

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

January–February 2021
No. 224



Automated Storage and Retrieval Systems & Storage Options



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ON THE COVER

The complexity of automated storage and retrieval systems in warehouses, from ordering online to delivery to the front door, depends on fire protection. The many logistics of ordering, fulfilling, and shipping are important, but fire protection within the warehouse is just as complex. Read more in this issue's **Codes Corner**.

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EVENTS OF INTEREST TO NFSA MEMBERS

TRAINING CALENDAR

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At NFSA, we pride ourselves on being the industry's premier resource for fire sprinkler training and education. Our seminars are approved in most states for CEUs for building and fire officials as well as licensure recertification accreditation and NICET credits. We are an ICC Preferred Provider.

Technical Tuesday Training Calendar

NFSA's Technical Tuesday training schedule for January — June 2021 is posted! Check out the upcoming classes for the first half of 2021. Tech Tuesdays are FREE to members who pre-register!

- January 19, 2021** *Balcony Sprinklers in the Codes vs NFPA 13*
- February 16, 2021** *2023 NFPA 25 Updates*
- March 16, 2021** *Why is NFPA 1 Fire Code Important to the Fire Sprinkler Industry*
- April 20, 2021** *Sprinkler Installation Requirements of IBC vs NFPA 13*
- May 18, 2021** *Sprinkler Requirements of the Residential Chapters of NFPA 101*
- June 15, 2021** *2021 Updates to the I-Codes*



Virtual Layout Tech Training

NFSA is excited to announce the Layout Technician Training Class and the Layout Technician Blended Learning In Class Practicum are both being offered VIRTUALLY! Students will participate in a virtual classroom a few days a week, in addition to homework and group work. Don't miss out on the opportunity to bring this highly requested training class into your office!

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- February 3 – February 18, 2021 / *Layout Technician Blended Learning Virtual Practicum***

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and to register for these seminars.



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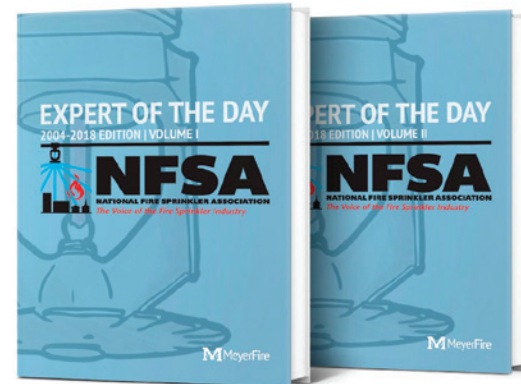
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The National Fire Sprinkler Association is proud to present our EOD Handbook

The EOD Handbook is a hardcover, bound, two-volume set of over 1,300 pages covering nearly 2,000 questions on over 585 topics that are relevant to automatic fire sprinkler systems, standpipes, water supplies, inspection, testing and maintenance, codes, and standards.

The questions were asked by NFSA members from 2004-2018 and answered by NFSA's subject matter experts through the Expert of the Day (EOD) program and published in a members-only monthly publication called *TechNotes*.



NFSA members, be sure to check out our exclusive members-only pricing in our online store at www.nfsa.org/eodhandbook/!

Questions and answers covers every installation standard such as NFPA 13, NFPA 13R, NFPA 13D, NFPA 20, inspection, testing, and maintenance standards such as NFPA 25, fire pumps and water supplies in NFPA 20 and NFPA 24, model fire, building, and life safety codes such as the International Building Code (IBC) and NFPA 101, and many more.

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Fire is fast. Fire sprinklers are faster.

Passion and Perseverance – Beyond 2020

It's hard to believe what one year can bring. If anyone would have told us a world-wide pandemic, a national state of emergency and executive orders in every state in the country would have occurred in 2020, we would have said, "Yea, yea, we've heard similar doomsday predictions before." Well, I hope that 2020 has helped you change some norms and realize that nothing is a given and not to take anything for granted.

I was honored to share with our Board of Directors that we had changed a culture in three months instead of three years. I also shared that we had been preparing for the past five years for what we didn't realize would be as severe as it was, but in the end, we had the tools, talent, and team with the passion and perseverance to endure these changing times. We shifted from an in-person Business and Leadership Conference to a virtual conference. We went from having staff traveling almost every single day of the year to no travel, yet never really missing a meeting. As a matter of fact, the number of meetings we could attend doubled. We went from having a staff meeting every other year, to



“We have also worked hard to make sure that as you make acquisitions and transitions, and if we get pushback from politicians or the media, that we are here for you as the positive face of this industry. We are more than ready for an even better 2021.”

have one twice a month. All of this because of COVID-19. We owe gratitude to a Board of Directors that gives enough guidance and support of our transition management plan, as well as our operations plan that we had a plan in place to prepare us for more than a major recession.

Last year we were deeply engaged in a national presidential election. We now know the outcome and this transition of power will be like none in history (well, if you listen to the media). Rest assured, NFSA is working daily on the transition at the federal level and watching every state in the country as a shift of power occurs. We have always worked hard to make sure that fire sprinklers crossed party lines and that we promoted fire sprinklers regardless of the political party in power. When it comes down to life safety, property preservation, and creating jobs and/or incentives that stimulate the economy, we are always a win-win.

Our team in Washington, D.C. has never stopped working and have worked harder than ever before to ensure fire sprinklers were at the forefront of all stimulus and tax packages. Our firm of McCallister and Quinn has worked with our Vice President Vickie Pritchett to ensure that we are always the *Voice of the Fire Sprinkler Industry* on Capitol Hill. We have worked with the Congressional Fire Services Institute to promote the Fire Sprinkler Incentives in the Tax Cuts and Jobs Act, as well as the technical correction we received in the Coronavirus Aid, Relief, and Economic Security (CARES) Act. It is our daily work on Capitol Hill that ensures that fire sprinklers are always part of the debates as any laws are passed involving safety or the economy.

Your NFSA team has worked harder than ever before to ensure that fire sprinklers remain at the forefront of all debates at the federal, state, and local levels. We have also worked hard to make sure that as you make acquisitions and transitions, and if we get pushback from politicians or the media, that we are here for you as the positive face of this industry. We are more than ready for an even better 2021.

2019 was a record year for the fire sprinkler industry. 2020 was an unprecedented year that we fought for and ensured we were essential to the health, safety, and general welfare of our country. 2021 will be a year of continued change as we continue defending the fire sprinkler industry, as well as promoting our positive impact on life, property, the economy, and the environment.

May you, your family, your company, and our country remain safe, happy, and healthy.

God Bless,

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

Shane Ray, President

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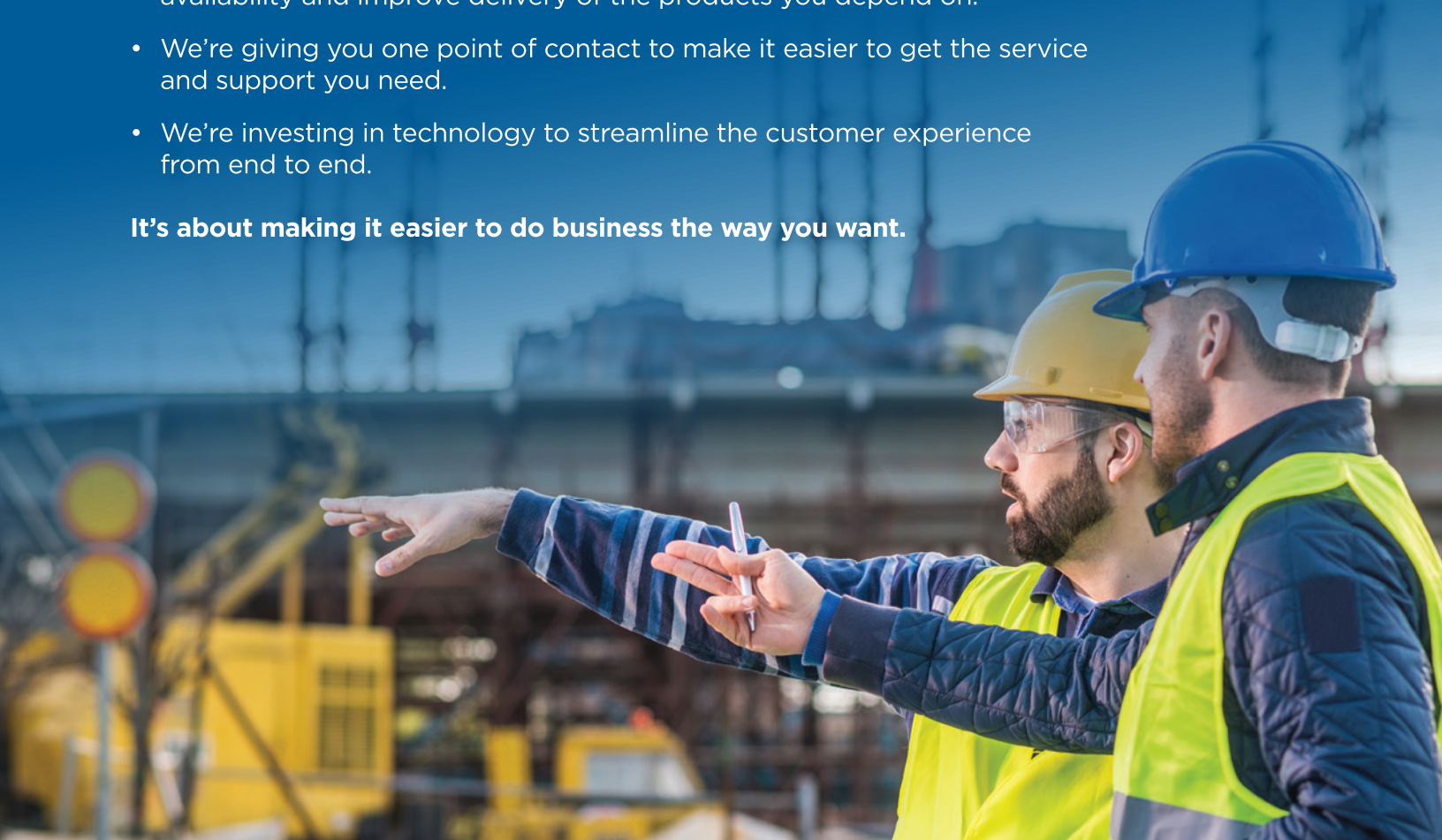
You've known Anvil International and Smith-Cooper International for high-quality domestically produced and internationally sourced products from brands you trust.

As two industry leaders, we've earned a reputation for excellence in the solutions we deliver and the service we provide. Now we're one company — the right partner, doing more than ever before to help you get the job done.

We're making important changes, and more are just around the corner:

- We're integrating our supply chain and warehouse systems to ensure availability and improve delivery of the products you depend on.
- We're giving you one point of contact to make it easier to get the service and support you need.
- We're investing in technology to streamline the customer experience from end to end.

It's about making it easier to do business the way you want.



Keep On Keepin' On

Starting off here hoping that you, your families, employees and/or co-workers are all healthy and well these days. May the vaccines and improved therapeutics put the mess of 2020 behind us so we can begin to enjoy our lives in a more typical fashion.

In reflection, I can't help but be thankful for the way the Association has adjusted its way of doing business, to assist us, the members, in our doing business together this past year. Whether it be training, advocacy or just simply networking, the NFSA has adapted and allowed us to adapt along with them to keep our businesses and the industry strong. Whether it be Microsoft Teams or other methods of video chat, I think all of us have gotten up to speed in conducting certain parts of our business virtually these days. Much of what we have learned over the past year will stay with us and change the way we do business in the future, no matter how well we recover from the pandemic. It is reassuring to know that we are all in this together and have had the bond of our Association ties to provide support along the way.



NFSA leadership and staff efforts have kept members engaged regarding our initiatives and well-informed during the strain of the pandemic, delivering to us outstanding programs, all while we are sitting at our desks or from the comforts of our own homes. This is a membership benefit that we probably take for granted but should be incredibly proud and appreciative of. Having the ability to navigate through difficult times together, while able to lean on one another has definitely made the past year just a little easier to endure. Whether you attended a virtual chapter meeting, one of the virtual seminars or classes offered, or maybe just a member organized virtual happy hour, we all benefitted from sharing our thoughts, questions and/or observations with one another during 2020.

You can reach me at:

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kent@quickresponsefireprotection.com

So now that 2021 is upon us and life is hopefully going to start to be just a tad more normal in the upcoming months, let us all make a point of using some of the wisdom gained in 2020 to make our businesses and industry stronger. While we all need to re-establish some of the human contact we lost last year, we should analyze what efficiencies we can incorporate into our new business plans moving forward. I know some operations will be forever changed at NFSA due to what we have learned from being forced to deliver our messaging from afar, but interestingly enough there are many efficiencies we were forced to encounter that NFSA membership will actually reap the benefits for many years to come. I encourage all of our members to share their own realizations with one another so we can all grow together. Take the bumps and bruises and let them help improve your operations in the future.

Unfortunately, COVID-19 has caused our 2021 Annual Seminar and Exhibition scheduled for May 12-14 in Las Vegas to be cancelled. Doing what our NFSA team seems to do best these days, making lemonade out of lemons, I am pleased to announce that we will in fact be offering a live in-person event in Las Vegas in 2021! We're doing a scaled-down version of our expo. Tabletops will be available for vendors in a great ballroom space... social distancing at its best! Mark your calendars and join us at the Cosmopolitan in Las Vegas between October 5 - 7 in 2021!! You can rest assured that the classes will be informative and entertaining, and the cocktails will be freely flowing as we look to get our industry back together for some much needed in-person bonding and information sharing. I cannot begin to tell you how excited I am to hopefully be able to see your handsome and pretty faces again. So, to make sure that can happen, in the meantime - stay healthy, keep plugging away while doing the right thing, and most of all Keep on keepin' on.

Thank you to all NFSA members for your support and the opportunity to continue to serve.

Respectfully yours,

A handwritten signature in black ink, appearing to read 'Kent Mezaros', written in a cursive style.

Kent Mezaros, *Chairman*

Managers as Talent Magnets —Building a Progressive Organization

by Nagan SJ

As the world experiences uncertainty, be it in technology, markets, talent, or the opportunity landscape, organizations continue to grapple with managing human capital challenges in terms of acquisition, engagement, retention, and career planning. People will not shine in their careers unless they understand their key strengths and explore them further. In doing so, they can improve and deliver greater results. For many employees, the case of “No news is good news,” can be quite common as they only get to hear if things go wrong. Feedback is extremely critical for improving and perfecting performance, but if we do it in a constructive way, it acts as a highly motivational and life-changing exercise.

There are many ways of engaging and developing talent in organizations. A Performance Management System is one of the most trusted ways an organization can measure and evaluate best performance practices and support the future development of its people. Every professional needs to know where he/she stands in their job performance. While every individual awaits his/her performance feedback at regular intervals, feedback is related to many facets of overall development, such as knowledge, skills, abilities, attitude, behavior, values, etc. Human capital is the most critical element for business success. If you are a leader who is serious about improving your capacity to attract the best talent, you need to develop the habits of a true talent magnet.

Performance management is a process where the manager and employee work together to plan, act, and review an employee's goals and overall contribution to organization building. Performance management is the continuous process of setting objectives, assessing progress, and providing on-going coaching and feedback to ensure employees are meeting their objectives and career goals.

As a recipient of performance feedback, it's extremely critical to understand feedback in the right perspective. Here are a few basic guidelines for performance appraisal:

1. It's an opportunity to present your achievements and highlight development areas in the right perspective (accurate self-assessment)
2. Evaluating objectives vs. measurement criteria related to a job/project
3. Measuring behavioral/values in a professional environment
4. It's an instrument which facilitates the receipt of both positive and negative feedback, and helps take corrective action for self-development

5. Appraisal also focuses on competence development; not only performance evaluation/review

Key Strategies to Become a Talent Magnet:

1. Be a TOP (Trust, Openness, and Purpose) Manager

Organizations, leaders, and teams need to develop a strong sense of trust among each other to achieve collective results. Considering that most employees spend their time at work, striving together, they often have work in multi-module, multi-modal, and multi-geo teams with responsibilities overlapping onto other people for their contribution.

Trust Model

ABCD (Able, Believable, Connected, Dependable) is a very powerful and credible model for building TRUST in teams. As managers/leaders, we should have demonstrable competence, and the ability to connect, coach, and drive results.

Build and nurture an environment where your behavior, actions, commitments are consistent, helping build credibility among your teams. People trust credible leaders because people will believe in your abilities, judgement, and actions. It's also extremely important not only to be fair, but also seen as fair in all your actions, always.

Another important aspect of building trust is to invest in developing connections with teams beyond work, as being a manager means you need to open an emotional bank account with significant investments in your teams. Over a period, your investments will yield significant, rich dividends. Trusted managers do not hesitate to deal with any situation, be it difficult customers, conflicts in teams, crucial conversations, etc., as teams believe that a manager will step up and deal with such situations. They will see you as someone who does not hesitate to make tough decisions and can work on creating a thriving work environment.

2. Be Real/Be Honest

The most talented people are attracted to leaders whom they can trust, and role models they want to emulate. Thus, ask yourself this question: “Why would any real talent want to work for me?” As managers, it's very important to focus more on contributions of the employee and share the overall feedback on how best they become even better in their jobs instead of just critical incidents, numbers, ratings, and what the person did not do. While working

continued from page 8

on the annual appraisal of your employees, it's extremely critical to be real and honest in your assessment. You need to focus on covering the entire gamut of performance and not focus too much on recent events which may positively or negatively affect the overall performance. Today's professional is extremely aware, smart, and well-informed. It may not be possible for managers to evade certain questions if one is not fully informed about the progress of his/her team member. Not being honest, upfront, and real with employees about their performance in appraisals clearly becomes a controversial point for disagreements.

3. Be a SMART Manager

As managers, we need to create continuous value for individuals and organizations. It's vital to be a SMART (Specific, Measurable, Achievable, Realistic, Timely) manager in your overall objectives, goals, and results. SMART managers demonstrate specific attention to detail on each team member's performance on a continuous basis and works through regular one-to-ones to establish an emotional connect with employees. When the rules of engagement are well established, we can create well-performing teams. Use your courage to stand by your values, your reputation as a great manager/coach, or your soft power to bring opposites together. Then, set clear expectations from day one of what you are willing to do to help employees learn from you that which they can't learn from anyone else. And tell them what you expect them to do to succeed in their career. Remember, you do not get what you expect, but you get what you inspect in a timely manner.

4. People-First Approach

The success of any company can be measured by the engagement/happiness quotient of its employees. What worked in the past may not work now or even in the future. The good, old practice of customer-first is of the past era. The employee is the epicenter of progress, growth, and success. As managers, if we surround ourselves with highly talented, ambitious, passionate, committed, kind, and genuine people, we are assured of success in whatever we do. If we take care of our employees better than anyone else, they are bound to deliver extraordinary value to customers, managers, and organizations. We have the primary responsibility of adding significant value to our team members through structured reviews, timely and continuous

performance feedback, genuine appreciation, practiced meritocracy, and effective coaching. Life is work, and work is life, and both are interesting and challenging. The need of the hour is to integrate both and bring out the passion for success in life.

5. Career Mentors

A manager as a mentor is about providing constructive feedback, direction, and kind-hearted advice. Mentoring is a journey and not a destination, and it's a long process which involves intense participation and dedication. It is based on mutual convenience, commitment, and involvement in self-discovery and continuous learning. As a manager, the primary role is to make the other person succeed in his/her professional life. Periodically, find time to have white-space discussions not focused on immediate tasks, but focused on a long-term career. Discuss ways, methods, and means for employees to progress in their professional journey and achieve their dreams.

In a nutshell, employees are the most vital and irreplaceable human capital for the progress of any organization. Managers and leaders alike have the great opportunity and responsibility of developing people who shoulder the responsibility of driving the new economy. Aim not to teach, but to inspire!•

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The Voice of the Fire Sprinkler Industry

We Love to Showcase Our Members' Projects!

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Documenting the Spec Warehouse

by Michael J. Joanis, PE



The term speculative (spec) construction describes a process in which a building is designed, permitted and constructed with no formal commitment from an end-user and/or occupant (tenant). In other words, while the tenant is unknown, the developer is confident the initial design and construction will be suitable. This contrasts with custom building, in which a builder is contracted by a client for a specific development with specific requirements. In most cases, the actual tenant's needs differ from the developer's assumptions. A range of additional construction and fit-out work is usually required once a tenant is chosen and before the building is eventually occupied.

Spec warehouses will not be occupied by the original developer. Instead, future occupants may include new owners of the building, a single tenant, or multiple tenants. The original developer specifies the scope of work, design and construction of a base building or core and shell warehouse. For the developer, the intent is to build quickly and efficiently with a flexible design that attracts as many future tenants as possible. Generally, building size, height, column spacing, truck access, loading docks, high speed internet, and security are the major considerations for a spec warehouse.

The spec warehouse fire protection design criteria and water supply can become an issue when they do not match the requirements of a future tenant. The developer builds a spec warehouse with a fire protection system that assumes protection of Group A plastics, exposed, non-expanded, or cartoned, on multiple row racks, to a maximum storage height of 35 feet in a 40 foot building. $K=16.8$ ESFR ordinary temperature rated sprinklers are selected and designed to operate at 52 psi. While such design sounds reasonable for a spec ESFR warehouse, what happens when the developer acquires a tenant who uses exposed, expanded plastic packaging material? Now there is a requirement for $K=25.2$ ESFR intermediate temperature rated sprinklers with a minimum design pressure of 60 psi. Additionally, the tenant uses open top containers, solid shelving on the lower rack levels, and an automated retrieval system for a portion of the building.

So how is proper fire protection design criteria and installation for a spec warehouse determined when the building tenant is unknown? In this case, designers and developers will make assumptions based on a variety of factors. Because the assumptions made with a spec warehouse may not hold up over time due to changes in occupancy, documentation of those original assumptions and decisions is essential. Hopefully, the owner uses this documentation to ensure a future change in occupancy is compliant with the

initial fire protection system design.

Typically, the building will require sprinkler protection simply based on the architect's designated occupancy classification based on an assumed future use and stored materials (commodity). The size of the building, building structure, and building height is available from the construction documents. Site plans indicate the location of the building and allow for evaluation of available water supply and proposed site utilities.

Review of smoke and heat vents with the developer is required. Most often, the developer will opt not to incur the cost of smoke and heat vents. This will require the installation of an Early Suppression Fast Response (ESFR) or Control Mode Specific Application (CMSA) sprinkler system. The sprinklers must have a response time index (RTI) of $50 (m-s)^2$ or less and be listed to control fire with twelve (12) or fewer sprinklers. Knowing the proposed building height and structure, the maximum storage height can be determined based on the sprinkler deflector elevation and the minimum required clearance to the top of storage.

Now for the elephant in the room: What will the commodity classification be? There is no way to know this information for a spec warehouse. Classifying commodities includes knowing what is being stored, how it is packaged, and if it shields water. Given those three variables, there are endless combinations of commodities, packaging, and enclosure materials. Developers will not take a worse-case approach and choose to pay for upgraded fire protection systems they may never need. On the other hand, they do not want to turn away potential tenants because the installed systems do not meet their needs. The goal is to work collaboratively with the developer to find the sweet spot for the fire protection system design, one that provides enough flexibility without going too far.

Consider taking a top down approach to the commodity classification process. Work with the developer to determine design options and costs that provide the maximum level of commodity flexibility. Then, review options with lower cost and less flexibility in sufficient detail such that the developer can make the final determination of the assumed commodity classification. Identify commodities that may be outside of the proposed spec warehouse design criteria. These may include flammable liquids, hazardous materials, tires, aerosols, rolled paper, plastic vehicle parts, batteries, boats, carpet rolls, or storage containers.

Assist the developer with making several other required decisions regarding the tenant's future storage arrangement. Review with the developer and make it clear how the proposed design addresses

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various types of storage. Include information on how solid pile, single- and double-row racks, multiple row racks, movable racks, minimum aisle widths, shelving, flue spaces, idle pallet storage, and open top containers are addressed.

Make sure the developer understands what future conditions will require in rack sprinklers, horizontal barriers, increased aisle widths, and reduced storage heights. Future mechanical, electrical, and plumbing systems may affect the initial design and installation. What are the ramifications of future mezzanine levels, conveyors, walkways, and automated retrieval systems?

The goal of this work is to obtain a detailed and accurate NFPA 13 Owner's Certificate that the developer understands and commits to for the project. Consider adding an attachment to the owner's certificate that further details all the design decisions, system capabilities, and limitations. Make sure the information provided on the owner's certificate is then coordinated with the contract documents, proposal, subcontract, permit documents, and shop drawings.

At completion of the project, ensure an NFPA 13 General Information Sign and as-built drawings are provided on site. Include a copy of the original owner's certificate as well. Ensure the owner acknowledges receipt of all the design materials, while also understanding it is their responsibility to review this information and make any required changes for their tenant(s).

There really is no such thing as a spec warehouse anymore. Mod-

ern day products, storage, and distribution operations continue to evolve. Tenants will continue to turn over. However, when asked to design fire protection systems for a spec warehouse, a line must be drawn. The spec warehouse will exist well beyond the initial construction. It is unlikely the original designer will be involved with future tenant projects. The most important part of the fire protection system design for a spec warehouse is not the originally selected system(s), commodities, or design criteria, it is the complete documentation of all design decisions such that the owner can evaluate and ensure code compliance for future occupants. •

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Robots and Sprinklers —ASRS in Codes and Standards

by Jeffrey M. Hugo, CBO, Vice President of Codes and Public Fire Protection



Storing boxes in a building is a complex subject today. The ecommerce promise for next-day delivery puts giant fulfillment, distribution, and sortation centers across the country in one of the fastest growing industries in the past decade. These buildings are commonly referred to as warehouses, but in codes and standards speak, they are known as storage buildings, with boxes known as commodities, protected by fire sprinkler systems. The complexity of this entire system, from ordering online to delivery to the front door, depends on fire protection. The many logistics of ordering, fulfilling, and shipping are important, but fire protection within the warehouse is just as complex. As product moves in and out of these buildings, it is often by automatic storage and retrieval systems (ASRS) using lifting, conveying, and robotic devices. The ASRS presents unique challenges to fire sprinkler system design and installation.

What is ASRS?

According to the Material Handling Institute (www.mhi.org/as-rs), ASRS is a "...combination of equipment and controls that handle, store and retrieve materials under a defined degree of automation. Systems vary from relatively simple, manually controlled order-picking machines..." Moving products throughout the warehouse is done in a variety of different methods, the industry (MHI.org) describes as:

Unit loads – stored on pallets, on racks.

Mini loads – smaller loads, stored on pallets, on racks or shelves.

Vertical lift modules- trays stored vertically with an automated picker

Shuttles – conveyors or tracked carriers of boxes, totes, and cartons.

Horizontal carousels – bins on a horizontal track

Vertical carousels – bins on a vertical track

Cube based storage – a picking system used by robots

Is ASRS fire protection regulated by codes?

The model building and fire codes classify the storage in fulfillment and distribution centers as high-piled storage. The ASRS process of conveyors, lifters, tracks, etc. within the building that is not specifically regulated by the model building codes, however, it is

not exempt from electrical, fire alarm, or fire protection standards, to be discussed later.

The ASRS process is in a storage building (classified as S-1 by the International Building Code) and rules high-piled storage for commodities stored on racks, shelves, and piles are found in Chapter 32 of the *International Fire Code* (IFC). The 2021 edition of the IFC, in Section 3209.4, updated rules for rack storage over 500 sq. ft with ASRS. The changes include both a manual (via switch) and automatic (via sprinkler waterflow and fire alarm) means to initiate the shutdown process. The key word here is process. When any of the ASRS devices or equipment shut down, it is important that products that may be on fire are not transported or conveyed to other areas. Robots that travel the floors with products need to go to an approved area so responding fire departments have a clear access to the fire. The 2021 IFC provides that the ASRS shutdown process is part of the fire code official approval. This means fire sprinkler designers and contractors need to know that fire sprinkler system zones with ASRS need to correlate with the appropriate waterflow and fire alarm devices.

Do fire sprinkler standards address ASRS?

Fire sprinkler systems have long protected storage occupancies. The complexities of high-piled storage with ASRS are challenges each system design must deal with. There are at least two documents the fire sprinkler designer and contractor need to work with when ASRS is used in a building, NFPA 13, the *Standard for Installation of Sprinkler Systems and FM Global Data Sheet 8-34 for Protection for Automatic Storage and Retrieval Systems*.

While ASRS is not specifically regulated by NFPA 13 for fire sprinkler systems, using NFPA 13 first is necessary for:

- Storage commodity classification
- Storage method (rack, shelf, bin, pile)
- Storage and building height.
- Storage protection criteria using the appropriate system.

When designing a warehouse with ASRS, NFPA 13 does not have prescriptive protection criteria for all of the dynamic methods to storage racks, shelves, and bins, such as for vertical lifts, robotic cube picking, and carousels. Many of the ASRS methods will need a specific performance design from a fire protection engineer that

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uses many parts of NFPA 13, such as types of systems, sprinkler technology (CMSA or ESFR sprinkler), discharge densities, and obstruction rules.

The FM Global Data Sheet, 8-34, for ASRS fire protection, was recently updated in October of 2020. This data sheet of prescriptive requirements for ASRS is not required to be followed unless the property is insured by FM Global. However, it is the most comprehensive and updated set of guidelines specifically for fire protection in buildings using ASRS systems and is a great industry resource for this fast-growing market. This document gets into specifics for types of systems, sprinkler technology (CMSA or ESFR sprinkler) and discharge densities for:

- General recommendations for all ASRS
- Mini-load storage arrangements
- Top-loading storage arrangements, including robots
- Vertical storage arrangements

Where does ASRS go from here?

The 2020 pandemic increased ecommerce, the geographic placement of warehouses, and the use of ASRS systems within. This is a fast-growing market and much work for the fire sprinkler industry. As fast-growing technology such as ASRS often outpaces the traditional three-year codes and standards development, fire sprinkler designers and contractors can use the base requirements found in the IFC and NFPA 13 with the knowledge in the frequently updated FM Global data sheets to stay on top. •

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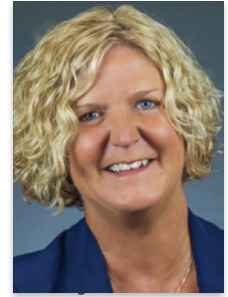
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Eric Tatum Sr.
Arlington Hts., IL

Jeff VanderWiere
Portage, MI

Debbie Wickenhauser
Springfield, IL

Here's to a New Year & Heartfelt Thanks



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

New Year greetings everyone! We survived 2020! I know there are still lots of things necessary before we return to normal. Sometimes I wonder if it won't be a "new normal" when we get there. We hope that everyone enjoyed some quality time with friends and family over the holidays and we also hope that all are ready to make 2021 a great year for the fire sprinkler industry.

Your association has been busy during recent months, working to stay on top of legislative efforts at the local, state and federal level. We are optimistic that we will see our High-Rise Fire Sprinkler Incentive Act move through Congress, which would add high-rise residential to the mix. We already have federal fire sprinkler incentives that cover small businesses and high-rise commercial building retrofits. Once we add residential, there will be many lives saved as these existing buildings add the life-saving feature of fire sprinklers. To follow all of the latest information on fire sprinkler incentives, visit www.nfsa.org/taxreform and do let me know if you have questions once you've checked it out!

On a personal note, I am happy to report that work was completed on a retrofit of my lake house. A big thank you to Ken Brinkley and his team at Music City Fire Sprinkler for their innovative design and install work! I'm also excited to share that this retrofit is affectionately referred to as a "Buy NFSA" retrofit, proudly using components and parts from NFSA members. I mean it when I say I LOVE my H2hOme pump and tank from General Air Products, and all four manufacturers are featured throughout the home. To get the complete story, check out the blog that we did to document this project and the process of getting there. One of the questions I love receiving most when presenting on behalf of fire sprinklers is "Oh yeah, is your home protected?" I delight in sharing that as a matter of fact, it is... along with my parents and children's home too! Jim Dalton always taught us that we need to walk the walk, not just talk the talk. I hope that you also live with fire sprinklers, and if not, I hope you will consider retrofitting. When you are a member of NFSA, you are for sure in the life safety business... and nothing speaks louder than words than taking action and "living with fire sprinklers!"

Team NFSA looks forward to a year of growing strong together, and we couldn't do that without you, your involvement and your engagement. Let's make 2021 a year of progress and forward momentum.

Cheers to a great year,

A handwritten signature in black ink that reads "Vickie". The signature is written in a cursive, flowing style.

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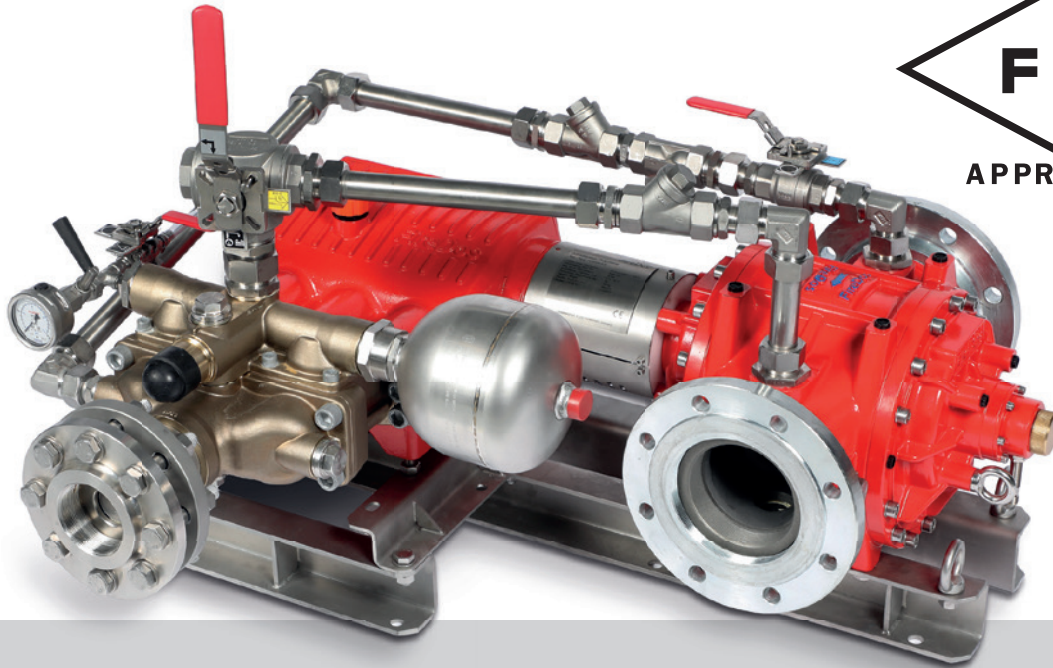
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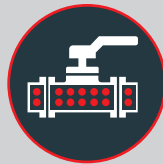
On the banks of the Tennessee River and Kentucky Lake, this retrofit happened with a rural home that's water supply was a well. No worries, as General Air's H2hOme pump and tank made this easy, and Music City Fire Sprinkler utilized all four manufacturers of fire sprinklers within the home. Thus, a true "Buy NFSA" example in Tennessee!



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by Caleb Armbrust, **Director of Membership**



This month, I would like to feature **Future Leadership Committee** (FLC) member Ray Fremont, Jr., and a piece he wrote on some helpful tips in adapting to the virtual world during COVID-19 and beyond. If you are interested in the FLC, please email me at armbrust@nfsa.org.

Sean Heskett changed my life too!

Managing the World Of Online Meetings –Ray Fremont, Jr.

Chatting with colleagues as attendees slowly filter into our next Teams call has become the new watercooler talk – for now it’s all we get, so I’m grateful for it. It was during this time, waiting for the latest FLC meeting to kick off, that Sean Heskett, President at Potter Electric Signal, said something that changed my life, as it pertains to the issues of online meetings and workload management.

When this pandemic ends, some things will remain. Like it or not, some amount of online meetings will be a part of our professional environment. Here are a few things that may help you and those you are meeting with to have a better experience.

Don’t Over Schedule

Sean Heskett spoke to an issue I think a lot of people are experiencing. He said, “With all these online meetings, when do we have time to do the work?” That struck a familiar chord with me. Like you, I’m constantly going from one online meeting to the next. Sean’s comment made me realize that I need to pay closer attention to the number of meetings I schedule in a day. Typically, I see an opening in my calendar and offer it as an open slot to take a meeting. Many days end up literally fully booked with online meetings – when do I have time to do the work?

Set a limit: Personally, try to have no more than four hours of meetings on any given day. While this is a dream for some, you may be in a position to control this at your company. When you see a day with four hours of online meetings on your calendar consider that day full and move on to the next.

If I can do a better job with managing these meetings, I will know the answer to Sean’s question. Considering the last eight months, that’s life changing. Thanks, Sean!

If that suggestion didn’t change your life (or your outlook on virtual meetings), here’s a few more:

Lead by Example

In any meeting, online or face-to-face, the leader sets the tone – so what does that mean for online meetings?

If you called the meeting, there are a few things you should do. Before the meeting, get prepped. Make sure you know what you want accomplished in the meeting and find the most efficient way to get to that end. That hasn’t changed from the time before masks. There is, however, new prep-work to do: Are you familiar

with the meeting platform you are about to use? Google Meetups, Teams, Zoom, GoToMeeting – the list goes on. If you are leading a meeting these days, take the time to watch a tutorial video on the platform you use. Learn how to share your screen, how to pass the meeting to another participant, how to mute someone that can’t seem to understand they are causing an echo. Learn all the basic features of the meeting software.

Every meeting that I have attended where the moderator knows the platform runs smoothly, with the opposite being true as well.

...But I Have A Face for Radio

If you are leading the meeting, turn on your camera and show your face – I can’t recommend this enough.

I’ve met many of the people in this industry and my collective opinion is that we mostly have faces’ only a mother could love – tough luck for everyone else in the meeting. By seeing your face in an online meeting, you will show everyone you are present, professional, and engaged in the topic at hand.

Also, if you are playing a significant role in a meeting, be on video. If you are attending a meeting that you didn’t call but you don’t expect to speak in, at least start the meeting with your video on. If nothing else, it adds a personal presence that we are all lacking a little these days.

Finally, as the meeting leader, if you are noticing problems with video and audio quality have others shut off their video as it typically helps with bandwidth. If you don’t know what that means – see the platform tutorial!

Look the Part

This is particularly relevant to people like me who mostly work from home. Get up on time and dressed like you are going to the office (or close to it – I wear slippers all day, don’t judge, it’s comfortable). The same rules of professionalism that are at play in the office should be carried through to your new work situation, even if it’s your living room.

Do A Check Up

Talk to the people in your company about their online meeting experiences. Some people flourish in this new environment, others are floundering and can use your help. Often times, simple changes like the ones above will be enough to help.

Change is here, how will you meet it?

Follow the lead of the NFSA staff as they have done an exceptional job adjusting to this new working environment. We still need face-to-face meetings. However, success today, and to some degree going forward, means embracing this change for the time being. Hopefully, some of the suggestions above can help you and your team make the changes necessary to make your virtual meetings just as productive as your in-person ones. •

Maximize Protection when the Stakes are High

High Expansion Foam Systems from Viking now available

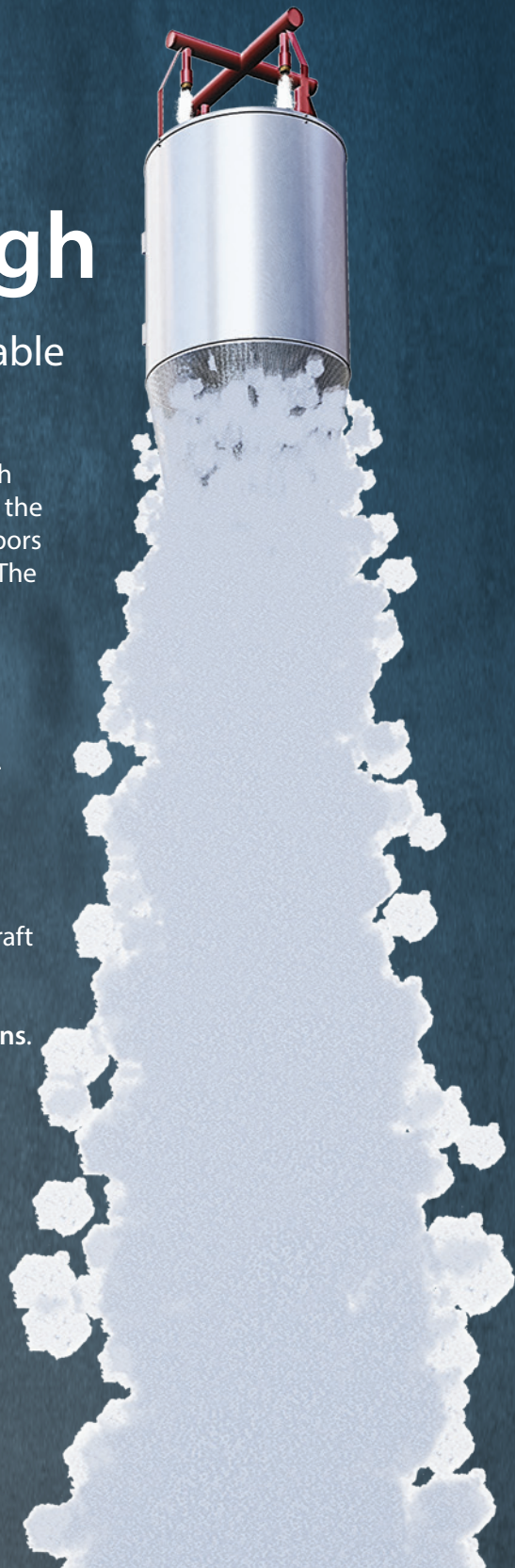
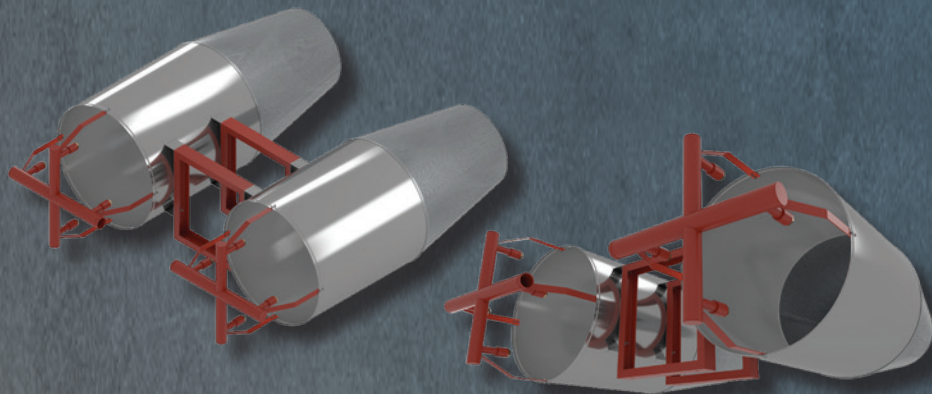
Viking High Expansion Foam generators are uniquely designed to aerate foam with no moving parts or external power requirements. The expanded foam, from which the film is drained, forms a stable blanket that suppresses the release of flammable vapors and cools down the fuel surface extinguishing the fire and preventing re-ignition. The stable bubbles feature expansion rates in excess of 830:1.

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To learn more, contact your local Viking SupplyNet at vikinggroupinc.com/locations.



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Viking's new "HiEx Estimator" tool makes calculating the required number of generators and foam concentrate for your NFPA 409 and UFC projects a breeze! Scan the QR code to give it a try.



FIRE SPRINKLERS IN ACTION



Virginia, MN

Single Sprinkler Extinguishes Grease Fire in Apartment Building

Thank you to Fire Marshal Chris Clark of the Virginia, MN Fire Department for sending us this sprinkler save!

On Friday October 30, 2020 at 10:37 a.m. the Virginia Fire Department was dispatched to The Ivy Manor Apartments for a report of a water flow and detector activation in one unit.

Upon arrival of fire crews, the tenant confirmed this was a cooking fire and the sprinkler put the fire out. Crews investigated, confirmed the fire was out and mitigated the sprinkler activation.

Virginia Fire Department Fire Marshal's Office investigated. This fire was found to be a grease fire, which in-turn reached the sprinkler which extinguished the fire. Fire damage is minimal. No injuries were reported.

This is the second sprinkler save in this building in less than two years.

Nashville, TN

Sprinkler Save at Vanderbilt University

Thank you to NFSA Member Paul Satterwhite of Bouchard Fire Protection for sending us this sprinkler save!

On November 10th at 11:15 a.m., a fire broke out in a dryer in the laundry room of the Vanderbilt University Recreation Center in Nashville, TN. The room was equipped with two fire sprinklers. Only one sprinkler went off and put the fire out.

Bouchard responded and changed out the sprinklers. The building was reopened by 3:00 p.m. the same day.

Fire alarms sounded as a result of a small fire that broke out in one of the dryers. The fire was contained quickly, and there was no damage or injuries sustained, per an email from a university spokesperson.

Nashville, TN



Milford, DE

Sprinkler Save at Retrofitted Apartment Complex

Thank you to Chief Duane Fox (ret.) of the Carlisle Fire Department in Milford, Delaware for sending us this sprinkler save!

On October 13, 2020 the Carlisle Fire Company (Volunteer Service) was dispatched to a report of an alarm - unknown at 108 Allen Way, Brightway Commons, Milford DE. 108 Allen Way is attached to 110 Allen Way, each of which are six-unit, three-story wood framed low income apartments buildings. Several years ago, the management retrofitted the aging apartment buildings with NFPA 13 R systems during upgrades and renovations.



Command 42 arrived on scene, and after a quick size-up determined that the third-floor apartment unit had a fire sprinkler activation. Crews on the first arriving engine made access into the apartment to investigate. Unattended cooking materials ignited causing fire to occur, setting off the nearby sidewall sprinkler. The sprinkler suppressed the fire before it had a chance to damage the cabinets and appliances.

Determining the fire was out, crews shut down the riser and performed salvage operations on the first, second, and third floor units. The DE State Fire Marshal's Office was called to investigate. No injuries were reported and damages from the fire event were estimated at \$7,500.00.

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Fairview Heights, IL

Single Sprinkler Extinguishes Washing Machine Fire

Thank you to Boyer Fire Protection for submitting this save. Boyer was at the scene putting the fire sprinkler system back in service after the save!

In October, a fire in a suburban Fairview Heights, Illinois apartment was quickly extinguished by a single sprinkler. The fire involved a washing machine.



Brentwood, MO

Single Sprinkler Saves Missouri Business

Thanks to Ronnie Cottrell, Assistant Fire Chief of the Brentwood, Missouri Fire Department for sending us this sprinkler save!

On Friday, October 2nd, the Brentwood Fire Department responded to a report of a structure fire. Upon arrival, crews located a fire in the storage area of a business which included a high volume of combustibles and flammable liquids. The adjoining business, a fabric retailer, also had a high fire load within their space.

This fire activated one sprinkler which held the fire to the area of origin and was extinguished by firefighters. The business was occupied at the time of the fire.

The Brentwood Fire Department was assisted by the Maplewood, Richmond Heights, Clayton, Ladue, Rock Hill, and Webster Groves Fire Departments.

Bridgeport, CT

Fire Sprinkler System Extinguishes Possible Catastrophic Fire in Connecticut Apartment Building

Thank you to Inspector Christopher Vega of the Bridgeport, CT Fire Marshal Division for giving us the details of this sprinkler save!

A fire occurred in a ground level two-bedroom unit of a multi-family apartment building. Within minutes, our incident commander and fire companies arrived, entry was made and the discovery of visible fire at the stove/countertop area was present, as well as a heavy smoke condition, all with sprinkler activation and the audible water flow alarm on the exterior. Fire was fully extinguished by the fire sprinkler system during the operation.

Post-fire investigation showed there was a full two-gallon gasoline container without the spout attached sitting in place next to the stove. Fire is under investigation.

Without the aid of the sprinkler system, this could have been a very catastrophic incident provided the presence of ignition and an accelerant.



Hazelwood, MO

Single Sprinkler Saves Missouri Motel

Thanks to Deputy Fire Marshal Dale Harbison of the Hazelwood, Missouri Fire Department for reporting this sprinkler save!

We had a small kitchen fire in a guest room at one of our motels. When my crews arrived, the fire was out, and one fire sprinkler was activated. The fire appeared to start on top of the electric stove. The motel guest stated that he was not cooking anything, he left his room to walk to the convenience store and when he got back the fire alarm was going off and the motel was being evacuated. When he opened his room door, smoke came out and he said water was spraying. Definitely another case where a sprinkler system prevented a major fire!



Farmers Branch, TX

Single Sprinkler Extinguishes Texas Apartment Fire

Thanks to Tim Dedear of the Farmers Branch, Texas Fire Department for sending us this sprinkler save!

On September 17, 2020 at 11:09 a.m., the Farmers Branch Fire Department was dispatched for a structure fire. Crews arrived on scene with nothing showing and began an investigation. No audibles or strobes were activating. A fire alarm technician approached the crew and advised that the fire alarm system was being worked on, but a fire occurred in an apartment with one fire sprinkler activating. Upon arrival to the apartment, the door was closed. Resident was in the hallway. Upon entering the apartment, light smoke was observed, and one sprinkler had activated in a bedroom. The fire had been extinguished. Sprinkler system and fire pump were turned off. Crews requested an investigator.

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Fire Sprinklers in Action

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Investigation determined the fire started along a baseboard by a dresser where a laundry basket of clothes was placed. The cause of the fire is undetermined at the time of this report. Estimated loss was held to \$15,000.



Ft. Meyers, FL

Three Sprinklers Save Florida Business

Thanks to Joey Hatfield of Triserve Fire Protection in Ft. Myers, FL for sending us this sprinkler save!

These are photos from a sprinkler activation during the early morning of September 23rd. The incident occurred around 5:00 a.m. in a vapor store in Cape Coral, Florida. The tenant described a fireball of unknown origin that sent a blast of flame and heat across the ceiling. Three sprinklers activated.

The fire was out by the time that the Cape Coral Fire Department arrived. The fire crew used Sprinkler Stops to stop the flow of water from the sprinklers. Damage is minimal. All floors were either tile or linoleum. Some contents had water damage, which

was minimal. The adjacent tenant space was vacant. Water intrusion there was removed without incident or cost.

Business was slated to reopen on Thursday, after a follow-up fire inspection.

Katy, TX

Fire Sprinkler System Controls Kitchen Fire in Texas Multi-Family Dwelling

Thanks to Fire Chief Jeffrey Hevey of Harris County Emergency Services District No. 48 in Katy, Texas for sending us this unreported sprinkler save!

On August 31, 2020, Harris County ESD No. 48 responded to a reported fire alarm at a three-story, multi-family dwelling. Upon arrival, Ladder 3 was alerted to a fire on the second floor. They entered the apartment and found moderate smoke conditions with no heat and an active fire sprinkler system.

The fire started on the stove top. The occupant briefly left the kitchen area and came back to find the fire and the functioning sprinkler system. An estimated \$7,000.00 damage to the kitchen and contents of the apartment.

Fort Bend County, TX

Single Sprinkler Controls Texas Restaurant Kitchen Fire

Thank you to Assistant Chief Steven McDonald of the Fort Bend County Fire Marshal's Office for sending us this sprinkler save.

On November 22nd, at approximately 7:40 a.m., a phone call was received from the Fort Bend County, Texas Sheriff's Office Dispatch Center. Dispatch advised that Willowfork Fire Department was on scene of a commercial building fire and was requesting an investigator with the Fort Bend County Fire Marshal's Office.

Upon arrival, I discovered that a cooking fire occurred in the kitchen of the restaurant. The cooking appliance was not under an approved Type 1 hood, nor did it have a fixed hood suppression system in place. The employees of the business were slow-simmering food overnight and no one was at the location to monitor the cooking. The pot caught on fire and the heat from the fire caused one fire sprinkler to activate. The fire was controlled with the single head activation



and there was minor heat damage to the adjacent area of the kitchen. •

Tomball, TX

Sprinkler Extinguishes Car Fire in Texas Apartment Garage

Thanks to Fire Chief Randy Parr of the Tomball, Texas Fire Department for alerting us to this sprinkler save.

On November 14th at 11:15 a.m., The Woodlands, Texas Fire Department responded to a local apartment complex for a reported structure fire. First arriving units reported a vehicle fire inside the first-floor garage of one of the buildings. The building's sprinkler system had held the fire in check and firefighters were able to quickly extinguish the fire. Fire damage was confined to the garage with light smoke damage to the adjacent apartment. There were no reported injuries.



Conroe Texas Fire Chief Stephan Cotter sent in these photos of the scene and stated, "Notice the ceiling in the garage had ZERO smoke staining despite a pretty decent amount of damage to the vehicle, the sprinkler seemed to absorb it."

Beaver Dam, WI

Fire Sprinklers Save Apartments

The Beaver Dam, Wisconsin Fire Department was dispatched to a report of a garage fire which was located directly below apartments.

Crews arrived on scene to find smoke visible from the garage. Fire Chief Alan Mannel said the new apartments were equipped with fire sprinklers that extinguished the fire prior to the arrival of first responders. He stated that without the sprinklers installed the fire may have been "catastrophic." Mannel added, "Examples like these are why fire departments around the state stress the importance of sprinklers in multi-family structures and apartment complexes."



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How is ITM of ASRS completed?

by Vince Powers, *NFSA's ITM Specialist*



Let us first define these acronyms, then we can talk about what to do with them.

ITM is inspection, testing and maintenance and in this case, ITM of water-based fire protection systems in accordance with NFPA 25.

ASRS is automated storage and retrieval system also known as AS/RS or AS-RS. It is a type of warehouse automation used to retrieve product and inventory on demand, usually in warehouses.

ASRS technology varies and can consist of differing ways to retrieve the product. These systems can include cranes, carousels, unit-loads, or other systems. The system typically uses specialized software to complete the required tasks. The reasons for these types of systems can include the following.



- More efficient use of floor space
- Ability to use vertical space
- Increased inventory storage density
- Improved safety, resulting in fewer accidents
- Lower labor costs
- Increased order accuracy
- Improved product security

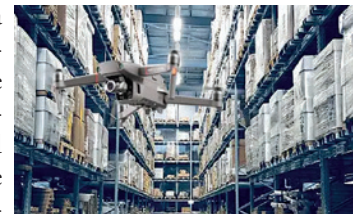
Now that we have a basic understanding of what these systems are, how do we protect them with sprinklers and how do we conduct routine inspection, testing and maintenance in facilities with ASRS systems? Model building and fire codes classify warehouses with ASRS configurations as high-piled storage. ASRS systems present challenges to the prescriptive requirements of NFPA 13, the Standard for Installation of Sprinkler Systems. These specialized systems do not fall neatly into the typical storage arrangements listed within NFPA 13. Contractors installing fire protection systems in these facilities need to understand the complexities and challenges in these types of installations and should also be familiar with FM Global Data Sheet 8-34 for Protection for Automatic Storage and Retrieval Systems.

With the understanding that these installations are complex to design and install, the ITM of these installations may also be more complex. Buildings with ASRS systems are more complex and can be fully automated than typically storage warehouses. They still

must meet the adopted standards for ITM. In most jurisdictions across the country, the most widely adopted standard for ITM is NFPA 25, which sets the minimum requirements for properly maintaining water-based fire protection systems to ensure to a reasonable degree that a sprinkler system will operate when or if needed.

Some of the challenges with the normal or typical ways of conducting ITM in a building with automated retrieval systems is the number of machines and equipment that are moving throughout the facility. This could cause some concerns for safety, as well as limiting accessibility to components for conducting proper ITM. NFPA 25 addresses these concerns by stating that when areas cannot be entered for safety reasons, during the next scheduled shut down all tasks shall be completed. In many cases, this does not happen. The 2017 edition added several new sections in chapter four specifically addressing automated ITM. As an industry, we do not typically like change, but if we do not learn to change and adapt to the changing environment, we will be left behind. Automated ITM is one of the ways to be able to keep up with the ever-changing environments we must coexist in. Section 4.6.6 provides the requirements for utilizing automated inspection and testing procedures.

These requirements must meet the requirements of the rest of the standard. As an example, when conducting the annual operation of a control valve remotely, a valve status test must be completed after the control valve is returned to the open position. The use of automated testing does not change these requirements or any other inspection and testing requirements in the remaining chapters of the standard. This may open opportunities for manufacturers to design and manufacture new control valves that can be operated remotely. While inspection and testing tasks are being completed, the inspector must still visually observe these tests, whether it is through video cameras, drones, or physically being on site. This also adds additional installation requirements for some contractors.

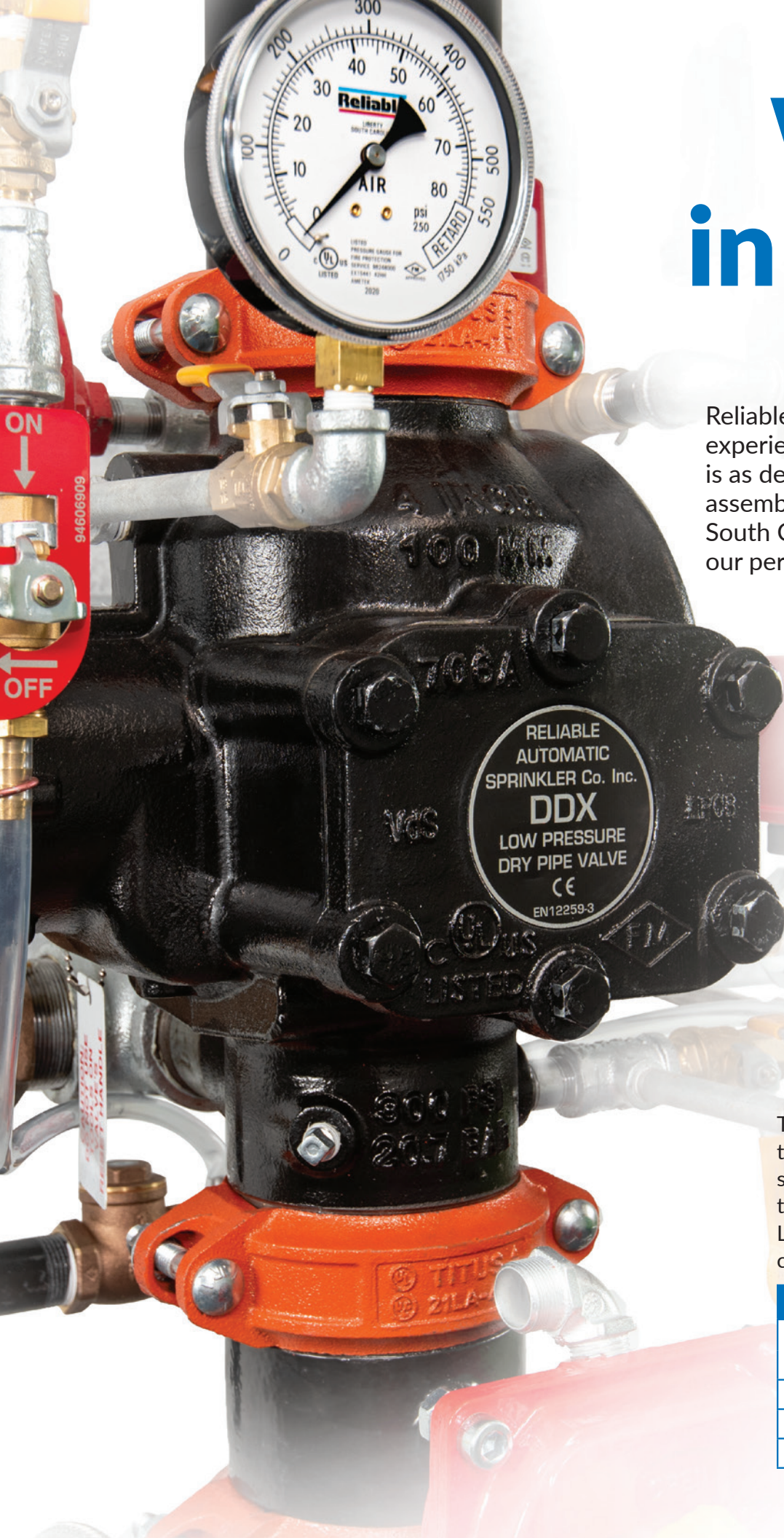


For some buildings, full automation will be implemented. For some, possibly only partial automation may be implemented. There will certainly be variations. As an industry, we must adapt and explore ways to complete the required ITM in these type facilities. Most importantly, we must ensure to a reasonable degree that the fire protection systems will operate if needed by conducting all related ITM tasks while at the same time ensuring that our technicians are safe. •

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DDX-LP				
Valve Size	Pressure Rating	End Connections		
		GxG	FxG	FxF
2", 2-1/2", 3"	250 psi	•		
4", 6"	300 psi	•	•	•
8"	250 psi	•		•

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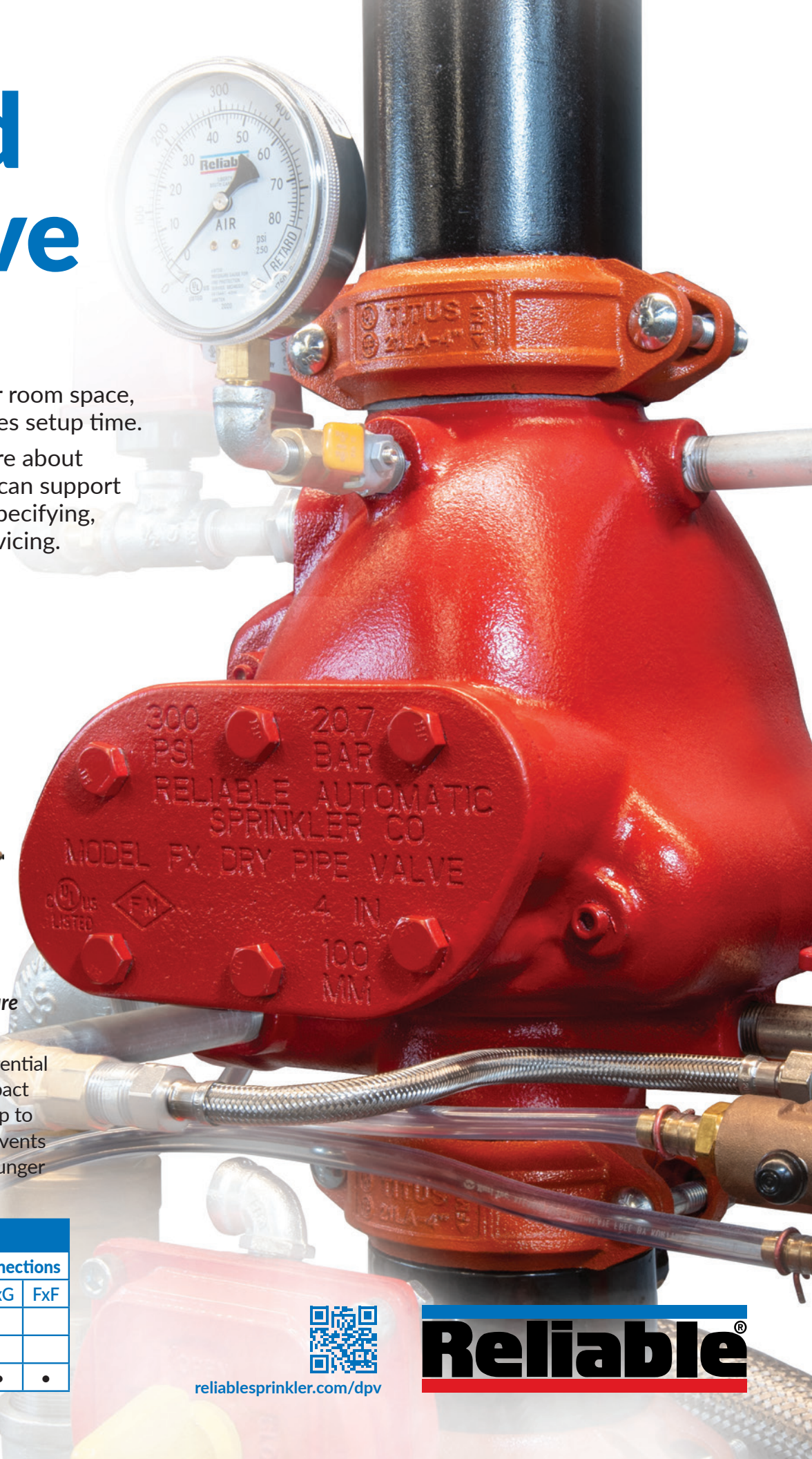
The FX valve has a simple differential design for easy setup. It is compact and lightweight, making it a snap to install. A protective housing prevents accidental operation of reset plunger and damage during shipping.

FX				
Valve Size	Pressure Rating	End Connections		
		GxG	FxG	FxF
2"	250 psi	•		
2-1/2", 3"	300 psi	•		
4", 6"	300 psi	•	•	•



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Protecting My Family's Future and Paying Tribute to the Past

by Rob Feeney

Intro by Dave Lafond:

I did not know Rob Feeney at all and never heard about his Station Fire experiences until he spoke at the Phoenix Society's World Burn Conference in 2013. I was attending as a NFSA vendor.

The next time I saw Rob was during the 15th Anniversary of the Station Fire and the Station Fire Memorial service. He spoke along with a slate of local and national dignitaries including NFSA President Shane Ray.

Fast forward to July 2019. The MA Fire Sprinkler Coalition had just started meeting regularly again after about a year of inactivity. Rob had contacted me out of the blue inquiring how he can get involved in local / state issues surrounding fire sprinklers. I told Rob about the Coalition meetings and legislation that we have supported and invited him to the next meeting. It was at this meeting that Rob told me that Common Voices was going to get his new home retrofitted with fire sprinklers.

After a quick call with Vickie Pritchett, we were on our way to get Rob's home designed, materials list generated, labor lined up and materials delivered, including a tank and pump system. Well that's what I thought anyway... John Wooden Quote: "Good things take time, as they should. We shouldn't expect good things to happen overnight." HA! That's an understatement. We started the "Feeney Project" in August 2019 and finished it in October 2020. And 2020... what a 2020 it's been!

We would like to acknowledge the following. Without their assistance, the "Feeney Project" would not have happened, and Rob and his family would not have the protection they need and deserve.

Common Voices.

National Fire Sprinkler Association

Sprinkler Fitters Local 550

Boston Industry Promotion

Viking

JB Engineering

Fire Sprinkler Specialists

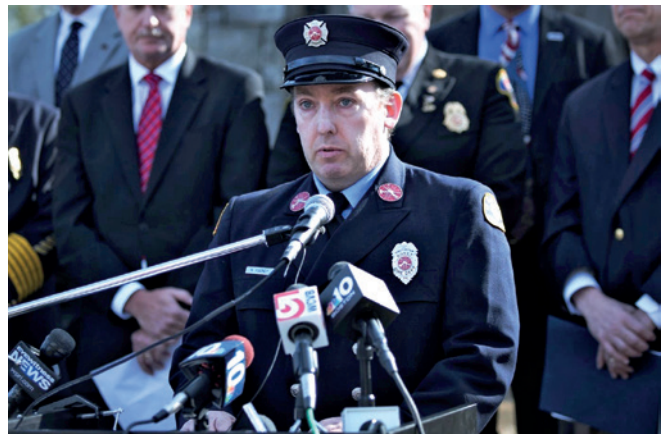
Jim Watson, from EM Duggan, donated his time to design the system and develop the materials list.

General Air, who donated and delivered the tank and pump system.

Core and Main

L-550 Member, United Automatic Fire Sprinkler Company

On Thursday night, February 20, 2003, I attended the "80's Hair Band" Great White concert in West Warwick, Rhode Island at a little roadhouse nightclub called The Station. I had seen friends' cover and tribute bands play this venue, so I had a little idea of the layout. I was with my fiancé and three other friends. Three of us went across the street to grab some dinner while the other two went in The Station to hear the opening bands. Never in my life would I have thought that about 90 minutes or so after we met up with the rest of our group in The Station, I would be in the back of an ambulance in route to Rhode Island Hospital with severe burns on my head, face, hands and shoulder, along with internal injuries, only to wake up from an induced coma 12 days later to find out that my fiancé, Donna, had been buried that morning. Her best friend, Mary, had been buried by her family the same week. A few months later, I was able to attend the service of a third member of our group, Pam, as she became known as the 100th victim of The Station Nightclub Fire.



I kept in close contact with the other surviving friend in my group, Kathy, after she was discharged from Mass General Hospital in Boston several weeks after I was discharged. Kathy introduced me to an organization called The Phoenix Society for Burn Survivors, which she was introduced to by a long-time burn survivor from her hometown, Frank McGonagle. The Phoenix Society holds an annual World Burn Conference, each time in a different city, where hundreds of burn survivors, their families, caretakers and first responders get together for several days of educating, being educated, sharing stories and making life-long friendships with someone who can relate on living life with a burn injury.

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There are keynote speakers, general and breakout group sessions, specific topic seminars and open mic sessions each day. The World Burn Conference (WBC) was and is the one place a burn survivor and loved ones can be amongst our own, free of judgment, and be able to listen, share and learn about our experiences as a manner of mental and emotional therapy that is unequalled anywhere else. It is also a place where outlets are found that can empower a burn survivor to use their experience in a way that can hopefully bring awareness to burn injuries and the best treatment and prevention practices, and also prevent others from experiencing the same traumatic event that led to the burn injury. After attending my first World Burn Conference in Cleveland, Ohio in August of 2003, I promised myself I would do everything in my power to attend every year.

It took several years for me to realize the role the Phoenix Society for Burn Survivors played in my recovery. I was dealing with the physical recovery and pain management but was not prepared for the survivor's guilt and PTSD to take over my life. The Phoenix Society was prepared. They saw the signs. They got me help. In the course of them helping me, I was telling (sharing) my story... a lot! I was telling my story to help other burn survivors, to help me and ultimately, to prevent an incident like The Station Nightclub Fire from happening again. Unbeknownst to me, I was becoming an advocate. I was advocating for an incident like The Station Nightclub Fire to never happen again. I was advocating for buildings such as The Station to be equipped with automatic fire sprinkler systems. At one World Burn Congress, I attended a session about fire sprinklers by a group called Fire Team USA. This session was facilitated by then Pleasant View, Tennessee Fire Chief, Shane Ray and Common Voices' Vickie Pritchett. During the seminar, Chief Ray spoke of how different of an outcome there would have been in The Station fire had there been an automatic fire sprinkler system and how it was proven through tests that there would have been ZERO deaths and little to no burn injuries. I was asked to speak at the end as a survivor of The Station fire. I began speaking about The Station fire even more... newspapers and magazines, local cable access TV channels, (former) Discovery History Channel, and future World Burn Congresses, among others. Amy Acton of the Phoenix Society for Burn Survivors had me speaking with the local media at each WBC. Amy had me train in public speaking with "Mr. Media" Brad Phillips... a few times. When the time came for either the Phoenix Society or Common Voices to be in need of a burn survivor who is also an advocate of fire sprinkler systems, my name quickly went to the top of the list.

The first big call came from Vickie Pritchett. Vickie told me that Common Voices was trying to help the Chattanooga, Tennessee Fire Department and some city officials pass a sprinkler ordinance for nightclubs. There was one more city council meeting left for a final vote. Vickie asked me to testify on the importance of nightclubs having sprinklers. After my testimony, and after listening to those who opposed sprinklers, I felt inside that advocacy was something not only I wanted to do but needed to do. I was met in the hallway by a city council member after finding out the final vote. He thanked me for coming down to Chattanooga and convincing him to be the deciding vote in favor of the sprinkler

ordinance. After, I was called to the Mayor's office. He also thanked me. Surviving The Station fire had begun feeling like a good thing.

I was now not only an advocate for the Phoenix Society for Burn Survivors, but also for Common Voices. I was invited to attend and speak at a variety of conferences hosted by NFSA, NFPA and Vision 20/20, and be a keynote speaker at many Fire Service/Safety Conferences across the country. In 2013, I was nominated to win the Phoenix Society's Advocate of the Year award. One of the invites that I enjoyed the most is being asked by Vickie to go to Washington, D.C. and advocate for a change in legislature making it easier for small businesses to retrofit an automatic fire sprinkler system. After several years of trying, I was given the honor of announcing the passing of the bill in February of 2018.

After several years of speaking to audiences large and small, made mostly of Fire Chiefs, Fire Marshals and firefighters in several cities across the country, I made the decision to start learning the job of those I'm preaching to. I became a call firefighter at the Onset, Massachusetts Fire Department in 2015. Since then, I've progressed through the department to become the Assistant Fire Prevention Officer along with the Communication Supervisor. Several months ago, I was promoted to Lieutenant. Having some sense of what my prime audience has dealt with regarding fire prevention, I feel I am able to be a better advocate and not only speak for burn survivors and people who have lost loved ones to fire, but also be a voice for members of the fire service who feel fire sprinklers would solve a lot of the problems with LODDs, injuries and civilian fatalities in structure fires. Being in the fire service, I found advocacy opportunities closer to home. I began getting involved with the Massachusetts Fire Sprinkler Coalition after speaking with the NFSA's Dave Lafond. Through the Coalition, I was finally given the opportunity to advocate locally for change in legislature at the Massachusetts State House. In October of 2019, I testified with Burn Survivors of New England President Diana Tenney and Mass General Hospital Burn Surgeon, Dr. Colleen Ryan, in a push for HB 2027, authorizing the option for municipalities to require automatic sprinkler protection systems in certain one- and two-family dwellings. For close to a year before this testimony, my wife and I were in the market to become homeowners and stop being renters. While we knew we probably couldn't afford to buy land and build a new house, we both agreed that we were getting the house we found retrofitted with an automatic fire sprinkler system. Being in fire prevention, I knew many of the houses that were being built or sold in my fire district. Our realtor showed us one house that I had done a final inspection on nearly two years before, when it was built. Turned out, the house was never sold and never lived in. After viewing it a couple of times, we found our house. Upon hearing we were buying a house, Vickie called me and said that as a housewarming gift for my advocacy, Common Voices was going to make sure we had the best protection possible. I was getting my "new house" retrofitted with a fire sprinkler system.

While at a Coalition meeting in August of 2019, I informed Dave LaFond of Common Voices' plan to get my home sprinkled with a 13D Automatic Residential Fire Sprinkler System. Dave worked with Vickie in getting the funds secured along with materials and labor. It was looking like the project was going to be happening in

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the fall of 2019. NFSA member General Air Products dropped off an all-in-one tank and pump system that was stored in my garage. It stayed in my garage. It was huge. It was too big to go through the basement door and down the stairs and too big to fit down the bulkhead stairs and into that basement door. That “monster” sat in my garage for the next few months. General Air custom created a dual tank system (225 gallons each) with a pump and all the pipes and fittings that were delivered in March of 2020. I was within a month of the work being done. Then the COVID-19 pandemic struck. We found out that the sprinkler fitters were shut down and not working. I had an entire automatic fire sprinkler system sprawled out across part of my basement and no date in sight of when a contractor would put this all together and my family would finally be protected.

Fast forward to end of June. United Automatic Fire Sprinkler Company took on the job and began running the pipes and adding sprinkler heads throughout the main floor of my house. The guys did a great job. They made it look easy. Day Two came in

mid-July, when they were able to get most of the basement done and the pump attached to the tanks. They were able to get back to my house later in August to finish up the remaining pipes and heads. In October, local electrician, Jack Ikkela wired the pump and a water flow bell. On October 13, 2020, I finally had the comfort of knowing my family had the ultimate protection from fire while they’re asleep and when I’m at work, along with our family cat and our belongings when we aren’t home. The locations of the sprinkler heads make egress from any part of the house extremely manageable should a sprinkler head be activated by fire. The self-contained tank and pump system provides 450 gallons of water delivered at enough psi to not only buy us time to evacuate the house, but may very well come close to putting a fire out, if not completely extinguishing it. It has been a few months since the project officially got off the ground. I don’t even notice the sprinkler heads anymore. They’re just part of the house and nothing close to an eyesore that some people fear sprinklers would be in a home. They are a welcome addition. •



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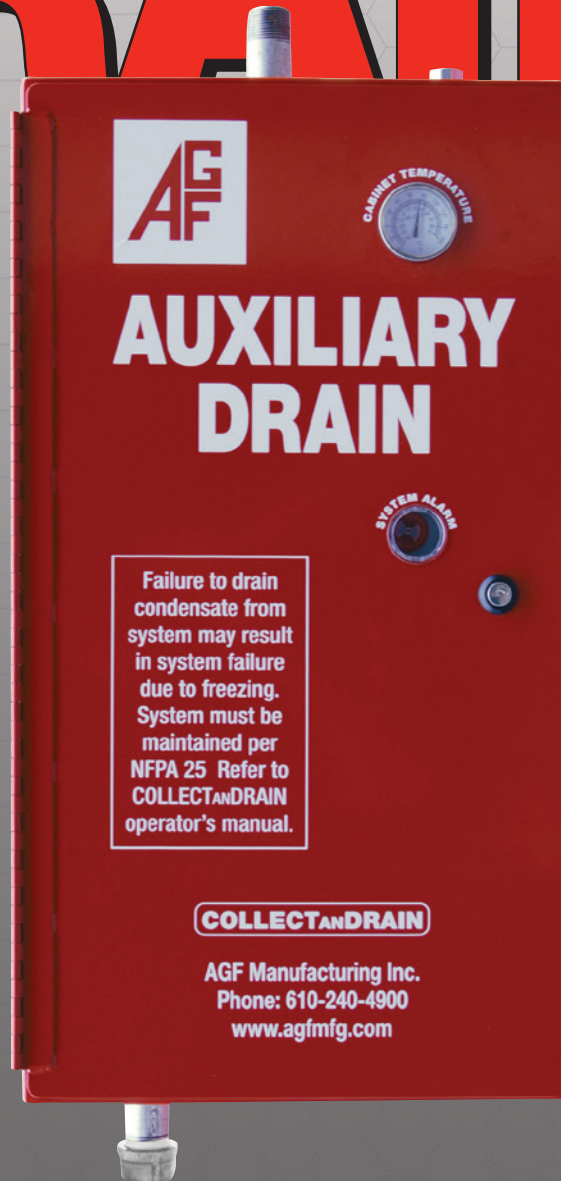
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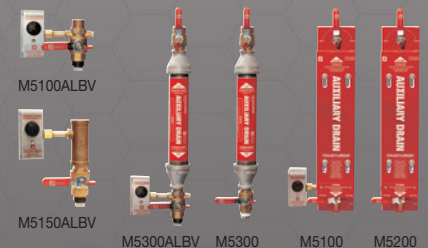
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NFSA Presents Side-by-Side Burn Demonstration Trailer to Ohio State Fire Marshal

by Ron Ritchey

On October 8, 2020, NFSA President Shane Ray and several members of his leadership team traveled to Reynoldsburg Ohio to present a new Side-by-Side Burn Demonstration Trailer to Ohio State Fire Marshal Kevin Reardon and key members of his staff, including senior training staff officers with the Ohio State Fire Academy.



(L) NFSA President Shane Ray and (R) Ohio State Fire Marshal Kevin Reardon



L to R: NFSA Director of Field Operations and Legislative Affairs Gary West, NFSA Great Lakes Field Coordinator Ron Ritchey, Ohio State Fire Marshal Kevin Reardon, NFSA President Shane Ray, Ohio Fire Academy (OFA) Deputy Superintendent Scott Walker, Ohio Fire Academy (OFA) Superintendent Jack Smith, Fire Prevention Bureau (FPB) Assistant Chief Rich Palmer, OFA Fire Training Supervisor Dan Swords, OFA Fire Training Officer Heidi Stone, Chief of Fire Prevention Ken Klouda.

The Ohio State Fire Marshal’s Office is staffed with a group of dedicated safety professionals who serve their constituents very well and NFSA is pleased to partner alongside their efforts “to protect lives and property from fire through the wide-spread acceptance of the fire sprinkler concept.”

The Ohio Fire Academy is the main teaching arm of the State Fire Marshal, offering a wide variety of courses to thousands of students from throughout the state each year and is one of the finest in the country.

NFSA President Shane Ray, himself a former Director of State-wide Training and State Fire Marshal in South Carolina, felt right at home during his visit and was pleased to educate the current recruit class on the life-saving benefits that residential sprinklers provide in today’s modern homes whose furnishings now feature plastic products that significantly decrease time from ignition to flashover.



President Shane Ray addresses Ohio State Fire Academy Recruit Firefighters on fire dynamics and test results he has personally participated in through the years which shows that fire sprinklers buy time, and time buys life.

NFSA live side-by-side burn demonstrations have traditionally been used to educate the general public with an opportunity to see up close and personal the devastating effects of fire in homes that aren’t protected with residential sprinkler systems in stark contrast with homes that are properly protected. NFSA education

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efforts have grown in recent years to placing an increased emphasis on educating members of the fire service that “fire sprinklers buy time, and time buys life.” This message is critically important in today’s building construction environment where lightweight wood trusses can cause floor collapse in a matter of minutes and with by-products of combustion being linked directly to an ever-growing number of firefighters diagnosed with cancer.



NFSA President Shane Ray on left, NFSA Southeastern Regional Manager Brian Biggs assisting fire department personnel with timing of suppression

Because of COVID restrictions, plans for the unveiling of this new Side-by-Side Burn Demonstration Trailer had to be scaled back for safety reasons. However, members of the Marshal’s public education staff were able to partner alongside NFSA Executive Officer Vickie Pritchett and her team to broadcast the side-by-side burn demonstration via Facebook Live as part of Fire Prevention

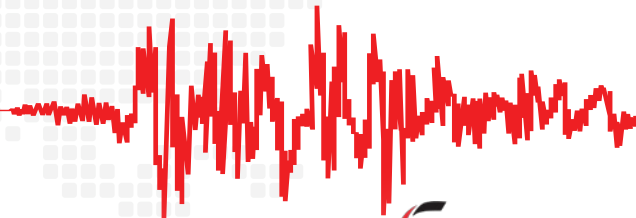
Education Week.

The National Fire Sprinkler Association (NFSA) and Ohio State Fire Marshal’s Office partnership in public education is further strengthened by the shared experiences and commitments of the former and current state fire marshal’s pictured below taken in the office of Marshal Reardon. NFSA President Shane Ray (former South Carolina State Fire Marshal), Current Ohio State Fire Marshal Kevin Reardon, NFSA Director of Field Operations and Legislative Affairs Gary West (former Tennessee State Fire Marshal) commitment to saving lives have spanned many years and highlights that motivated individuals committed to a great cause truly can make a difference for good. •



NFSA President Shane Ray, Ohio State Fire Marshal Kevin Reardon, NFSA Director of Field Operations and Legislative Affairs Gary West.

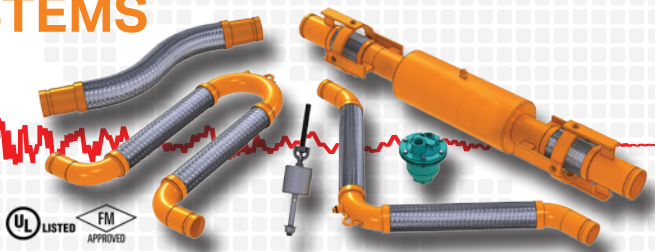
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O.R.S. and LOX?

by Nicholas Brondum, *NFSA Intern*



Nicholas Brondum is an 2020/2021 intern for the NFSA while working toward a M.S. in Fire Protection Engineering at the University of Maryland. Nicholas is from the New Orleans, Louisiana area and has a B.S. in Fire Protection and Safety Engineering Technology from Eastern Kentucky University. Nicholas is also a Research Assistant at the University of Maryland, investigating fire protection in aircraft hangars and foam. He has previously interned for UL Firefighter Safety Research Institute and has been an active member of multiple volunteer fire departments while attending school.

An intriguing new fire protection system has developed under our noses. These systems, called Oxygen Reduction Systems (O.R.S.), are prevalent in European and Asian markets, and they are slowly gaining popularity in the United States. In fact, some AHJs are even allowing them as an alternative to fire sprinkler systems. However, these significant decisions are being made a bit hastily in the United States.

System Description

We first must discuss how these systems function. These systems seek to limit oxygen concentration in enclosures to a level that the combustion process will be unable to proceed. While this is the fire suppression criteria, these systems can also permanently keep the enclosure atmosphere oxygen deficient, and therefore prevent any combustion in the space.

While both systems have the same goal, there are two different methods to achieve oxygen deficiency. The first type of system, also known as a hypoxic system, injects hypoxic air into the enclosure. In spaces protected by these systems, air passing through the system has its oxygen extracted before being introduced to the enclosure. This system was designed and patented in the United States. The other type of system introduces nitrogen into the air. While approximately 78% of Earth's atmosphere is composed of nitrogen, these systems concentrate the nitrogen in ambient air and insert it into the compartment. With the influx of this gas, the higher pressure will expunge the oxygen rich air. These spaces are equipped with various monitors to ensure that the gas concentrations remain with safe limits. Because these nitrogen injection systems have not been patented, they are far more prevalent throughout the world.

These systems are becoming more popular due to their unique benefits. For example, when the fire is prevented, there is no clean up from an active suppression system. Some manufacturers also

state that these systems cost far less to inspect and maintain. This will be discussed in detail later in this article. While these systems have the unique ability to prevent fires, there are quite a few impediments for American adoption.

Barriers to a U.S. Adoption

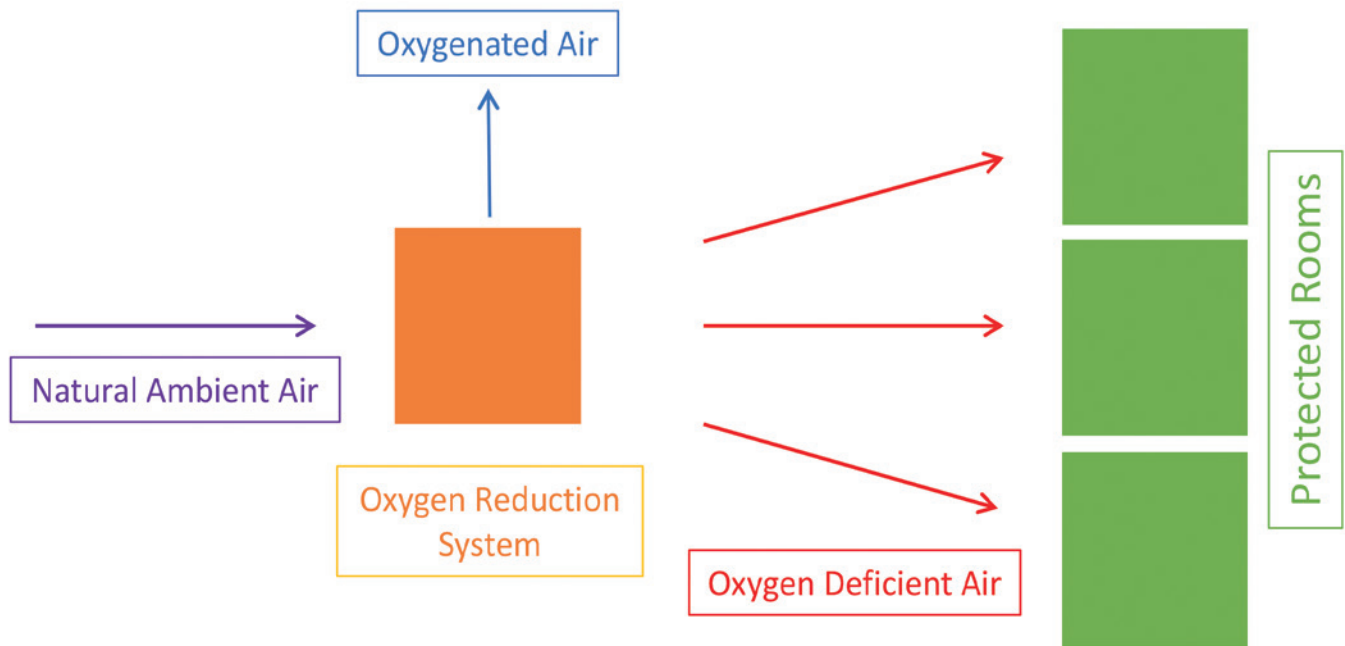
One impediment is the very occupancies where these systems are designed to be used. While locations like warehouses and server rooms are some of the main places where these systems are currently used, they cannot be used in high-traffic areas due to the inability to seal the enclosure.

For these systems to be adopted into the United States, several logistical issues must be overcome. Most of the component manufacturers and designers are in fact one and the same, and most of these are located overseas. The United States has a very few firms that do this type of work. A cursory search only reveals one hypoxic system manufacturer/designer and one nitrogen injection manufacturer/designer. Furthermore, due to the highly proprietary designs, many companies are not licensing their designs to installation firms. Until more American firms enter the market for these systems, they cannot serve as a cost-effective option. Not only is the long and complicated supply chain increasing costs, but the lack of competition also ensures higher costs.

Another problem with these systems is that they are largely unproven. Both these systems' preventive natures and their infrequent use has and will continue to complicate obtaining data of the successes of these systems. If these systems were more heavily utilized, locating success stories would be far easier. The reliability and effectiveness of these systems remain unknown. The companies involved in these systems also are preventing their industry from strengthening. Several of these systems are only involved as a side project. A few of these companies are involved in nitrogen generation in breweries to fuel cells converting natural gas to electricity. A cooperative marketing strategy has also been absent from the designers of these systems. One system designer goes as far as to state that nitrogen injecting systems are essentially unsafe rudimentary copies of hypoxic systems.

While the above impediments are substantial, they are by far not the most serious impediments. The simple reason for the overseas popularity of these systems is the presence of several different standards governing their design, manufacturing, installation,

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inspection, testing, and maintenance. However, there is only one American counterpart to these standards. According to several designers of these systems, acceptance tests are done to manufacturer specifications, and maintenance is provided by calling the manufacturer. According to members of the National Fire Protection Association (NFPA), these systems were discussed in several different committee meetings, but no committee saw convincing documentation that would justify these systems. NFPA membership has stated that they are not recommended as a replacement for fire sprinklers, or for use at all.

While a lack of any standardization for these systems is crippling for the industry, the biggest roadblocks are the potential health hazards. Many of these systems are designed for a particular building, with some having oxygen concentrations as low as 10%. Most of the systems are designed to operate anywhere between 13-17% oxygen. Many of the systems designed to introduce nitrogen are less able to regulate these concentrations, especially with larger spaces. Most humans have no adverse effect at 12% oxygen concentrations, and limited effects at 10%. However, these systems do not provide a significant margin of error, especially with systems that are designed to reduce the oxygen concentration by nearly 8%.

However, while these numbers are used to claim that these systems are completely safe, a safety margin has been enacted by the United States Occupational Safety and Health Administration (OSHA). OSHA's requirement is that workers in atmospheres below 19.5% oxygen need to wear some sort of respirator. These systems cannot be designed to keep the oxygen above this concentration and still perform their duty of preventing or extinguishing fire. Therefore, if these systems are implemented in a building such as a warehouse, the workers will need to both be trained on and supplied with respirators. In addition to the high cost of these systems, this "hidden" cost will dramatically increase the costs of these systems.

Final Thoughts

Overall, these systems do show promise and they already have a limited application, but they still face several challenges until they can be considered suitable stand-alone replacements for automatic fire sprinkler systems. Until potential health effects are determined and international standards for installation and maintenance are created, these systems should be considered for special applications rather than replacing sprinklers in a variety of buildings. •

#fastestwater

Fire Sprinklers Save Lives!

Wet Sprinkler Systems —What to Consider When Choosing a Listed Antifreeze

by Mark Knurek, *Lubrizol Advanced Materials*

Safety concerns over combustion risks when sprinkler systems activate in a fire led the National Fire Protection Association (NFPA) to regulate antifreeze for fire sprinkler systems. NFPA standards require replacement of unlisted antifreeze solutions used in existing sprinkler systems with a listed antifreeze solution, or other method of freeze protection, by September 30, 2022. Since 2013, all new antifreeze systems must use a listed antifreeze product.

Although at the time of the NFPA updates no listed products were available to meet the need, now when sprinkler pipes cannot reliably remain at 40 degrees Fahrenheit (4 degrees Celsius) ambient temperature or higher, new and existing systems in Residential, Light Hazard, Ordinary Hazard and Storage applications can be protected against severe cold with UL-listed, factory premixed products.

Formulated specifically to meet the requirements of NFPA 13, 13R, 13D and 25, the listed products fall under UL 2901, “Standard for Antifreeze Solutions for Use in Fire Sprinkler Systems.” This standard sets forth requirements for flammability, corrosion resistance, hydraulic characteristics, human health and environmental impact, and marking and installation specifications in wet sprinkler systems. When a product has achieved a listing, it will have met extremely rigorous technical challenges

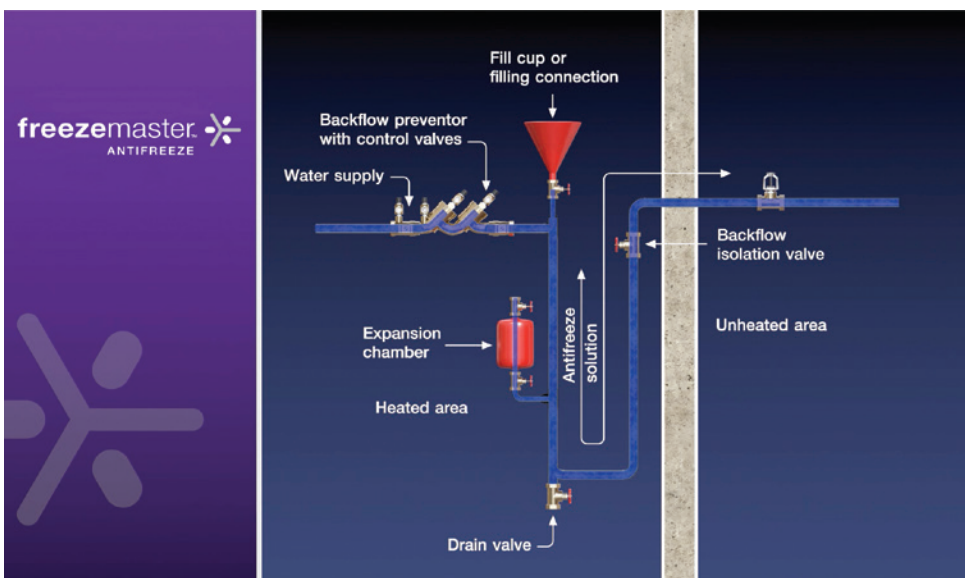
over years of effort.

How best to protect wet fire sprinkler systems from the risk of freezing is one that building owners and facility managers should be asking themselves now. To help contractors ramp back up for increasing interest in and reliance on wet sprinkler systems, here are some considerations to help sort out the variables that pertain to premixed antifreeze products.

1. Selecting a listed antifreeze product is vital, but it is also important to align the product to your application and system volume, because they do differ according to their specific listings. **CONSIDER:** Refer to product installation guides for allowable design parameters and listing limitations. For instance, Lubrizol’s freezemaster™ antifreeze is the only UL-listed antifreeze approved for use in galvanized piping systems.
2. A listed antifreeze will remain in a protective liquid state down to a specific temperature, providing confidence that it will not freeze and cause severe damage, leaks or pressure drops. Still, every antifreeze has a minimum use point. **CONSIDER:** Compare product labels to ensure the lowest minimum use temperature providing the best protection against system failure and costly repairs.

3. The annual costs of combating corrosion in dry nitrogen systems and systems with specially coated steel pipe, as well as heat trace methods, can be prohibitive. UL 2901 established product testing protocols that had to be met or exceeded to ensure that corrosion rates in metal-based sprinkler systems will be significantly reduced. At a minimum, approved premixed antifreeze solutions must not cause the corrosion

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to exceed 1.0 mils/year (0.025 mm/year) for ASTM A108, Grade 1010 steel; ASTM B16, H02 (Half Hard) brass; or Type 304 stainless steel, among other metallic materials that might be used in sprinkler applications with antifreeze.

CONSIDER: Ask to see the antifreeze manufacturer's corrosion performance testing and discuss whether safeguards against the persistent problem of damaging microbiologically influenced corrosion (MIC) have been incorporated into the fluid.

4. When switching out an antifreeze in the system, the system must be flushed and all water drained before refilling it according to manufacturer's instructions. **CONSIDER:** Find a product that is dyed for easy identification of a fully flushed and filled system, saving the installer from having to constantly test a clear fluid.
5. Low-temperature antifreeze is suitable for unlimited exterior uses in buildings along the east and west coastal areas of the continental U.S. and Canada, points south of the central U.S. and outlying mountainous areas. **CONSIDER:** Don't count out partially conditioned spaces in all regions; they are also good candidates for a listed antifreeze. These are interior spaces with some heating that can drop below freezing if an outside door is left open or the heater can't keep pace with the severe cold, such as:
 - Temperate small parking garages
 - Small walk-in freezers and refrigerators
 - Small cold storage facilities
 - Roof access hatches
 - Basement garbage rooms
 - Industrial refrigeration equipment
 - Pits in heated buildings
 - Surge areas
 - The first few heads of a heated parking garage
 - Obstruction heads below bay doors
 - Tunnels/corridors in heated industrial applications with large diameter piping but not much heating capacity
6. Once the building owner has an updated system installed, the system will meet the requirements of NFPA 25 as required for 2022. **CONSIDER:** Explain to the owner that, moving forward, the system must be tested annually by a qualified inspector to verify the freeze point is being maintained, which ensures that freeze

crystals do not begin to form and compromise the reliable functioning of the system.

Fire sprinkler contractors need confidence that the systems they install will not freeze and will provide the best corrosion protection on the market to protect the systems designed for Residential, Light Hazard, Ordinary Hazard and Storage applications. Thus, it is prudent to help clients prepare for the transition to 2022; there's every reason to actively encourage them to get a head start on compliance, knowing that doing so will enhance life safety practices immeasurably. The result: peace of mind that the antifreeze used in their sprinkler systems is safer and more reliable than existing products and will not contribute to fire growth. •

For more information, go to www.freezemaster.com/listed.

Mark Knurek, North American Sales and Marketing Manager at Lubrizol Advanced Materials, has more than 20 years of experience in Strategy, Marketing, Sales, Product Development, Engineering and Brand Management. With much of his background in the building industry, Mark is dedicated to developing and maintaining collaborative and productive relationships with key leaders in the fire protection industry. Mark is an Executive Governing Board Member of the International Fire Sprinkler Association (IFSA), a member of the Suppliers and Manufacturers Council, Quality Assurance Committee and Residential Committee for the National Fire Sprinkler Association, and strong supporter of the American Fire Sprinkler Association. He holds a degree in Mechanical Engineering and an MBA.

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My Experience with the Space Program

by John Sylvester

During the 50s, the United States and Russia were involved in a bitter Cold War. In 1957, Russia was able to land a basketball-sized satellite on

the moon named Sputnik, and the world went into a panic. The common thought was that if Russia controlled space, they would enslave the world. President Kennedy announced to the country that he was going to start a new space program, heading up the program would be the newly formed National Aeronautics and Space Administration, NASA for short. The aim of this program was to develop a space program that would be able to put a man on the moon and return him safely within ten years. Many companies set up offices in the L.A. area- Goodyear tire set up Goodyear Aerospace, General Tire set up Aerojet General, and many more.

My wife and I decided we needed to relocate from Cincinnati in 1958 due to financial needs. We decided upon Southern California. We had a semi-commitment from the largest Viking franchisee on the West Coast; they were in business since the 1920s, with offices in Vancouver, Seattle, Portland, San Francisco and Los Angeles. We arrived in L.A. on a Wednesday. I had a short interview and started the following Monday as the lead designer in an office with seven designers.

My first experience was when we received a request for some remodel work at JPL. Since I was the only person in the office with special hazard training, the call was given to me. I drove out



to Glendale to the Jet Propulsion Laboratory.

When I met my contact, my first question was, *“What sort of company are you and do you have the ability to pay for whatever work we will be quoting?”* My contact’s reply was, *“JPL stands for Jet Propulsion Laboratory, we are a department of the federal government, and you will not have any problem collecting on our invoices.”* JPL was a laboratory doing research on replacing the standard piston engine propeller driven engines with a jet engine.

My next encounter was when we received a call from TRW Company near L.A. Airport. I recognized this company from my early days as a child during WWII. TRW was Thompson Ramo Woolridge Company, making fighter airplanes. When I arrived, I was escorted through a very tall manufacturing building. Suddenly, we were in an area brightly lit with many people in white coats scurrying around a large three-legged metal item that looked like a goldplated robot. I asked my escort what we were looking at. He told me that it was the LEM (lunar landing module). He explained they had gone as far as they could progress because the remainder of the work needed to be done in a dust-free atmosphere. I asked what he needed me to do. He explained they were going to erect a clean room around the LEM and wanted me to provide a sprinkler system in the room. I showed him a flush type sprinkler which he immediately rejected because the ceiling plate had a gap between the plate and ceiling which could collect dust. I called the home office of Viking in Hastings, Michigan and discussed the problem with the Research and Development Department. R & D was able to make a rubber gasket that closed the gap and seal out a possible dust collector. We then installed the system.

Moving ahead

My next encounter was a public bid to provide a sprinkler system for a large manufacturing building for North American Aviation in Seal Beach, California, the drawing title was Saturn 5 Assembly Building, this was the rocket assembly building which would be building the main engine that would lift off the mission to the moon. One portion of the building was a room which housed a water tank used to pressure test the heads of the fuel tanks. This room had a floating ceiling which opened and closed several times a day. We needed to design a sprinkler system that moved with the ceiling and needed to remain connected to the main sprinkler system as it moved.



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We were also involved in providing a sprinkler system at McDonnell Douglas Aircraft, which would be the assembly building where the DC 10 was designed and built at the same time.

My next encounter was a request for a price to design and install a system in Nevada. The request was for an initial meeting in the desert called Jackass Flats. I had a scheduled meeting at 10 a.m., approximately 60-80 miles north of Las Vegas. I flew a red eye flight to Las Vegas, arriving about midnight, rented a car and started driving north, after about two hours driving north, there was a steel chain link fence with a sign affixed: "U.S Government Keep Out." The road paralleled the fence for about another 20 miles, and I came to a motorized gate. Attached to the gate was a voice box where you identified yourself and the gate opened. When I entered, the gate closed behind me and I continued to drive on a gravel road for another 20 miles, (*I just realized I was in the atomic energy testing grounds where the first atom bombs were tested*). As I rounded a bend in the road, I saw in the distance what looked like an oil drilling rig, except that it was shiny, alongside the rig were two trailers.

I was met by two engineers who explained the area was a test site for an atomic engine which they hoped to be the next generation rocket for long-range deep space probes. The reason for this type engine was that the fuel lasted longer for longer flights, there was no need to carry oxygen on board to support combustion because an atomic engine didn't need oxygen, and the fuel was lighter which made for a greater payload.

The reason for me to be there was to provide a deluge system on the test stand. While in test phase if something went wrong, they could trip the system from the control room. They also wanted to be able to wash down the test stand after the test to decontaminate the area from radiation. When I asked why the test stand was shiny; they said it was made of aluminum because aluminum did not collect radiation and that all the piping to be installed on the test stand would need to be aluminum also.

We were in the middle of the desert, so I asked, "*Do you have water to provide this system's demand?*" Their comment was, "*Do you see that mountain in the distance? Atop that mountain is a million gallon reservoir with 2- 30" penstocks delivering all the water you will need at 150 psi, however it is demineralized water so all of interior of your piping will need to be plastic-coated to protect it from the demineral-*

ized water." There were two systems, one on the test stand and one protecting ten 5-foot diameter x 40-foot long hydrogen bottles.

Back East

I was offered a position of regional designer with Automatic Sprinkler Corporation in Youngstown, Ohio in the spring of 1966. My territory was called the Central Region, it consisted of six states with eight offices. My duty was to hire and train designers and prospective salespeople for all eight offices. My first day on the job was an orientation with the company. Al Melnick was the Regional Manager and my superior. He introduced me to all the different departments and department heads. The region had two special hazards salesmen, Del Milam's territory was the northern portion and Ezio Angelini was the southern representative. After we met with Ezio, Al's comment to me was, "*I don't think he is going to make it, his total sales for the eight months was just a little over \$20,000 dollars.*" He was so timid and unsure of himself. Later on, we developed a friendship which lasted for many years. He became so comfortable with me that he would bring me most of the projects he was designing and bidding on for my opinion.

One day he came into my office and said, "*I've got troubles.*" Wright Patterson Air Force Base in Dayton was conducting tests in a Hypobaric Chamber when it burned up and killed four astronauts Ezio said four engineers from the base came into our office stating the space program was now on hold with the possibility of the entire project being cancelled if they could not continue this phase of testing. Their order to him was to develop a high-speed sprinkler system that would operate within milliseconds and discharge 3/4 of a gallon per square foot per minute over the entire floor in the chamber to protect life within the capsule. I told Ezio to give me a few days to see if I could come up with something acceptable.

I went into the old archives of the company and found a high-speed nozzle which was developed for the US Navy during the second world war. This system was installed in the magazine storage of a battleship to wet down the stored gunpowder, if the ship was hit with a torpedo. The system was activated with a heat detector, so I found part of the solution for NASA, except the detection was too slow. I went back to history again and found during air raids many of our planes would be shot down after the bombing raids because the bladder tanks in the wings had gas fumes in the tank that could ignite if a bullet penetrated the tank. The solution to this problem was to install a carbon dioxide extinguisher in each wing, activated by an ultraviolet detector lamp. This lamp is so sensitive it can see the spark of a match scraping the striker before the match ignites.

I went into the fabrication shop and found a nozzle and some pipe nipples and proceeded to make a demonstration kit which I then gave to Ezio, with instructions on how to set up the demonstration. He left for Dayton with a proposal and the demonstration, and about four days later he returned and bounded into my office like an enthusiastic kid. He announced we got the job, with stipulations. There were 12 chambers on site, his order was for one, it needed to be installed in three to four weeks and tested. If the test was successful, we could have the remaining contract.

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I asked him what kind of test we'd be conducting, "They want to simulate actual working conditions," he said. "They will hang a butchered pig wrapped with a white lab coat, the chamber will be pressurized with enriched oxygen and they will cause a spark to actuate the system, it must put out the resulting fire, the pig will be inspected for signs of burns, no hair is to have any sign of singes and the lab coat needs to be intact."

We proceeded with the installation and the test was conducted. By the time the system could be shut off and the door unbolted there was three feet of water inside the chamber. I said, "Well, we know the astronauts won't be burned, but we may drown someone."

NASA was so pleased with the test and Ezio received the remainder of the project. The company was so pleased with his sales on the project he was promoted to National Vice President of Special Hazard Sales.

Eventually, poor management within the company caused its downfall and my position was eliminated in several cost cutting measures. I then started a consulting design service.

Al Melnick started a sprinkler company in Detroit, one day he called me with a design project in Florida. It was for the Vehicle Assembly Building for the space shuttle at the Cape. We were bidding the sprinkler systems for several typical warehouse buildings; typical construction in those days was a tilt-up concrete wall with a wood bowstring truss 20 feet on centers with 4x12 wood beams. Our standard method of installation was to use rolling scaffolds. I commented to my superior that the labor costs to erect a scaffold in a bay then to dismantle it and rebuild it in the next bay would be very costly. He replied, "Do what the fitters up North do, they just put a pallet on a forklift and use it for an installation platform." I asked him if he would give us the okay to make a real work platform.

Our shop foreman, Arthur, was a fitter foreman recuperating from a heart attack. We went to work. We took some rolling scaffold parts and made a platform 5' x 12' with safety rails. We kept the wheels to make it more moveable, added channel irons made into slots to accommodate the forks and added pipe saddles on the railing for lifting cross and feed mains. Then we proceeded with installations.

When we moved back to Ohio, I brought our idea with me, soon the national construction superintendent came into my office. He introduced himself and said, "Okay, what is your secret? We all know you have the fastest and best installation crew in all of Southern California." I reached into my desk and brought out my file on the platform. He looked at the drawings and pictures, then we went through our procedures on the job. He asked if he could borrow the file, promising he would return it.

Automatic Sprinkler had two large projects at this time, one was a Ford Motor Company distribution center in Brownstown Township, Michigan (40,000 Sprinklers). The other job was a JC Penney warehouse distribution center in Columbus, Ohio (36,000 sprinklers). Both jobs used the platforms with forklifts.

I don't know what happened later, either someone used our design to make the high-lift platforms that are now throughout the country or someone came up with a similar design. In either case there is an entirely new rental industry!•

John Sylvester of Sylvester Design Consultants is an NFSA Professional Member. Sylvester Design Consultants was founded in 1991 by John and Vera Sylvester. Their goal was to create a family-owned and operated company. Sylvester Design Consultants focuses on all aspects of fire protection systems design including residential, light and heavy commercial, and industrial and special hazards.

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%.



www.nfsa.org





NFSA's LinkedIn Group: A Great Resource for Industry Connections

NFSA's LinkedIn Group has lately taken on a life of its own! The group, which now boasts over 8,000 members, is a hub of activity for many decision makers in the fire sprinkler industry. If you haven't checked it out yet, please make it a point to visit the group page and join! While the page is monitored and posts added on a daily basis, we would love to increase the variety of content on the group page. This is where you come in!

As of this writing, the group has almost 6,000 U.S. members and about 2,000 international members. Many are CEOs, company presidents and top-level executives of the companies that you need to engage with. A quick scroll down the member list is sure to result in the accumulation of contacts that will further your business, increase your network and even teach you something new. As a member of the group, you will have the ability to message fellow members directly through LinkedIn and send requests to have them join your personal network.



Take advantage of the ability to post to the group. Share your company news, exciting projects and new products and services to a whole new audience. Best of all, it's all free! Ask for comments or feedback on your wares and you'll get responses from a wide variety of industry professionals.

Our LinkedIn Group introduces the opportunity to strengthen connections with like-minded individuals in an exclusive forum. It provides a private space to interact with LinkedIn members that share common skills, experiences, industry affiliations, and goals. If you're not a LinkedIn guru, you may not realize that you can't send messages to people you don't know. But if you share a group with these people, this option becomes available and presents a major benefit. You can get in touch with people that you would not be able to approach otherwise.

Following are some great reasons to join NFSA's LinkedIn Group:

- You can send members of the group direct messages
- You widen your network because LinkedIn considers members of a common group your 2nd degree connections. Your 2nd degree network will increase considerably just by joining the group.
- You can start relevant discussions
- You can comment on other members posts
- You can submit blog posts and articles, and include a link to your company website
- Each time you post, your profile photo is featured, and fellow members can click on it to be taken to your main profile page.

NFSA's LinkedIn Group is a powerful platform not available on other social media sites. With the shift towards online engagement in recent years, this "closed community" is one heck of a way to engage a captive audience. Unlike Facebook and Instagram, people on LinkedIn are there to further their professional network, build their personal brand, and increase their industry knowledge. This makes our group community a great way to tap into an invaluable target audience.

To participate, just search National Fire Sprinkler Association under "groups". Your request to join will be approved within 24 hours and you'll be ready to roll. Posts are held until approved by the group administrator and will usually post to the group page in no more than one business day. Remember, there's not many places where you can reach 8,000 potential customers and connections for free! Don't pass up on this valuable resource to get your company name out there to members that matter! •

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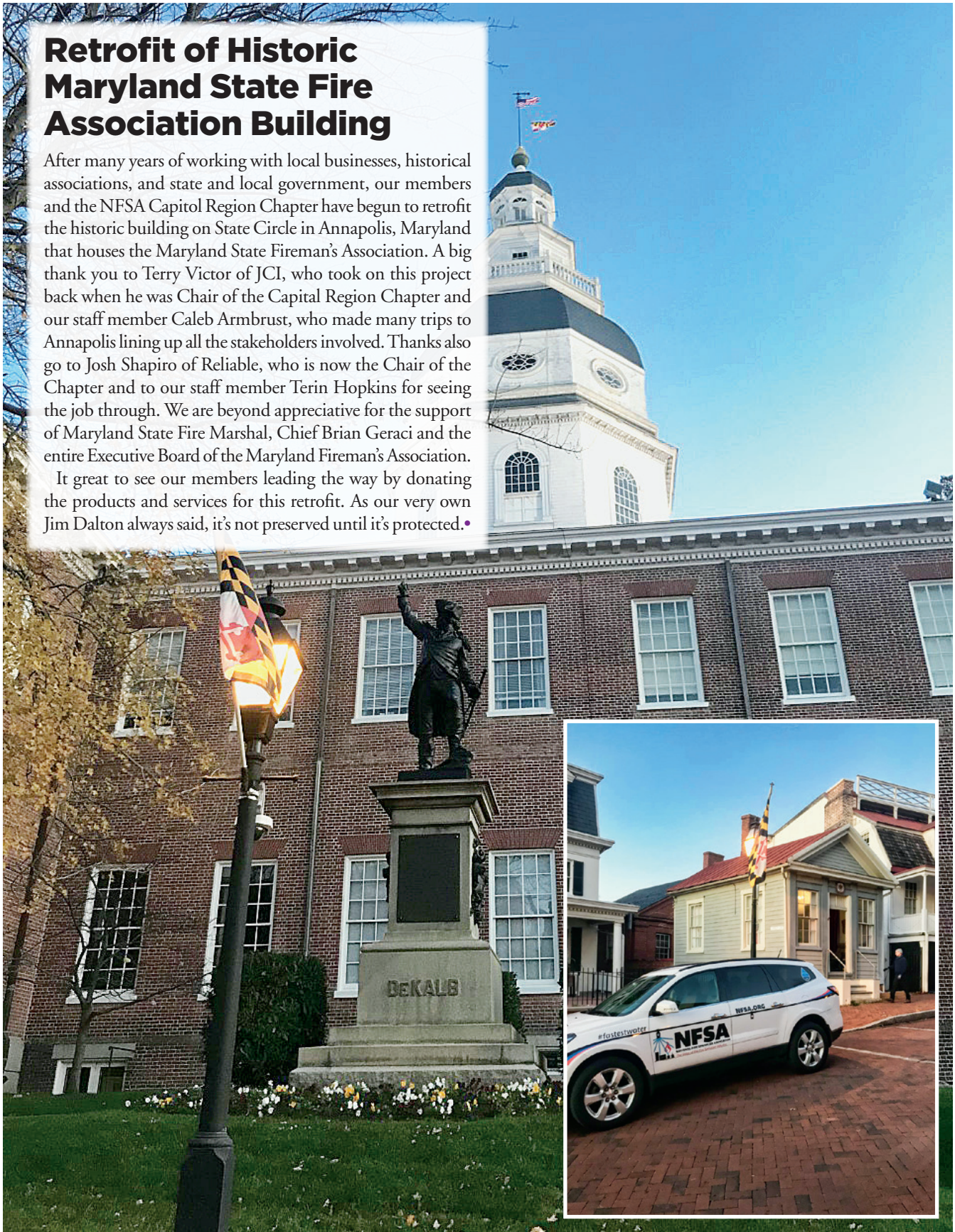
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Retrofit of Historic Maryland State Fire Association Building

After many years of working with local businesses, historical associations, and state and local government, our members and the NFSA Capitol Region Chapter have begun to retrofit the historic building on State Circle in Annapolis, Maryland that houses the Maryland State Fireman's Association. A big thank you to Terry Victor of JCI, who took on this project back when he was Chair of the Capitol Region Chapter and our staff member Caleb Armbrust, who made many trips to Annapolis lining up all the stakeholders involved. Thanks also go to Josh Shapiro of Reliable, who is now the Chair of the Chapter and to our staff member Terin Hopkins for seeing the job through. We are beyond appreciative for the support of Maryland State Fire Marshal, Chief Brian Geraci and the entire Executive Board of the Maryland Fireman's Association.

It great to see our members leading the way by donating the products and services for this retrofit. As our very own Jim Dalton always said, it's not preserved until it's protected. •



NFSA Members Give Back in Memory of One of Their Own

On Tuesday, November 10, 2020, NFSA member, Mr. John Abbate, The National Fire Sprinkler Association of CT and NFSA member W & M Fire Sprinkler Services initiated a Food Drive in memory of one of their own, Mr. Troy Orsini. The 1st Annual Food Drive raised \$ 1,200.00 and a full van of food and goods.

Mr. Troy Orsini was a highly respected Project Manager for W & M Fire Protection Services, who had tragically passed away from COVID 19 in May, 2020.

Thank you to the NFSA CT Chapter for reaching out to their members in the fire sprinkler industry and for W & M Fire Protection Services for collection and delivery to the Food Pantry. A special thank you to Mrs. Karen Orsini and Sammi Orsini, Troy's wife and daughter for coming to support the cause. "Troy would have loved this, to support families in need." •



NFSA Texas Chapters in Action January—April 2021

NFSA Texas Chapter wishes everyone a Happy New Year and Welcome to a new Decade (2021) with a Howdy and Invitation to attend high quality & low cost online training with CEUs. Open to all even if you're not in Texas!

CEU-Online Training Events

\$50 Members/\$100 Non-members/\$0 Government Members

NFPA 13, 14, & 20 Updates (2016 Versions)

Virtual Training January 27, 2021

Hosted by NFSA TX

Bring your 2016 Edition of the sprinkler, standpipe, and fire pump standards a highlighter. This 2.5-hour seminar discusses the significant changes to the sprinkler, standpipe & fire pump standards. The seminar will discuss the reasons supporting changes, as well as their potential impact.

NFPA 25 For 2021!

Virtual Training February 24, 2021

Hosted by NFSA TX

This online training will prepare fire sprinkler technicians and facility managers with the tools and fastest way to Inspect and Test!

Storage Fire Protection

Virtual Training March 10, 2021

Hosted by NFSA TX

The participant will be guided through a series of decisions and

requirements that lead to compliance with NFPA 13 and ensure the system will operate properly when needed.

NFPA 14 – Standpipes for Fire Protection

Virtual Training April 14, 2021

Hosted by NFSA TX

This program provides the participant with the requirements for design, layout, installation, and acceptance testing of standpipe systems using NFPA 14. Through discussion and activities, the seminar will address topics such as system pressures, the challenges of tall buildings, requirements for horizontal standpipes and the acceptance requirements for standpipe systems.

NFSA TX Chapter Meeting Schedule

Winter NFSA Texas Chapter Meeting 2/18/21

NFSA Wisconsin Chapter Airs NFSA Commercial

NFSA's Wisconsin Chapter bought airtime on WITI – Fox TV6 in Milwaukee during Fire Prevention Week. This purchase included 48 commercials, one Fox Focus and a link on their Facebook page. This was to promote the Fire Sprinklers Buy Life campaign and the firesprinklersbuylife.com website. This is the third time this year that the chapter ran this campaign (February and May), but the first time this amount of commercials were targeted in a short period of time. The analytics were positive for all three campaigns and we look forward to other campaigns in the next year. •

SPRINKLING

SPRINKLING OF NEWS

■ Johnson Controls Launches Industry —First Smart Fire Sprinkler Monitoring Solution

Johnson Controls announces the launch of its Smart Connected Fire Sprinkler Monitoring solution. This industry-first solution delivers real-time insights into fire sprinkler system health to enable swift preventative action. The solution empowers building managers to transform their maintenance strategies from reactive to proactive, helping to prevent costly and dangerous equipment failures before they occur.

Leveraging the latest in monitoring, sensor and data transfer technology, the Smart Connected Fire Sprinkler Monitoring solution continuously gathers information, such as pressure, temperature and water presence, to measure the overall health of the sprinkler system. This information is relayed to the customer dashboard via the cloud. When collected data indicates a potential adverse system condition, such as freezing pipes, pressure imbalances or pipe leaks, a proactive notification is automatically sent to the building manager who can then quickly address the issue.

The alternative is costly and dangerous; gone unnoticed and unresolved, these adverse conditions can eventually lead to complete fire sprinkler system failure. As a result, the building is at risk of complete shutdown, leading to expensive emergency repairs, business disruption, loss of profits and removal of occupants. And with resources tighter than ever, this is a situation many businesses cannot afford.

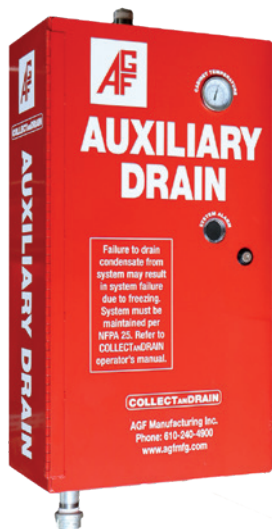
The Smart Connected Fire Sprinkler Monitoring solution is just one component of the OpenBlue suite of tailored, data-powered technologies. These cutting-edge technologies combined with data provide actionable insights that allow buildings to become more intelligent spaces and empower facility managers to optimize their facilities' operations and safety.

To learn more visit www.johnsoncontrols.com.

■ AGF Introduces Self-Maintaining Auxiliary Drain

AGF Manufacturing introduces their COLLECTANDRAIN Model 5450 Self-Maintaining Auxiliary Drain. The Model 5450 is the latest in their line of heated auxiliary drain cabinets and includes all the benefits of the original Model 5400. The new cabinet features the ability to self-maintain the drain level and allow for maintenance to be better regulated.

The COLLECTANDRAIN line includes a series of auxiliary drains in several configurations to meet and exceed NFPA 13 and 25 standards addressing drainage recommendations for dry and pre-action fire sprinkler systems.



COLLECTANDRAIN heated cabinets are temperature controlled to prevent freezing and include integrated NFPA 25 signage on a lockable cabinet.

Model 5450 incorporates a unique new feature designed to prevent the auxiliary drain from filling beyond the safety level of the cabinet by automatically shedding condensation from the drum drip in small amounts. After a certain level of condensation has accumulated in the auxiliary drain, additional condensation will spill into a drain trap that is designed to allow it to drain from the system automatically without tripping the dry valve.

To learn more visit www.agfmfg.com.

■ Potter Announces a Corrosion Resistant VSR Flowswitch

Potter Electric Signal Company announces an addition to their suite of corrosion resistant monitoring devices, the VSR-CR Flowswitch. The VSR-CR is UL and ULC listed and rated NEMA 4X to withstand corrosive environments for long periods of time with minimal corrosion damage. Thanks to its corrosion resistant saddle and housing, the VSR-CR can monitor systems that are exposed to nature's elements without fear of damage or inoperability. Potter's product line of corrosion resistant monitoring switches also includes the OSYSU-CRH and PCVS-CRH which monitor outside screw and yoke valves and control valves respectively.



For more information, visit www.pottersignal.com.

■ New State-of-the-Art Pipe Fabrication Facility Brings New Jobs to Alabama and Nationwide Distribution

From NFSA President Shane Ray: It was an honor to be in Lawrence County, Alabama for the grand opening ceremony of Progressive Pipe Fabricators. I would like to thank Rob Vincent, Chief Operating Officer of Shambaugh & Son L.P., for the invite. I was in attendance with NFSA Board of Directors member and President of Viking Group James Golinveaux, as well as NFSA's Southeastern Regional Manager Brian Biggs. We met with Twinkle Andress Cavanaugh, President of the Alabama Public Service Commission, to discuss the fire sprinkler industry and the important role our members play in protecting property and tax bases across the state and country.

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We spent time with key state officials discussing the important role fire sprinklers play in protecting jobs and critical infrastructure. We discussed the importance of scalable operations for fire sprinkler contractors, suppliers, and manufacturers as they work diligently to protect not only lives and property within the state, but also the lives of firefighters, with Alabama Public Service Commission President Cavanaugh and Alabama Secretary of State John H. Merrill I was able to share how Alabama was a leading state in the country because of the Alabama Fire Chiefs Association's program "Turn Your Attention to Prevention".

Prior to the ribbon cutting, Shambaugh & Son LP COO Rob Vincent presented a check to Kierra's Hope, a local food bank to provide meals at Thanksgiving. It was great to see the far-reaching



benefit to the community. We also enjoyed lunch with the workers that now have jobs thanks to our industry coming to town and partnering with other companies.

It is always an honor to represent NFSA and promote this great industry.

Progressive Pipe Fabricators, a division of NFSA member Shambaugh & Son L.P., celebrated the grand opening of their new Trinity, Alabama facility with a ribbon-cutting event. Shambaugh is currently the largest MEP construction services contractor in Indiana and ranked the third largest specialty contractor in the

United States.

The new 82,000-square-foot fabrication facility, which has been under construction since January, will fabricate and deliver more than 20,000 individual sprinklers per week, and has the capacity to ship more than 1-million pounds of fabricated sprinkler pipe per week.

With the opening of this new facility, Progressive Pipe Fabricators has also created 60 new jobs in Lawrence County.

The new facility is located at 2060 Cooperage Way, Trinity, AL 35673.

■ Anvil International® Becomes Master Distributor of Kennedy Valve Solutions for Fire Protection Industry

Anvil International® and Kennedy Valve have announced a new partnership, naming Anvil as the master distributor of Kennedy Valve products for the fire protection industry. Kennedy Valve offers one of the broadest lines of UL/FM valves and indicator posts in the market, making them a perfect addition to Anvil's expansive line of industry-leading fire protection solutions.



Anvil will provide reliable, cost-effective, innovative Kennedy Valve solutions including UL/FM grooved and wafer butterfly valves; UL/FM grooved, wafer, and flanged check valves; UL/FM indicator posts; and Series 5000, 7000, and 8000 UL/FM resilient wedge gate valves, across North America.

Anvil's offering for the fire protection industry includes grooved couplings and fittings, hangers and supports, flexible fire sprinkler connections, valves, seismic solutions, and more.

For more information on Anvil's Kennedy Valve solutions, visit www.anvilintl.com.

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■ Viking's New High Expansion Foam Systems Specifically Designed to Aerate Foam with No Moving Parts

The Viking Corporation announces the availability of new UL Listed High Expansion Foam systems, which distribute a foam-water solution to a specific hazard area within a protected facility, such as aircraft hangars. The systems feature an innovative foam generator, uniquely designed to aerate high expansion foam with no moving parts or external power requirements.

Viking's High Expansion Foam Suppression system forms a stable blanket that suppresses flammable vapors and cools down the fuel surface, resulting in an extinguished fire and preventing re-ignition. The system features stable bubbles with expansion rates in excess of 830:1. The generators, which feature a stainless steel body and a painted stainless steel nozzle manifold, weigh just 153 lbs. In addition, the generators are available for either vertical or horizontal installation with single or paired mounting capabilities, making them a highly versatile option for foam suppression applications.

Viking's High Expansion Foam systems are complemented by several digital tools. Designers and estimators can use the new "HiEx Estimator" tool to assist with calculating the number of generators and amount of concentrate needed for NFPA 409 and UFC projects. From the web-based tool, users can quickly create a complete system materials list after choosing the applicable design. In addition, an online interactive guide provides step-by-step instructions for the installation of high expansion foam generators.

To learn more about Viking foam suppression systems, visit www.vikinggroupinc.com or contact your local Viking SupplyNet distribution center. •

The National Fire Sprinkler Association Announces Change in Date for its Annual Seminar & Expo

Due to COVID-19, the Board of Directors of the National Fire Sprinkler Association has decided to move the dates of its Annual Seminar & Expo from May to October 5-7 2021.

The event will take place at The Cosmopolitan in Las Vegas. A new and innovative socially-distanced expo will be featured, with tabletops available for purchase by exhibitors set in a private ballroom. The 10x10 spaces will insure both the safety of exhibit staff and attendees and make for a one-of-a-kind personalized expo experience. The Association's much anticipated Top Tech Competition will take place in the expo hall, attracting many who come early and stay late to visit with exhibitors. More details will be coming shortly. Keep an eye on the NFSA website at www.nfsa.org. We look forward to embracing our new normal and to seeing friends, both old and new.

FUTURE DATES FOR NFSA ANNUAL SEMINARS AND BUSINESS AND LEADERSHIP CONFERENCES

October 5-7, 2021

Cosmopolitan, Las Vegas, NV

May 3-6, 2022

Sheraton Sand Key, Clearwater Beach, FL

May 3-6, 2023

Marriott Marquis, Washington, DC

May 7-10, 2024

Wailea Beach Resort, Maui, HI

NFSA offers a variety of training classes both in person and online training options including live virtual training classes, recorded programs, self-paced interactive or blended learning formats.

NFSA is leading the industry, with training topics such as:

- NFPA 13, 14, 20 Standard Updates
- Sprinkler System Plan Review
- Standpipes for Fire Protection
- Pumps for Fire Protection
- Inspection, Testing and Maintenance
- Layout and Design
- Advanced Pumps
- Advanced Hydraulics

And so much more!



Don't miss NFSA's **Technical Tuesdays Live Online Training**. Tech Tuesdays are offered monthly and are FREE to members!

Check out NFSA Training at www.nfsa.org/training

REGIONAL NEWS

**From Maine to California,
and every place in between,
NFSA Regional Managers bring
the best of the Association
right to your doorstep.
Helping our members is Job #1.**

NEW YORK

Paid Sick Leave Law

On April 3, 2020, Governor Cuomo signed legislation establishing the right to paid leave for New Yorkers. New York's paid sick leave law requires employers with five or more employees or net income of more than \$1 million to provide paid sick leave to employees and for employers with fewer than five employees and a net income of \$1 million or less to provide unpaid sick leave to employees. This new law is in addition to the New York State provisions already in effect providing emergency paid sick time due to COVID-19.

On September 30, 2020, covered employees in New York State began to accrue leave at a rate of one hour for every 30 hours worked. On January 1, 2021, employees may start using accrued leave.

For more information, visit www.ny.gov/programs/new-york-paid-sick-leave.

NEW JERSEY

Fatal Fire in Elizabeth Claims Four Lives, Including Three Children

Residents of Elizabeth, NJ, are in a state of mourning after a fatal fire claimed the lives of three children and one adult during Fire Prevention Week 2020. The fire, which broke out in a store below where the victims were, started around 6 p.m. and grew to be a six-alarm blaze.

Officials on the scene reported that one stairway that led out was covered with smoke and fire. The victims attempted to escape via another stairwell, but the door leading there was covered with a locked metal gate. First responders on the scene heroically attempted to move the metal gate but, despite their brave efforts, were unable to do so. Investigators told reporters that they believe the fire started in a soda machine or a cooler in the commercial property below the residence.

To date, nearly 40 residents of New Jersey have lost their lives in home fires in 2020. None of these homes were equipped with fire sprinklers, and all of them— including the one in Elizabeth that claimed the lives of three young children— were preventable.

The New Jersey Fire Sprinkler Advisory Board (NJFSAB) extends

its condolences to the families and the community affected by this fatal fire. The fact that this fire occurred during Fire Prevention Week only highlights the need for more public education and stricter fire codes. Home Fire Safety Week has saved countless lives by giving local fire departments an opportunity to reach out to their communities through public education and resources. Tragedies such as this are always preventable and can hopefully become a thing of the past through increased outreach and code changes that includes fire sprinklers in all residential occupancies.

The New Jersey Fire Sprinkler Advisory Board is a free resource for all things fire safety related, from home fire safety to fire sprinkler education. For more information on the New Jersey Fire Sprinkler Advisory Board's mission to stop fire deaths visit www.saveandprotect.org.

FLORIDA

Buddy Dewar Golf Classic Postponed

The Florida Fire Sprinkler Association made the difficult decision to postpone the 26th Annual Buddy Dewar Golf Classic. It was a hard call as you want to do the best thing for our members, and we were so looking forward to getting together. With the COVID



numbers climbing and many states are talking another shut down, the Board of Directors felt that we should do everything in our

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power to not have such a large gathering. We love this event and are so grateful for the support we get every year, no one wanted to cancel. But in the words of our President, Clark Gey “2020 has been unprecedented times for not only our industry, association and valued members but for this great country we’re blessed to live in. I want to Thank each member of our board for their willingness to engage and make difficult decisions with care and concern for all. I firmly believe in and support our Team in making the right call as the potential downside far outweighs any potential upside.” Please plan on joining us for the 26th Annual Buddy Dewar Golf Classic in March of 2021. We are hoping for a greater year and again, thank you for your support and for understanding the position we were in, lets keep working.

NFSA SOUTH CENTRAL/AREA 8 **2020 Year in Review**

NFSA South Centra/Area 8 did not just watch things happen in Arkansas, Louisiana, Oklahoma, and Texas during the COVID-19 pandemic; we made things happen!

BC – Before COVID: NFSA Hosted two in person training weeks

Pharr Texas – February 25-27, 2020

Pflugerville Texas – February 12-13, 2020

AC – After COVID: NFSA Texas hosted 6 Chapter Virtual

Meetings: May – November 2020

Pumps A – Z: From Selection to Protection

May 13, 2020, 11:45 a.m. – 1:00 p.m.

NICET, NFSA & Texas State Fire Marshal Licensing

When: June 17, 2020, 11:45 A.M. – 1:00 p.m.

IBC & NFPA Alternate Methods of Design

When: August 12, 2020, from 11.45 a.m. to 1:00 p.m. CST

What Does a Fire Survivor Really Want?

Burn Me Once – Don’t Burn Me Again

When: October 15, 2020/1:30 – 3:30 p.m.

Retrofit for Un-sprinklered Multi-family Buildings featured model code wording.

Roles & Responsibilities in Fire Protection Systems Design

When: Tuesday, November 17, 2020/11:00 a.m. to 1:00 p.m.

A panel discussion regarding the responsibilities of the roles involved in fire protection systems design - will consist of one representative from each role, including fire protection engineer, fire protection contractor, and AHJs.

Is the Code Right? Code Requirements for Sprinkler Design Vs. Full Scale Fire Test Results

When: November 18, 2020/11:00 AM - 12:15 PM (CST)

Code Requirements Vs. Performance Based Design

2021 Legislation to Watch

Arkansas – Existing fitter licensing in Arkansas is currently being reviewed by the Arkansas Occupational Licensing Legislative Subcommittee. NFSA have been providing Licensing resources to retain the current level of licensing.

Oklahoma – Occupational licensing review & universal licensing legislation is expected in 2021. In preparation, a preemptive bill is being filed by the Oklahoma Burglar & Fire Alarm Association. OKBFAA works with the fire sprinkler industry as a partner and is asking for our support of their amendments to Oklahoma - SB 1891

Texas - The Texas Plumbing Licensing Law was sunset in 2019 and extended to the 87th Legislative Session of 2021 by emergency order of Governor Abbott. Fire Sprinkler Contractors are included in this 2009 multi-purpose law that removed local option for 1-2 family fire sprinklers.

The Texas Commission on Fire Protection is currently under sunset review. The TCFP is the certifying body for all firefighter qualifications.

ILLINOIS

No Fire Sprinkler Protection in Chicago High-Rise Fire That Injured Six

On September 15th, fire broke out in a high-rise building in Chicago. The 40-story condominium building is not protected with fire sprinklers.

In Chicago, all new high-rises built after 1975 have been required to install fire sprinklers. Older residential high-rises were required to be retrofitted with fire sprinklers or use less effective, passive fire prevention measures in order to pass the city’s Life Safety Evaluation (LSE) deadline of January 1, 2015. The 400 East Randolph high-rise chose to comply with the city’s Life Safety Evaluation without installing fire sprinklers, leading to the events in the fire.

“Many people would be surprised that there are hundreds of residential high-rise buildings in Chicago that are not protected with fire sprinklers, yet these buildings comply with the city’s LSE requirements,” said Erik Hoffer, executive director, Northern Illinois Fire Sprinkler Advisory Board (NIFSAB). “High-rise buildings are already high-risk in nature, especially for the elderly and people with disabilities. Not having an active fire suppression system adds to the danger.”

“If fire sprinklers were present, this wouldn’t have been a news story. Only the sprinkler closest to the fire would have activated, keeping the fire small or putting it out, and allowing people and their pets to safely escape. The damage would have been minimal,” Hoffer added.

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MINNESOTA

Brooklyn Park Side by Side Demo Reaches 4,000 People!

The Brooklyn Park Fire Department held several virtual public education sessions as part of National Fire Prevention Week 2020. One of the sessions was a side by side demonstration streamed live to the City of Brooklyn Park Facebook page. That demonstration has reached over 4,000 viewers! The incredible ease at which a department can reach so many audience members is exactly what makes social media such a powerful influence in today's society.



The burn took place on October 8th at the Brooklyn Park Central Fire Station, using a side by side demonstration trailer built by the fire department from plans and partial grant funding from the Home Fire Sprinkler Coalition. The October 8th burn was the second burn conducted using this trailer. NFSA staff was on hand to witness the demonstration and to provide technical advice and assistance. The burn was conducted by the department's Fire Marshal Dan Krier (NFSA member) and Deputy Fire Marshal Jeff St. Martin.

Audience members were treated to a very comprehensive show! In addition to the sprinkler demonstration, the presentation included great fire prevention and home fire safety information as well as very informative details about fire propagation and fire department staffing, response times, and operations.

The side by side demonstration was a complete success. Smoke alarms activated in six seconds. The fire sprinkler activated just 21 seconds after ignition, and flashover took place in just over 1 minute! The final side by side comparison between "sprinkler-protected" and "unprotected" living rooms provided a graphic lesson to the thousands of audience members.

MISSOURI

Fire Sprinkler System Saves 183 year-old Building

In August 2020, a kitchen fire broke out at Niedermeyer Apartments in Columbia, Missouri.

It took around two minutes from when the Columbia Fire Department received the alert to when they arrived at the scene.

Assistant Fire Chief Brad Fraizer said if it weren't for a sprinkler system installed in 2013, the situation could have been much worse. "While it was unfortunate that we had a fire there, we're very thankful that there was a sprinkler system in place, it worked as intended," Fraizer said.



The 183-year-old building is one of the oldest buildings in Columbia. In 2013, Nakhle Asmar purchased the building to prevent it from being demolished. When he bought the building, Fraizer suggested Asmar install a sprinkler system since the building had been grandfathered in. "I talked to him about installing a sprinkler system," Fraizer said. "It would help that building in the event of a fire like we just experienced, especially not only because of the age, but also because of the construction type of that building." "He said, the rules, you know 'you don't have to do it, but you'd sleep better if you installed a fire sprinkler system,'" Asmar said.

The fire began when a tenant set a bag on top of the stove. According to Asmar, the tenant called the city to turn the power on in his apartment, not realizing the stove had been turned on.

Asmar said he's thankful for the advice from Chief Fraizer and he's glad the sprinkler system did its job.

"No one was around. That's the amazing part, is that the fire was put out before people knew there was a fire," Asmar said. "I don't know what could have happened if the sprinkler wasn't there."

WISCONSIN

Wisconsin Attorney General Reverses Previous AG Opinion

The current Wisconsin Attorney General Josh Kaul was asked to review the previous Attorney General Brad Schmiel's opinion on the ability of an agency to promulgate and enforce administrative rules. The original request for an AG opinion came from the Wisconsin Builders Association and Wisconsin Realtors Association regarding the question of conflict between an administrative rule and state statute regarding fire sprinkler requirements in multi-family occupancies. Wisconsin adopted the 2006 International Building Code in 2008, thus requiring all new construction or change in use in multi-family residences 3 units and above to be

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protected by fire sprinkler systems. The statutes at the time required fire sprinklers in multi-family occupancies over 21 units. In 2011 the State of Wisconsin passed legislation (Act 21) prohibiting any administrative rule to be stricter than state statute. A request was made to the AG in early, 2017 to interpret whether the administrative rule was in conflict with statutes. The Attorney General ruled that they were in conflict and the statute must be followed. The Department of Safety and Professional Services determined that because the current adopted requirement assumes that building is protected by fire sprinklers that added trade-offs needed to be identified from previous editions and be required in unprotected occupancies.

The current interpretation reversed the previous opinion citing that the statutes does not alter explicit rulemaking authority and that Act 21 did not address how it applied to current authority and enforcement of existing rules. While the original opinion addressed a specific question regarding fire sprinklers the current opinion addresses the specific statute giving the agency rulemaking authority and that nothing in Act 21 altered the agency's ability of enforce existing promulgated rules.

NEW HAMPSHIRE

NFSA Partners with NH State Fire Marshal for Christmas Tree Burn Demo

On November 18th, NFSA teamed up with the New Hampshire Fire Marshal's Office to perform a live side-by-side Christmas Tree Burn Demo at the New Hampshire Fire Academy in Concord, NH. NFSA's Dave Lafond and Fire Marshal Paul Parisi narrated the demo to an audience composed of several media outlets, NH



Fire Academy personnel, State Fire Marshal's Office personnel and students from a Peterborough, NH high school.

"Trees tend to burn fairly rapidly," Parisi said. "And we want to stress the importance of some holiday safety tips during this demonstration."

LaFond offered commentary as the flames became engulfed in the room without the sprinkler, offering a rough idea of what the temperature was in the room, and how, if there were residents, they only had a few minutes to get out before the fire grew so hot that it would become fatal.

"We're now about 1,400 degrees at the ceiling," he said, as the fire and smoke bellowed from the mock room. "We've reach flashover. Nobody can survive flashover."

In less than four minutes, the room was engulfed in flames and after being doused, showed heavy damage. After eyeing the three minutes and 50 second time for the first fire, LaFond remarked, "Most likely, the fire department hasn't responded yet . . . you need to do something in that time. You have to get out of your home."

The second demonstration, featuring a mock living room with a fire sprinkler, had some technical glitches — the fire did not catch as quickly, and the sprinkler did not go off right away. But even with those issues, after two minutes and 20 seconds, the sprinkler activated and then, quickly flooded the flames.

"It flows at about 13 gallons per minute of water," LaFond said.

LaFond said the difference between the two post-fire settings was noticeable — the damage done in the room without the sprinkler could take months to fix and even require rebuilding whereas with the room with the sprinkler, the home would still be fairly livable.

"You can really see the difference in the damage," Parisi said.

Parisi said he did not know how many homes in New Hampshire had sprinkler systems. The state does not require them in one- or two-family unit buildings although, "we encourage it," he said. Buildings with three or more units must have them, Parisi said.

HAWAII

High-Rise Fire Reignites Fire Sprinkler Debate

The blaze started in a unit on the sixth floor of Naniwa Gardens on November 11th, and according to the Honolulu Fire Department (HFD) it was extinguished in about an hour. Two dogs were killed. No injuries were reported.

Three years ago the deadly fire at Marco Polo sparked a change, requiring all structures taller than 75-feet without sprinklers to go through a "Life Safety Evaluation." The new standard is for HFD inspectors to check things like access to exits, elevators, and emergency power.

"We feel anytime we can shorten or eliminate those hazards, it's in the benefit of not only the building's residents but our firefighters who respond to these buildings in question," said Captain Ari Agpaoa. "Anytime we want to prolong and keep the hazards in play, we're gambling with people's lives."

The Honolulu City Council is considering a bill to extend the time for inspection by another year. It has already passed a second reading. •



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 sent as attachments to emails or through a file transfer site. We cannot use images embedded within a document. 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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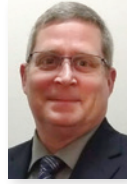
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