry's history because of building codes.

But, let's not kid ourselves: The gains we made in eight years can be wiped out in three.

Our opposition is strong. They represent large, financially powerful industries and have sizeable, highly trained staffs backed up by field representatives who blanket the country and call on building officials daily.

We have built confidence and have gained support from building officials who have voted "YES" on our code amendments.

It has cost us years, and dollars and the efforts of skilled men to achieve the gains you are enjoying today.

If we expect to hold on to these gains, we can't step out of the market arena.

As one of our Fieldmen said a few days ago. "You just can't afford not to be there."

team at USFA for their cooperation and assistance. However, while the players were new over the past 20 years, NFSA's investment in the codes process was not. Ray Casey was the president of NFSA from 1952 – 1978. He said, "The sprinkler industry neglected the building code congresses until 1960." His column in the publication for the Association ... *From the Executive Director's Desk*, in January 1969 was titled Building Codes. In that article he went on to say, "We had weak sprinkler sections and chapters in the codes. And we deserved what we had." Others have served in roles at NFSA prior to those here now, and we have all played our role during our time. We will continue for the good of the industry.

Chair Boulanger said in his column (*page 7*), "today we are all living that future". He was talking about his past 44 years in the fire sprinkler industry, and I am talking about the past 117 years of this association. In 2014, Jeff Hugo was the Manager of Codes and was one person within the Engineering Department. Today, Jeff Hugo is the Vice President of Codes, Standards, Public Fire Protection and Learning and Development with a large team dedicated to codes and standards. Team NFSA crosses department lines and shares resources to promote the fire sprinkler industry, as well as improve and defend it. Ray Casey said it in 1969 "the gains we made in eight years can be wiped out in three". Let me

say it could be wiped out in one year as well with the passage of local or state legislation.

The odd-numbered years are what I call the *beyond hell* years because it is when all 50 states will convene their legislatures. 2023 is a year that fire sprinklers and/or our member companies are attacked in every state. From trying to prohibit fire sprinklers from being adopted in local and state codes, to contractor licensing, construction defects, fee structures, and most of all, from the codes and standards adoption processes. NFSA is there both on offense in some states where we have lobbyists, and on defense in all states. Thanks to our Board of Directors and all the Councils, we can provide funding to "lobby up" if we have to defend our industry. As our Chair of the Board, Jim Boulanger, has often referred to us as NFSA staff, as your "standing army".

Thanks again to the support of our members, we not only have the software to monitor all bills filed and all regulations proposed at federal and state levels. The software is a handy tool and our North Central Regional Manager, Tim Butler is doing an amazing job of helping me manage the software. The software is a great tool, but that tool would be nearly useless without a great team and funds to be proactive. It's not the software that makes NFSA what it is, but it is our staff and many volunteer members, as well as our secret weapon consultant Jeff Shapiro. We are proud to have him on our team. This group of people we refer to as the Leg/Reg Team. They work very close with the Code Development Team, who works very close with the Engineering and Standards Committee, all of whom impact change greatly in the codes and standards cycles as well as the adoptions of rules, regulations, and laws at the local and state levels.

To our long-time members, I say thank you for investing in NFSA and driving the market to what it is today. To our new members, thank you for investing in your future market. To the staff, consultants, and our members who volunteer to serve on committees, thank you for investing your time, energy, and passion into this industry. As Chair Boulanger stated in his article and Vice President Hugo wrote in his article in the Sept/Oct 2019 Edition of *National Fire Sprinkler Magazine*; NFSA is responsible for the industry today.

The past, present, and future includes our mission. From the original purpose written in 1904 to our mission today, the greatest investment NFSA has made is the saving of lives and property from fire through the widespread acceptance of the fire sprinkler concept. I know this has been accomplished because of the investment in "promoting and improving the methods of fire protection".

We must continually review our past, monitor the present, and envision the future. We have much more work to do. As we fight to keep fire sprinklers in mobile disasters units, get fire sprinklers in all federally funding housing units, and to require the minimum national codes and standards in every state, we need your investment in NFSA. We are committed to our vision, *A Stronger Industry... A Safer World.*•

A Stronger Industry... A Safer World.



NFSA Live Fire Sprinkler Burn Demo on Fox & Friends

by Vickie Pritchett, *Vice President of Advocacy and Outreach*

For the fourth time in recent years, NFSA and Common Voices traveled to Times Square and conducted a live fire sprinkler side-by-side demonstration for Fox News. With over 2.6 million people tuned in, President Shane Ray was joined by Common Voices advocate Rob Feeny on the morning show *Fox and Friends*.

A big thank you goes to the Mechanical Contractors of New York for joining us and for partnering with us to donate the trailer that was used to the Fire

Department of New York Foundation. The National Fallen Firefighters Foundation also supported us, and Board Member Kevin Cooney joined our team!

“It takes a lot of work, energy and patience to pull this burn off, but it’s so worth it,” explained NFSA Vice President of Advocacy & Outreach Vickie Pritchett. *“Watching the network anchors react is fun, this year’s quote that stuck was ‘deck the halls with fire sprinklers.’”*

Yes, we do believe we will do just that! Enjoy the pics from our time in the Big Apple! •





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*according to FM Global Environmental Impact of Automatic Fire Sprinklers Report



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Johnson Controls Fire Suppression ASRS Case Study

by Manuel Silva, *Chief Engineer and Fellow, Johnson Controls Fire Suppression Products*

CUSTOMER:

Multinational Retailer

CHALLENGE:

Provide a custom fire suppression solution to protect dense storage shelving units designed for automatic storage and retrieval systems (ASRS).

PRODUCT SOLUTION:

Tyco fire sprinklers, LFP® antifreeze

Custom fire suppression solution overcomes challenges of retail warehouse automation

The demand for e-commerce has skyrocketed among U.S. shoppers, with around 230 million Americans making online purchases in 2021 alone. While partially fueled by the COVID-19 pandemic, the demand isn't expected to diminish anytime soon. As customers' expectations for easy access and next-day deliveries continue to grow, retailers and manufacturers are rapidly shifting to systems that increase efficiency and maximize storage space.

Automatic storage and retrieval systems (ASRS) are quickly becoming the norm within e-commerce environments. While these robotized systems provide many benefits, they also present unique fire hazards. Dense storage configurations, high racking, limited access, the use of unexpanded plastic storage containers and unmanned electronic systems all pose an increased risk. ASRS can vary greatly from each manufacturer, so prescriptive building and fire codes rarely provide an exact solution – especially when working within large-scale facilities. This leads to increasing the number of sprinklers needed to protect the storage array as the ASRS is trying to fit into the prescriptive solution for which it was not designed.

FM Global Data Sheet 8-34 provides recommended guidance for protecting these racking arrangements, which involves a high number of in-rack sprinklers, multiple levels of in-rack sprinklers and vertical barriers. This solution tends to be costly for the customer, can be challenging for contractors to install sprinklers due to obstructions and tight clearances within the rack, and presents opportunities to damage in-rack sprinklers during warehouse operations like retrieving and storing shelved goods.

New Challenges Require Custom Solutions

A leading international retailer with over 200 distribution and fulfillment locations, along with their fire protection consultant, enlisted the support of the Johnson Controls team to develop fire protection schemes for their facilities. The goal was to reduce the number of required sprinklers and minimize renovation costs by developing schemes that have hydraulic requirements within the capabilities of their existing facilities.

The retailer needed a solution that could be repeated throughout its North American distribution and fulfillment centers. Each facility comprises densely packed racking at various heights, some soaring to almost 85 feet high, and cold storage areas, all accessed by ASRS operation. Due to the immense scale of the project, minimizing labor and material costs was a necessity. Working within each facility's existing hydraulic system was also a requirement.

The result involved custom design and testing of sprinkler system arrangements to find just the right fit.

Using Simulation to Prove Design Effectiveness

Due to the complex storage arrangements, extensive testing was required to determine and prove effectiveness of a solution that minimizes the number of in-rack sprinklers for every potential fire scenario. However, with the associated costs and required timeline, the number of live fire tests that could be run was limited. This meant that Johnson Controls needed to use a combination of simulation, physical spray testing and live fire testing to meet the project's needs.

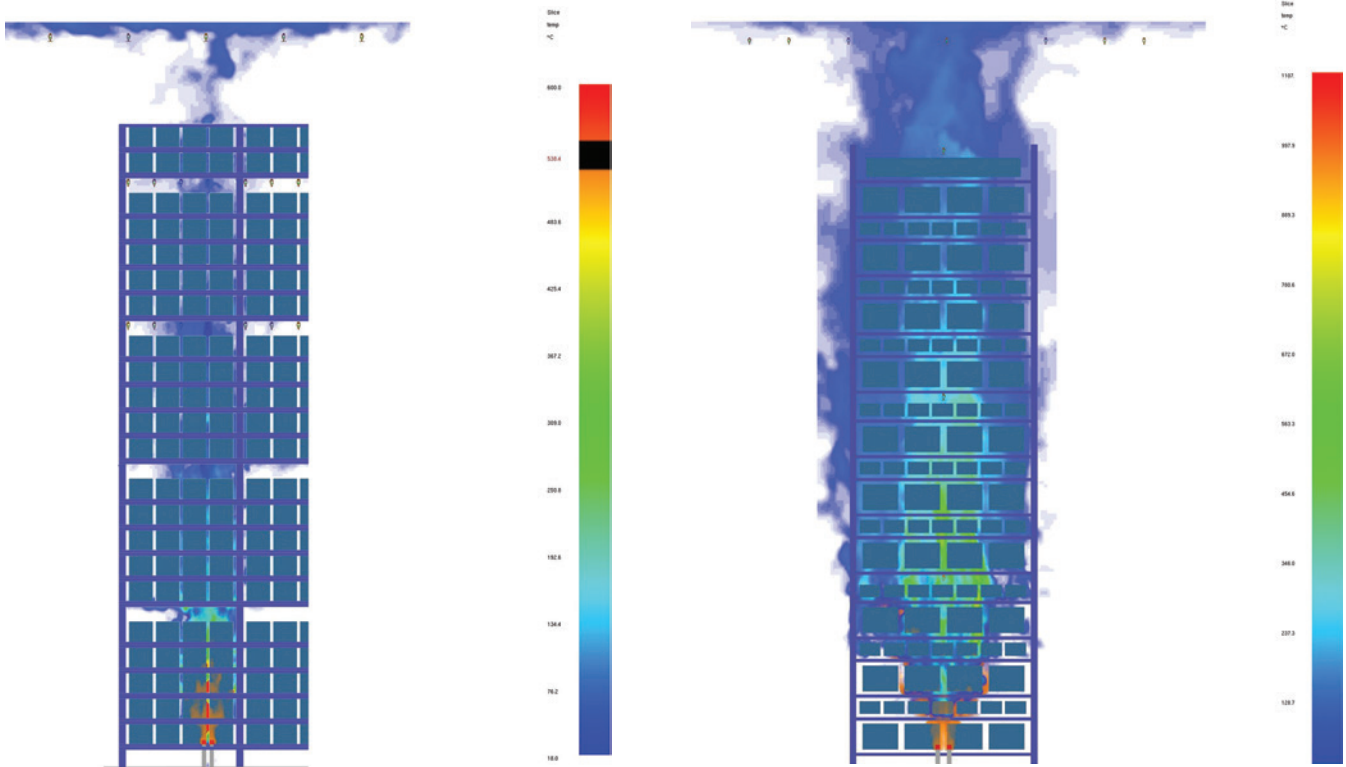
Johnson Controls leveraged their extensive knowledge of fire dynamics modeling to recreate the unique layouts of the ASRS racks seen in the distribution and fulfillment centers within a virtual space. The team used models to represent three types of ASRS rack setups and predicted fire growth within each setup. Multiple simulations were run to determine optimal sprinkler locations based on different fire locations. In addition, physical spray testing was conducted to validate sprinkler selection based on spray characteristics and their location – both in-rack and on ceiling.

Fire testing was conducted using the custom sprinkler arrangements for each rack setup to prove effectiveness of these protection schemes without the use of vertical barriers. The fire tests were chosen based on the worst-case scenarios as determined by the fire modeling. The testing also allowed the customer to find a solution

continued on page 35

continued from page 33

Temperature contour plot showing heat movement throughout a section of an ASRS rack structure.



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up to 8"**

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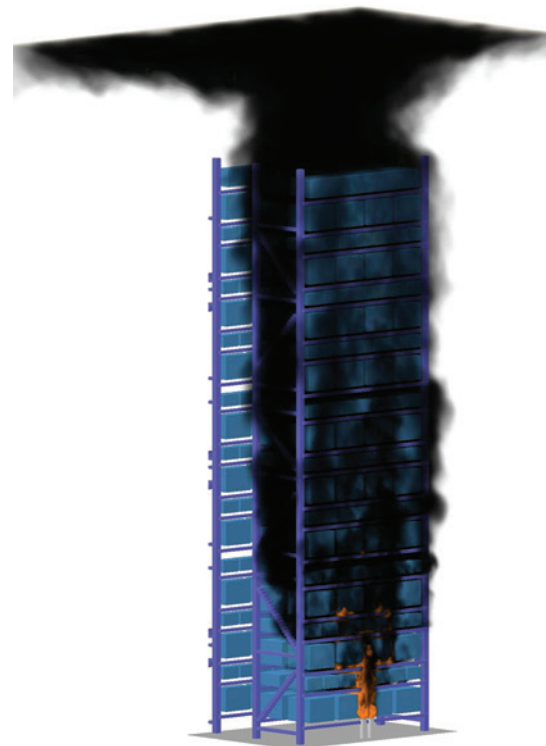


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- Model G-2X lighter weight for in-the-air grooving



ARGCO



Smoke and fire movement throughout a section of an ASRS rack structure.

continued from page 34

that was able to meet their desired hydraulic requirements.

In total, 14 full-scale fire tests split across the three different ASRS configurations were completed. The tests were conducted at Underwriters Laboratories Fire Test Lab, located in Northbrook, IL. Each test was run for approximately 30 minutes to validate the efficacy of the sprinklers and protection arrangement. Each successful test resulted in a minimal number of sprinklers operating, fire damage that was limited to the fire's ignition area, and ceiling temperatures well below the allowable limits.

ROI-increasing Results

The result incorporated a multifaceted fire suppression system that decreased the number of sprinklers installed by 66% and decreased in-rack branch lines by 50%, compared to FM Global DS 8-34 prescriptive solutions. The configuration also eliminated the need for vertical barriers within the racks to further reduce material cost requirements.

A variety of storage-specific Tyco sprinklers were integrated throughout the racking system and ceiling. For cold storage areas, UL Listed Tyco LFP® Antifreeze was used to ensure safe and dependable operation of sprinkler systems exposed to freezing temperatures, marking a milestone use of this technology.

This project represents a unique application where UL Listed Tyco LFP® Antifreeze was used for ASRS storage applications. Overall, the achievements of the fire test programs show the impressive power of simulation and testing when paired with innovative sprinkler technology and the right team of experts. In the end, the team was able to meet the customer's expectations while providing cost savings and dependable fire protection for years to come.

The overall fire protection system design is estimated to save the retailer over several hundred million dollars in labor and material costs when complete. These saving can be attributed to several factors:

- The efficiency of simulation to reduce the number of live fire tests
- Reduced material costs due to less sprinklers and no vertical barriers
- Meeting the customer's existing hydraulic requirements to eliminate the need for pump system upgrade
- Minimal maintenance requirements

To learn more about customer fire suppression solutions for warehouses and other facilities, go to tyco-fire.com.



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We Love to Showcase Our Members' Projects!

NFA Contractor Members, get in on the action! Send us photos of your projects along with a few descriptive sentences and you might find yourself featured on the cover of NFSM!

Email NFSM Editor Joanne Genadio at genadio@nfsa.org with materials and/or any questions!

JOIN THE NFSM COVER CLUB

Have a good camera, iPhone or Android with great lens quality? Photograph your subject in the highest quality level and send them along to genadio@nfsa.org. We'll let you know if you have a winner!



Get Involved...and Get Noticed!

I gave up on New Year resolutions a long time ago. Since mine always involved cutting out carbs, they were all forgotten the first time someone invited me out to dinner. Instead, I prefer setting goals for my youngest child, *National Fire Sprinkler Magazine*.

the opportunity to crow about your place of business, your employees and the fine work you've accomplished. We want to hear it all! Get your employees involved too. There's no better way to get some free PR! If you submit, we'll make sure you'll get some extra copies of the issue you can autograph and give to family members next Christmas.

Goal #1

President Ray has challenged me in the past to get members to submit photos for the cover of the magazine. I tried... and mostly failed. So, here we go again. I need your help! I know our members do some amazing work on equally amazing projects. I've seen some post on social media and I'd love to have those photos grace the cover of NFSM.

All I need is a high-resolution photo and a few sentences describing the project. Of course, I'd love to have a feature article if you are so inclined. Themes and due dates are available below and in our media kit. Use the QR code to access the kit.



Goal #3

Tik Tok! Yes, we're going to take the plunge and open a Tik Tok account. Tik Tok is one of the fastest-growing social media platforms in the world. It's available in over 150 countries, has over 1 billion users, and has been downloaded over 210 million times in the United States alone.

Best of all, the videos are extremely easy to make. You don't need a huge creative marketing team to generate video content your audience will watch. You just need a phone, the app and a drive to try something new. So, if you have a Tik Tok account, let us know. We'll be sure to share relevant content. If not, send me some videos and I'll post them and tag your company. It's a great way to reach your target market!

These initiatives are a great way to boost your member-to-member outreach and your presence on social media. Best of all, there's no cost to you and there's great potential to gain new customers and increase brand awareness.

I do hope you help me achieve my goals this year. It's a hell of a lot easier than following me around hiding bread baskets at every restaurant I go to! Let's make this happen. I look forward to your submissions! You can send what you have to me at genadio@nfsa.org.

Joanne

NFSM MAGAZINE UPCOMING DUE DATES AND THEMES

MAR/APR

Annual Seminar Preview
Healthcare Facilities

Deadline EXTENDED!

Insertion Orders: January 7th, 2023
Materials: January 21st, 2023

MAY/JUN

Buyer's Guide

Deadlines:

Insertion Orders: February 21, 2023
Materials: March 9, 2023

JUL/AUG

Fires in Sprinklered Buildings

Deadlines:

Insertion Orders: April 27, 2023
Materials: May 11, 2023

SEP/OCT

Member Takeover

Deadlines:

Insertion Orders: June 29, 2023
Materials: July 13, 2023

NOV/DEC

Advancing the Industry/Careers

Deadlines:

Insertion Orders: September 5, 2023
Materials: September 19, 2023



NFSA Responds to Child Fire Fatalities

At the beginning of 2023, we gave ourselves the grim task of tracking media-reported child fire fatalities. Between November 16th and December 3rd, nine children died in residential fires, bringing the total reported child fire deaths in 2022 to 217 (as of this writing.) We knew it was time to act.

We issued a press release yesterday that highlighted these tragic deaths, and the difference fire sprinklers could have made. The release was not easy to write. The topic was extremely upsetting, but it was a story that needed to be told. As of this writing, the release has reached over 160M readers.

Please take the time to read and share the release. How sad, especially around the holiday season, that these completely avoidable deaths are still occurring, and in numbers that would break anyone's heart.



Team NFSA Attends National Facility Management Tech Remix

Team NFSA's **Terin Hopkins**, **Vince Powers** and **Suzanne Mayr** traveled to Las Vegas in November to exhibit at the National Facility Management Tech Remix. The booth was always busy during show hours, and it was a great networking opportunity and afforded plenty of visibility for the association. The Home Fire Sprinkler Coalition's Virtual Reality headsets were a big draw. Attendees were impressed with viewing the fastestwater difference in VR!



Terin presented on the dreaded "Notice of Violation" from the Fire Inspector–Authority Having Jurisdiction to a large audience. The presentation gave a better understanding of fire code enforcement of fire protection systems. The participants heard an overview of who the Authority Having Jurisdiction is, where their enforcement authority comes from, and a basic understanding of the codes and standards used in that enforcement.

VCOS Symposium in the Sun

Despite Hurricane Nicole making an unexpected visit to Clearwater, Florida in November, NFSA Vice President of Advocacy & Outreach **Vickie Pritchett** served as the master of ceremonies for the VCOS Symposium in the Sun, an event that brings together over 550 fire service leaders from across America.

Fire service leaders present included US Fire Administrator **Dr. Lori Moore-Merrell**, Chief **Frank Leeb** of the FDNY, **Karl Fippinger** of the International Code Council, Chief **Dennis Compton** of Mesa, Arizona and Chief **Tim Sendelbach** of Loveland Fire Rescue in Colorado.

"Seeing fire sprinklers in the mix at national conferences and being spotlighted throughout is indeed a sign of the times," shared Vickie. "The momentum that is here is exciting, and NFSA is so grateful to be not only in the mix, but in the trenches, helping fire departments across the United States educate and promote fire sprinklers."

Southeast Regional Manager **Brian Biggs** also participated in the annual event. *#PartnersInProgress* is more than a hashtag to NFSA. We value our partnerships with fire departments and AHJs across America.



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Burn Demo at Truman's Little White House in Key West!

History was made on October 30th, 2022 with a live side-by-side sprinkler demonstration at the end of the road... *Key West, Florida!* We were happy to answer the request of the Harry S. Truman Foundation and the Truman Little White House to be a part of Children's Day 2022.

A big thank you to the Key West Fire Department, for providing the Engine Company, and to **Chief Alan Averette** for attending as well! Fire Department helmets with the Presidential Seal were distributed along with fire safety tip sheets and Winkler the Fire Sprinkler Coloring Books to all the kids in attendance.

Flashover occurred in the non-sprinklered room in three minutes two seconds, and the fire sprinkler activated at 55 seconds. Another example of *#fastestwater* in action in a setting to educate family members on how fast fire is and why fire sprinklers are needed.

NFSA's Vice President of Advocacy & Outreach **Vickie Pritchett**, and NFSA's Southeast Regional Manager **Brian Biggs** conducted the burn, and spent time at the event sharing the top fire safety tips with the families and policy makers in attendance.



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Indiana Campus Fire Safety Campaign

Team NFSA had the great opportunity to educate students, staff and the Indiana public in late October, as we and our partners presented several side-by-side fire sprinkler demos on college campuses. President **Shane Ray** was joined by NFSA Field Service Coordinator **Ron Ritchey** as they made their way to college campuses across the state.

October 26th found the team at Indiana University in Bloomington. With well over 100 attendees, the burn was a true success. It was our first burn with the new trailer NFSA donated to the Indiana State Fire Marshal's Office. The new State Fire Marshal, **Steve Jones**, was on hand to welcome the crowd, as was Bloomington Fire Chief **Jason Moore**.

The following day, Purdue Fire Chief **Kevin Ply** kicked off a great fire sprinkler promotion event at Purdue University. He shared the fire death statistic in campus housing and off-campus housing, noting zero deaths in residential units with fire sprinklers.

Team NFSA with **Ron Ritchey**, **Brian Biggs**, **Marty Blackwell**, and **Peyton Biggs** was there to support the Indiana State Fire and Public Safety Academy staff with the side-by-side burn demonstration unit.

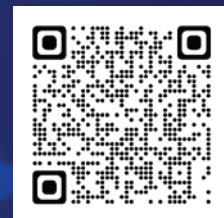
It was great to have over 150 students, fire officials, university staff, media and NFSA Indiana Chapter members present. We had representatives from Ryan Fire Protection, FE Moran, and Plumbers Supply attending the demonstration.

The final burn was conducted at Notre Dame University. Chief **Bruce Harrison** opened with the story of Notre Dame's commitment to fire sprinklers and retrofitting of the dorms following the tragic fire at Seton Hall in 2000. State Fire Marshal **Steve Jones** reminded the attendees that a person dies every week in Indiana from fire, often multiple people, all in buildings without fire sprinklers.

Following the side-by-side burn demonstrations each day, over 225 fire and government officials joined Ron and me for a lunch and learn. We also had several NFSA member companies' staff join us for the whole event. It's always an honor to spend time with our members and staff. •



Did you know NFSA's LinkedIn Group has more than 11,000+ members? It's a great place to showcase your products and services. **Join today!**



CHAPTERS IN ACTION

Connecticut

Connecticut Chapter Elects Officers

The NFSA Connecticut Chapter held a General Membership Meeting and Election of Officers on November 8th. The meeting was held at Eli's on Whitney in Hamden, CT. Chapter members enjoyed a great buffet dinner followed by the election of officers. Paul Zbikowski stood in as acting Secretary and election officer as the outgoing Secretary Bill Phair was unable to attend. There were no contested positions.

The officers for the next two years are the following:

- President **John Abbate, Jr.**
- Vice President **Ed Carvalho**
- Secretary **Kacee Paige**
- Treasurer **Jonathan "Jay" Kurtz**

Florida



Teaching at Disney!

FFSA held a private class for the inspectors at Walt Disney World Orlando. The class was held over a three-week span, one day per week, and taught by NFSA's very own Vince Powers. Over 37 Disney fire officials were able to have some hands-on experience within the Disney property in their pump rooms.

The reviews from the class were outstanding and we have even been told that they are hoping to have many future trainings with us. This was a contract class open only to the members of the Magic Kingdom and we can't wait to go back again to help them with fire sprinkler training needs.

Director Julius Halas named the 2023 Champion of the Industry



The Florida Fire Sprinkler Association named Director **Julius Halas** as the 2023 Champion of the Industry. The Champion of the Industry award is the highest award given by the FFSA. There were many nominations this year, but the clear winner for his work and dedication to the state of Florida was Director Halas.

Julius Halas has served as the Director of the Florida Division of State Fire Marshals (SFM) for the last thirteen years, currently under the authority of CFO/State Fire Marshal Jimmy Patronis. Director Halas has almost 48 years of experience in fire protection, serving as a firefighter, paramedic, and instructor while moving up through the ranks of Lieutenant, Captain, Battalion Chief, and Deputy Chief. Although he dropped out of high school in the eleventh grade to join the workforce, he quickly changed his focus to fire service, joining the City of Sarasota's Fire Department in 1974. He achieved the position of Fire Chief for the City of Sarasota in 1992, and then served as the Fire Chief for the Town of Longboat Key from 1999 until May 2009.

Since being appointed as SFM Division Director in May 2009, he has been responsible for the oversight of the Bureaus of Fire Prevention and Fire Standards and Training, as well as the Florida State Fire College. He is also responsible for leading the management and staffing of firefighters and search and rescue teams (ESF 4 and 9) in the event of a disaster or state emergency.

Director Halas is passionate about fire sprinklers, that they make a difference not only saving lives but preventing firefighter cancers. When Director Halas built his current home, he installed fire sprinklers, but it was not an easy task, having to go to battle with the city water department. Director Halas believes every person should have the right to live in a home with fire sprinklers and has spoken at many events for our industry sharing his story.

The FFSA cannot think of a more deserving recipient for the 2023 Champion of the Industry than Director Julius Halas.

PEOPLE



General Air Products is pleased to announce the recent hiring of **Kyle Curran** to the position of Regional Sales Manager—East Coast. Curran comes to General Air after five years in the Medical Technology Industry, where he worked as an Orthopedic Medicine Sales Specialist, honing his sales and customer support skills. As the new East Coast Sales Manager, Curran will provide technical assistance, product expertise, and product demonstrations on General Air's full line of dry pipe sprinkler system filling solutions for distributors and contractors in the region. Additionally, Curran will be involved in various industry events and training throughout the East Coast. Visit www.generalairproducts.com

Indiana

Indiana Chapter Officers and Board Members Announced for 2023

Our NFSA Indiana Chapter recently held board elections and we are pleased to introduce our Officer and Board Positions for 2023.

CHAPTER OFFICERS:

Chairman	Dan Whitman	(Dalmatian)
Vice Chairman	Corey Lee	(RSQ)
Treasurer	Brian Roberts	(Plumbers Supply)

BOARD MEMBERS

Pete Murphy	(Core & Main)
Steve Schipp	(Ryan Fire Protection)
Chris Evans	(VFP)
Steve Carroll	(KJ Funke)
Haijo Keil	(FM Global)
Chris Ellison	(Carmel FD)

AREA DIRECTOR

Jon Ackley	(Dalmatian)
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STAFF LIAISON

Ron Ritchey	(NFSA)
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Minnesota

Burn Aid Golf Classic

Each year the Minnesota Chapter, in partnership with Regions Hospital and the Minnesota State Fire Marshal Division, hold the Burn Aid Charity Golf Classic to support the special equipment needs and healing programs of the Regions Hospital Burn Center. NFSA President Shane Ray, Minnesota State Fire Marshal Jim Smith, Minnesota Chapter Chair Sean Flaherty, and Burn Aid Foundation President Matt Gallagher (both of Viking Automatic Sprinkler Company) presented a check to the Burn Aid staff for \$50,000 from this year's event. President Ray and Burn Aid officials toured the Burn Center facilities and met with some of the remarkable staff who are healing wounds and lives through the treatment and recovery programs provided by the Center.

Missouri

A New Reality!

The St. Louis Chapter took our Virtual Reality (VR) Headsets on the road in November to the MABFO MEGA Conference at the Lake of the Ozark and to the NFSA Ribbon cutting with the O'Fallon Chamber of Commerce event.

Attendees were amazed by the experience of the VR Headsets that deliver a virtual reality experience that is immersive in detail.

Viewers were able to experience two fires: one without fire sprinklers and one with fire sprinklers. The headset allows people to feel as if they are inside the burning house themselves. They could watch the fire from any angle and could even hear the fire crackle. They witnessed flashover and watched as the flames and smoke spread to complete darkness. They were able to see high heat from the fire activate the sprinkler and watch as the sprinkler controlled the blaze. Most were astonished to see the destruction left behind by the fire without the fire sprinkler.



A special thanks to Mark Esker for traveling with us to demonstrate the VR experience and tell his personal story of survival, also to the NFSA, the Home Fire Sprinklers Coalition and Common Voices for making this all possible

Seeing is believing!

Texas

Texas Shootout

The 1st NFSA Texas Shootout is being hosted in Fort Worth, Texas to raise funding to support the efforts of the NFSA Texas Chapter. Funds raised will be used to provide fire sprinkler education, increase awareness, and training scholarships to promote our great industry. We sure hope you will give this event your best shot!

WHO: All Fire Protection Professionals

WHERE: Alpine Shooting Range, 5482 Shelby Road, Fort Worth, TX 76140

WHEN: Monday, April 3, 2023; 8:30 a.m. – 2:00 p.m.

HOW: Bring Your Own Gun or Rent One at The Range!

Register here:



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Wisconsin Burn Center Invitational

The 34th Annual Burn Center Golf Invitational was a success! The day started with sunny weather and temperatures in the mid-70s, perfect for playing 18 holes by the 188 golfers that participated this year.

The event was held on the Brute and Highland courses at the Grand Geneva Resort and Spa in Lake Geneva, WI. We estimate that the event will donate over \$100,000 to the two charities: Ascension Columbia St. Mary's Burn Center and Wisconsin Youth Burn Camp for various projects. This event was created by members of the fire sprinkler industry in 1989 and continues with almost 90% of participants.



*BCGI Chair Marty King with
Reliable Sales Rep Dave Fisher*



SIMPLE MATH: Fire Sprinklers + Firefighters = Unbeatable Team!



An Unbeatable Team!

Fire Sprinklers control and can often extinguish fires prior to firefighter arrival, allowing time for occupants to escape safely, limit property damage, and give firefighters the chance to finish the job safely. It really is that simple!

The more you know, the more you'll ask for **#fastestwater!**



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-  NFSA.org
-  National Fire Sprinkler Association

#fastestwater



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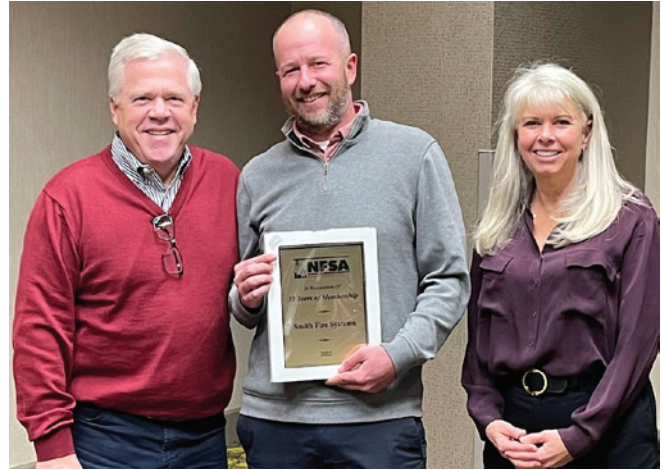
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Contact NFSA Marketing Manager Joanne Genadio at genadio@nfsa.org for more information.

Puget Sound Chapter Member Anniversaries

At the November Puget Sound NFSA Chapter meeting, several contractor members were recognized for milestones in membership: Red Hawk Fire Protection and Moore Fire Protection, five years of membership as of 2021; Reliance Fire Protection, 15 years as of 2020; Patriot Fire Protection, 30 years as of 2022; and Smith Fire Systems, 35 years as of 2022.

Other Puget Sound area contractors with recent membership milestones include Fire Sprinklers Incorporated, five years of membership as of 2021 and Archer Construction, 20 years of membership as of 2020.

The chapter also hosted area fire marshals for its annual Fire Marshal Forum. Thank you to Todd Short of the City of Redmond Fire Department, Shawn Shepherd of Seattle Fire Department, and Esther Hernandez of the Washington State Fire Marshal Office for updating NFSA members on new developments in their respective jurisdictions.



Jeff Smith (center), Vice President of Smith Fire Systems, accepts Smith's 35-year NSA membership plaque from NFSA Chairman of the Board James Boulanger (right) and Northwest Regional Manager Suzanne Mayr (left).



James Boulanger (center), President of Patriot Fire Protection, Inc. in Tacoma, celebrates 30 years of NFSA membership with Northwest Regional Manager Suzanne Mayr (left) and Area 12 Director Nancy Hammond (right).



Nancy Hammond (center), President of Reliance Fire Protection in Seattle, WA, is recognized for 15 years of NFSA membership by Northwest Regional Manager Suzanne Mayr (left) and NFSA Chairman of the Board James Boulanger (right).



Dan Radloff (center), President of Red Hawk Fire Protection in Puyallup, WA, receives his five year membership plaque from Northwest Regional Manager Suzanne Mayr (left) and Area 12 Director Nancy Hammond (right).



Tracy Moore (center), President of Moore Fire Protection in Issaquah, WA, is awarded his five-year membership plaque from Northwest Regional Manager Suzanne Mayr (left) and Area 12 Director Nancy Hammond (right).

SPRINKLERING OF NEWS

■ Johnson Controls Announces Launch of THUNDERSTORM® WNF33A Foam Concentrate

Johnson Controls announces the launch of THUNDERSTORM® WNF33A 3% \times 3% Non-Fluorinated Foam Concentrate, the newest addition to the WILLIAMS FIRE & HAZARD CONTROL® firefighting foam portfolio.

Fuel in-depth fires and sunken roof hazards can occur at flammable liquid storage facilities, oil and gas tank farms, refineries and petrochemical processing operations. Historically, non-fluorinated foams have been challenged to deliver the performance of a traditional alcohol-resistant aqueous film-forming foam (AR-AFFF) for Class B firefighting on these types of hazards. The new THUNDERSTORM WNF33A Foam Concentrate provides excellent fire and vapor suppression for hydrocarbon fuels, such as gasolines and diesel, as well as for polar-solvent fuels, such as alcohols and ketones.

During recent 42-foot tank fire tests, THUNDERSTORM WNF33A was evaluated at an application rate of 0.08 gpm/ft², which is half the design rate recommended by UL 162 and NFPA 11 industry standards for hydrocarbon fuel in-depth fires. Control of the tank fire was established in approximately two minutes, comparable to that of legacy THUNDERSTORM foam concentrates on similar 42-foot tank tests. Its long-lasting foam blanket also demonstrated strong burnback resistance and post-fire suppression.

THUNDERSTORM WNF33A Foam Concentrate has a viscosity like its AR-AFFF predecessor and can be used with most conventional response proportioning and discharge devices. This foam concentrate produces a robust foam blanket at expansion ratios as low as 3:1, so it can be applied with non-aspirating nozzles and deliver significant throw distance. It can also be used in conjunction with dry chemical agents for dual firefighting application.

THUNDERSTORM WNF33A Foam Concentrate is a Green-Screen Certified™ Silver formulation. As a non-fluorinated foam concentrate, it doesn't have any intentionally added PFAS chemistry, is produced in equipment that has not handled PFAS chemistry and inherently complies with Directives (EU) 2017/1000 on PFOA and 2019/1021 (EU POPs directive).

Visit www.johnsoncontrols.com for more information and follow @JohnsonControls on social platforms.

■ Tyco® LFII Lead-Free Sprinkler Now Approved to Help Protect NFPA 13R Low-Rise Residential Structures

Johnson Controls announces its Tyco Series LFII Residential 4.9 K-factor Lead-Free Sprinkler is now approved for installation in low-rise residential properties per NFPA 13R. The Tyco LFII sprinkler is the first ANSI/UL 199 Approved polymeric fire sprinkler to offer long-lasting dependable protection for a wide range of residential buildings specified under NFPA 13D and 13R. This includes low-rise residential structures of four stories

or less as scoped under NFPA 13R as well as one-and two-family homes of any size as scoped under NFPA 13D.

The Tyco LFII 4.9K Lead-Free Sprinkler is manufactured with a polymeric material that carries anti-heat and anti-corrosion properties. These properties help to extend the life and value of the sprinkler compared to similar brass products. The sprinkler is certified to NSF 372 and NSF 61 to ensure compatibility with safe drinking water and lead-free plumbing requirements.

The Tyco Series LFII 4.9K Lead-Free Concealed Pendent Sprinkler is available in both ordinary 155°F (68°C) and intermediate 200°F (93°C) temperature configurations. The sprinkler and cover plate assembly allows for adjustment up to 3/4-inch, which provides additional flexibility with residential installations.

The Tyco Series LFII 4.9K Lead-Free Concealed Pendent Sprinkler complements a full line of Johnson Controls fire suppression products. Together, they help serve the company's mission of reimagining building performance to support healthy people, healthy places and a healthy planet.

Visit www.tyco-fire.com to learn more.



■ TYCO® expands next-generation Riser Manifold product line with RM-2 Base models

Johnson Controls has expanded the Tyco® RM-2 Riser Manifold product offering with the launch of two versatile, economically focused RM-2 Base models that complement the fully-integrated RM-2 Riser Manifold. The riser manifolds support fire safety by supplying, monitoring and regulating water flow to a building's fire suppression piping system. The new base models are a cost effective and easy transition arrangement to help better control valves and piping in a range of commercial buildings and high-rises.

The two new models join the fully integrated Tyco RM-2 Riser Manifold, equipped with a TD-2 test and drain valve which achieves a tight seal using a plunger-type valve. The valve significantly reduces product wear and deterioration. The test and drain

valve also includes an integrated, fully adjustable (100 psi / 6,9 bar to 310 psi / 21,4 bar) pressure relief valve for simplified testing.

The new commercial RM-2 Base with TD-2 test and drain valve and residential RM-2 Base with either TD-2 or ball drain valve feature a built-in waterflow alarm switch, pressure gauge and drain valve to simplify installation, testing and operation with a cost-efficient advantage.

The fully integrated RM-2 and the new RM-2 Base models are pre-assembled for convenience. The RM-2 Base is UL Listed and FM Approved, while the fully integrated RM-2 is UL Listed and components are FM Approved. The compact design allows them to be installed horizontally or vertically, providing compatibility with both single-sprinkler risers and floor controls within high-rise structures. Configurable coupling assembly of the original RM-2, an optional flexible drain hose, and residential ball valve drain pressure relief kit offer maximum design flexibility to meet a variety of building requirements.

RM-2 Base products feature all the necessary alarms, pressure gauges and check valve equipment to help comply with NFPA 13, NFPA 13D and NFPA 13R standards for commercial and residential fire sprinkler system applications.

To learn more about the Tyco RM-2 Base Riser Manifold, go to www.tyco-fire.com/RM2-Base.

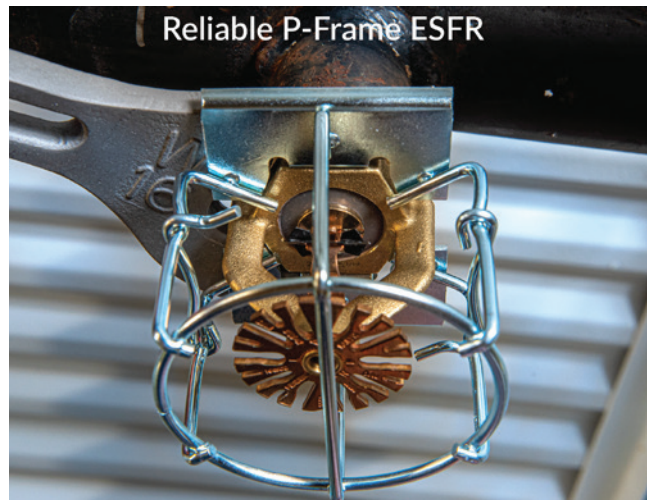
■ Reliable® Introduces Design Guides.

Reliable Automatic Sprinkler Co., Inc. announced the release of five Design Guides. These Design Guides have been prepared as a source of information that will help users understand and select components for a wide variety of fire protection applications. They are complemented by product technical bulletins as well as other Design Guides. Bulletin numbers have been included in the guides to facilitate a more detailed analysis and description of Reliable valves and components. Available in both English and Spanish, the guides address the following topic areas:

- Deluge Systems
- Residential Systems (*English Only*)
- Pressure Control
- Preaction Systems
- Pneumatic Supply



“We sometimes neglect the newest members of our profession,” noted Reliable Technical Services Director Cary Webber. “In the Design Guides, we provide basic system information, concepts, and definitions we use on a daily basis.” To download the design guides, visit www.reliablesprinkler.com/design-guides.



■ Reliable® launches compact K22.4 and K25.2 Early Suppression Fast Response Sprinklers

Reliable Automatic Sprinkler Co., Inc. announced the introduction of compact P-frame Early Suppression Fast Response Sprinklers.

The Model P22 and P25 are Early Suppression Fast Response (ESFR) fire sprinklers with nominal K-factors of 22.4 (320 metric) and 25.2 (360 metric). For systems designed in accordance with NFPA 13 standards, the P22 and P25 are considered ESFR fire sprinklers. FM Approvals classifies the P22 and P25 as quick-response storage and non-storage sprinklers when used in accordance with FM Global Property Loss Prevention Data Sheets.

“P-frame sprinklers are the lightest, most compact ESFR sprinklers on the market,” noted Steve Wolin, Vice President of Product Technology. “In addition to allowing greater flexibility regarding ceiling distance and obstructions, the P22 and P25s are installer friendly. There are no bulb or link protectors required, and the light weight, ergonomic wrench reduces installer fatigue.”

The Model P22 and P25 fire sprinklers may also be used as in-rack sprinklers where allowed in NFPA 13. Guards and shields are available pre-installed from the factory and the assembly can be installed using the Model W16 wrench. For more information visit reliablesprinkler.com/esfr.

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SPRINKLERING

SPRINKLERING OF NEWS

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■ Reliable® Launches FM Approved, cULus Listed Diaphragm-Type Valve

Reliable Automatic Sprinkler Co., Inc. announced the introduction of the Model PRV Pressure Regulating Valve.

The Model PRV Pressure Regulating valve is an FM Approved, cULus Listed diaphragm-type valve used to reduce and regulate pressure in both flowing and non-flowing conditions. It is shipped fully assembled with compact trim, complete with pressure relief valve. It is approved for inlet pressures up to 400 psi (27.6 bar). Outlet pressure is field-adjustable to 50-210 psi (3.4-14.5 bar) for FM applications or 100-200 psi (6.9-13.8 bar) for cULus applications.

The simple design utilizes a single moving part—a resilient fabric-reinforced EPDM diaphragm that ensures consistent operation over time. There are no trim connections to the face of the valve, providing access to the diaphragm without removing any trim components. The Model PRV body is lightweight ductile iron with a durable red oxide epoxy interior and exterior coating. The exterior is also urethane coated, making it suitable for challenging environments. Available in 1½” (40 mm), 2” (50 mm), 2½” (65 mm), 76 mm, 3” (80 mm), 4” (100 mm), 6” (150 mm), and 165 mm nominal sizes with multiple end configurations. •



Reliable Model PRV Front and Side View

Fire happens fast...thankfully, so does this.



U.S. fire departments respond to an average of one home fire *every 86 seconds*.

On average, seven people per day die in U.S. home fires where fire sprinklers are not present.

Fire sprinklers can control and may even extinguish a fire in less time than it would take the fire department to arrive on the scene.

In a home with sprinklers, the average *property loss per fire is cut by about 70% compared to fires where sprinklers are not present*.

Residential fire sprinkler systems cut the risk of dying in a fire by about 80%.



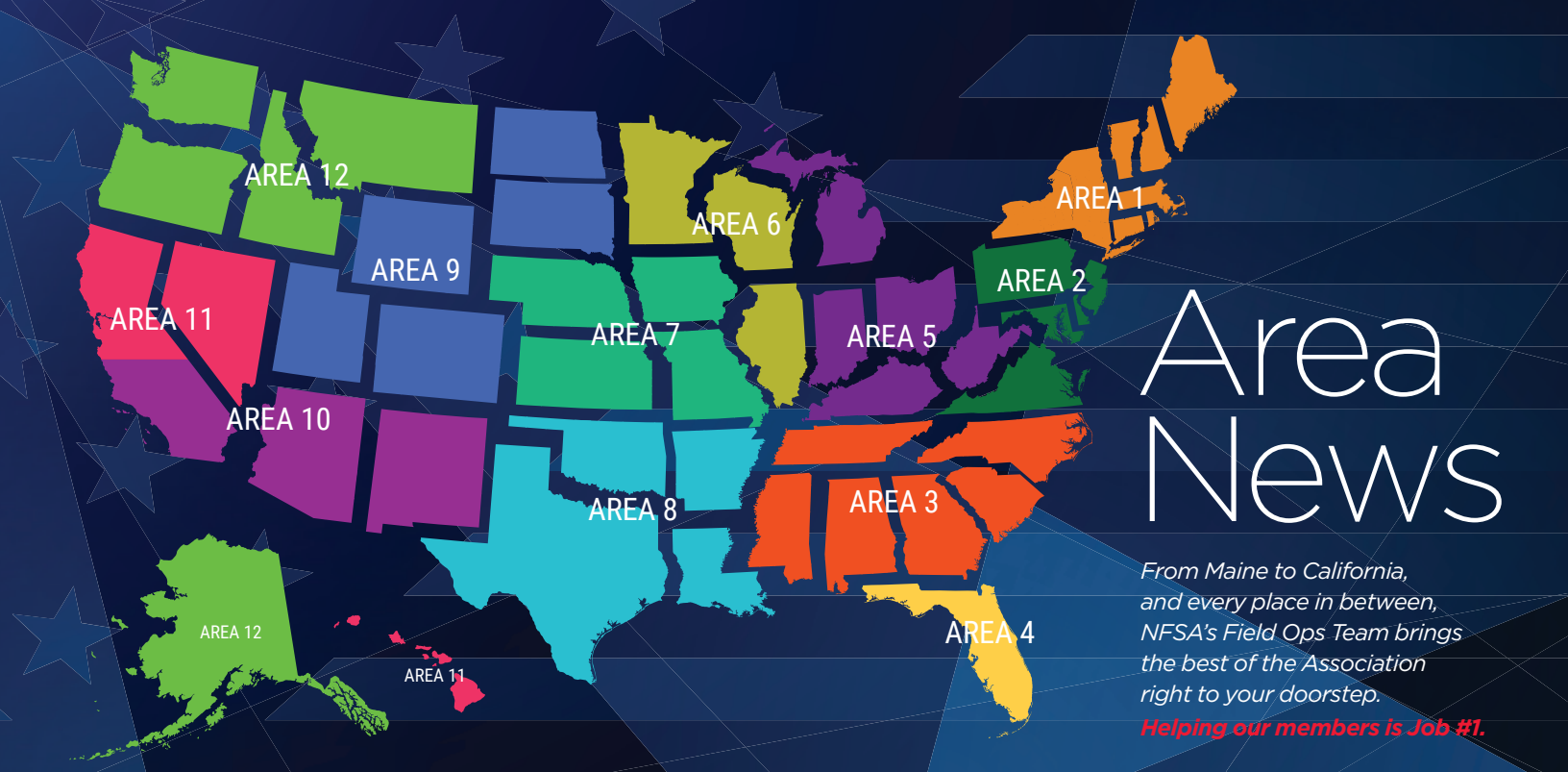
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Area News

From Maine to California, and every place in between, NFSA's Field Ops Team brings the best of the Association right to your doorstep. *Helping our members is Job #1.*

AREA 2

DELAWARE, MARYLAND, NEW JERSEY, PENNSYLVANIA, VIRGINIA, DISTRICT OF COLUMBIA

Philadelphia and Fire Sprinklers

As of December 6th, 2022, all commercial buildings greater than 75 feet tall in the city of Philadelphia are fully fire sprinklered. Residential high-rise buildings are not fire sprinklered.

On November 10th, 2022, the NFSA Mid Atlantic Team, in partnership with Philadelphia Councilman Squilla, Common Voices' Robert Feeney, and Fire Sprinkler Fitters Local Union 692, successfully did a fire sprinkler burn outside City Hall in downtown Philadelphia. The hope was to bring attention to the importance of fire sprinklers and the need for them in residential high-rises in the city of Philadelphia.

A HUGE thank you to all our members that came out to support the initiative of better fire protection in the city by retrofitting fire sprinklers in residential high-rise occupancy's. Fire is fast, but water is faster. Fire sprinklers buy time, and time buys life.



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AREA 3

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

Carl Cutrell Jr. Big Bang Classic: The Perfect Fall Outing



Tennessee Fire Sprinkler Contractors Association is excited to let each of you know that the 5th Annual Carl Cutrell Jr. Big Bang Classic Skeet Shoot was a huge success this year (despite a tornado warning at the end). We had a total of 78 registered shooters. This gives us an added incentive to get over the hump next year and break our record from 2021 with 79 shooters.

Carl's dedication to the TFSCA never went unnoticed. He was the first president of the TFSCA-NFSA Chapter, and he held that position for six years.

This is the perfect event to have for such a legend in the Fire Sprinkler Industry. Carl was always ready to stand up and represent the fire sprinkler industry in Tennessee, no matter what it took.

Thanks to the Cutrell Family for allowing us to remember our friend each year!

AREA 4

FLORIDA, PUERTO RICO



FFSA Presence at Fire Marshals & Inspectors Conference

Florida Fire Marshals and Inspectors Conference held in Sarasota attended by over 300 officials from across the state, FFSA had a booth with a "spin the wheel to learn" game. The FFSA named Director Julius Halas as the 2023 Champion of the Industry at this conference. He will be honored at the 28th Annual Buddy Dewar Golf and Skeet Classic on March 27, 2023.



AREA 5

INDIANA, KENTUCKY, MICHIGAN, OHIO, WEST VIRGINIA

Indiana Campus Fire Safety Campaign a Huge Success



NFSA President Shane Ray participated in our Campus Fire Safety Side-by-Side Burn demonstrations on three successive days at Indiana, Purdue, and Notre Dame Universities, October 25-27, 2022, with over 300 local and state fire officials, fire sprinkler professionals, and campus students in attendance. This was our first official roll out of our side-by-side burn demonstration trailer that President Ray presented to the Indiana State Fire Marshal earlier this year.

NFSA Team members Brian Biggs, Marty Blackwell, and Peyton Biggs worked tirelessly alongside Indiana Fire and Public Safety Academy Director Wade Walling and Trainer Mike Parks to rehab and transport the trailer, at the end of each of these burns in a true spirit of "can do" attitude.

Our strategic partners for these events included Indiana State Fire Marshal Steve Jones, Bloomington Fire Chief Jason Moore, Purdue Fire Chief Kevin Ply, and Notre Dame Fire Chief Bruce Harrison who were instrumental in helping us receive great media coverage for these events. What an honor it is to associate with and partner besides these committed fire safety professionals to educate on the benefits of life-saving fire sprinklers.

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AREA 6

ILLINOIS, MINNESOTA, WISCONSIN, MINNESOTA

NFSA President Shane Ray recently presented award plaques to Minnesota contractors to recognize milestone anniversaries as NFSA members. Viking Automatic Sprinkler invited Shane and Minnesota-based staff to make three award presentations at their annual Thanksgiving Potluck Luncheon. Shane recognized VFP Fire Systems for 55 years of NFSA members in 2020, Olsen Fire Protection for their 60 years of membership in 2021, and Viking Automatic Sprinkler Company's 65 years of NFSA membership in 2021.



(L to R) Viking Automatic Sprinkler Company Director of Business Development Sean Flaherty, NFSA President Shane Ray, VFP Group President and CEO Andy McCleery



NFSA President Shane Ray presenting a 60 year membership award to Kevin Olsen, formerly of Olsen Fire Protection


Shane later traveled to APi Group headquarters in New Brighton and presented APi Group President Russ Becker with a plaque in recognition of the APi Group's 25 year of NFSA membership as of 2021.



(L to R) NFSA President Shane Ray, APi Group President Russ Becker, NFSA North Central Regional Manager, Tim Butler, NFSA Minneapolis Local Coordinator Joel Hewitt, and NFSA Minnesota State Coordinator Tom Brace.




The Menomonee Falls Fire Department showcased the side-by-side demonstration trailer at their annual fire department open house. The crowd was impressed by the power of fire and the fastest water provided to react to fire to reduce damage and allow occupants to escape. This area is growing fast with many new residential developments but a small fire department to respond to emergencies. NFSA WI State Coordinator Marty King presented and had a chance to discuss the advantages of fire sprinklers in residential developments with the Village President before and after the demo. The trailer also traveled to Sussex Fire Department's Open House celebrating 150 years of service to the community.



**NORTH AMERICAN
FIRE SPRINKLER EXPO
& NFSA ANNUAL SEMINAR**

May 3-6, 2023
JW Marriott/Austin, Texas



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AREA 8

ARKANSAS, LOUISIANA, OKLAHOMA, TEXAS



2022 Texas Fire Sprinkler Coalition– Fire Sprinkler Saves Award
 Frisco Fire Department reported 10 Fire Sprinkler Saves in 2021-2022! Frisco Fire Department was presented with their award at the annual Texas Fire Marshal's Conference on October 27, 2022.



2022 Texas Fire Sprinkler Coalition Leadership Award
 Assistant Texas State Fire Marshal Ernest McCloud. Former Assistant Texas State Fire Marshal Ernest McCloud was presented with the Texas Fire Sprinkler Coalition Leadership Award on October 27, 2022, at the Texas Fire Marshal's Conference. Chief McCloud served the Citizens of Texas in the State Fire Marshal's Office from 1998-2022 and oversaw all Fire Protection Licensing.

RSVP Now for These Texas Fire Sprinkler Events!

Lithium-Ion Fire Protection Forums–With an Engineer & an AHJ

- **February 8, 2023** – NFSA Texas; Coppell Life Safety Center
- **February 9, 2023** – NFSA Texas: Austin Development & Permitting
- **February 10, 2023** – NFSA Texas: Houston Location TBD

Lithium-Ion Energy Storage Systems are causing unique and hazardous fires throughout the US and the world. NFSA's Fire Protection Engineer – **Jeff Dunkel** FPE and Austin Fire Department's Graduate Engineer – **Scott Stookey** will provide an Engineering & an AHJ perspective on Lithium-Ion issues and potential solutions.



Texas Fire Sprinkler Coalition New Chair

The Texas Fire Sprinkler Coalition met at the Texas Fire Marshal's Conference on October 26, 2022. Assistant Fire Chief of Lake Travis Fire Rescue Glen Trubee is the new Texas Coalition Chair. The Texas Fire Sprinkler Coalition is comprised of building officials, fire & burn survivors, firefighters, fire marshals, fire inspectors, fire sprinkler contractors, plumbers, manufacturers, NFPA, HFSC & NFSA. The coalition is dedicated to promoting the installation of fire sprinklers in future generations of homes. The Coalition is a resource for information on home fire sprinklers and why these systems are a critical component of home fire safety. Register For the Coalition by emailing cindy@nfsa.org.

New Arkansas State Fire Marshal

Major Michael Moyer has been named the new Arkansas State Fire Marshal. The Arkansas State Fire Marshal's Office is a Division of the Arkansas Regulatory & Building Operations Services Department. The State Fire Marshal's Office is responsible for enforcing, periodically revising, and updating the Arkansas Fire Prevention Code. The State Fire Marshal's Office investigates fires of a suspicious nature and assists local authorities with investigations.

AREA 12

ALASKA, IDAHO, MONTANA, OREGON, WASHINGTON

Busy Times Ahead

With elections behind us, all state legislatures in Area 12 will open sessions in January. Oregon will be in a long session this year. NFSA staff will be monitoring bills that affect the fire sprinkler industry.

The Washington State Residential Fire Sprinkler Coalition hosted its final Best Practices Forum in December, with a new schedule of forums set for 2023. These popular forums, held virtually, allow for dialogue between home fire sprinkler contractors, home builders, and AHJs. Topics range from jurisdictional code amendments to plan review processes to working with water purveyors.



New rules spelling out how the Revised Code of Washington (RCW) 18.160 Fire Sprinkler System Contractors and RCW 18.270 Fire Protection Sprinkler Fitting went into effect Jan. 1, 2023. The rules outline performance and compliance for the licensing of fire protection sprinkler system contractors, the issuance of certificates, and the issuance of civil fines for violations. The updates include increased fees, updated definitions, and the splitting the rules for contractor licensing and fitter certification into two separate WACs for RCW 18.270.

Watch your inbox for upcoming chapter meetings and trainings in the Northwest region. If you have a topic you would like presented in a class, area interest or chapter meeting, please contact Northwest Regional Manager Suzanne Mayr. •



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.

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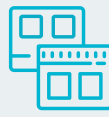
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