

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

September-October 2022

No. 234



NFSA MEMBER TAKEOVER ISSUE

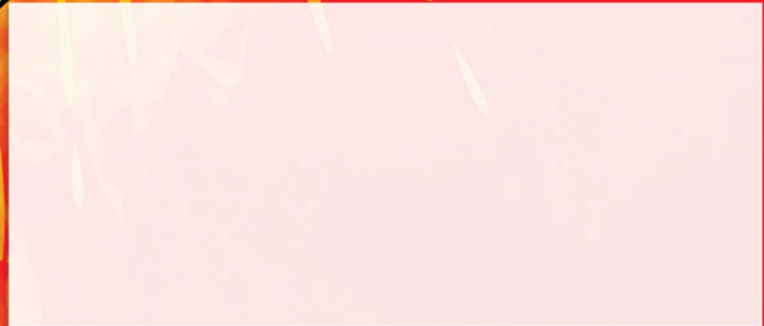


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ON THE COVER

Team NFSA is thrilled to present our 4th annual Member Takeover issue. Thank you to our members that took the time to pen some outstanding articles, let us peek behind the scenes at the inner workings of their companies, and placed the advertisements that make it all possible! Be sure to watch for an email from Readex Research where you will have the opportunity to answer a survey to help us deliver the articles and ads that YOU want to see!

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Water-Based Inspection Training - St. Augustine

Starts: Sep 20, 2022 08:00 AM (ET)

Ends: Sep 22, 2022 05:00 PM (ET)

Where: *St Johns County Fire Rescue HQ, 3657 Gaines Rd, St. Augustine, FL 32084*

Tech Tuesday: Best of NFSA's Expert of the Day: NFPA 14 – Standpipes

When: Sep 20, 2022 from 12:30 PM to 01:30 PM (ET)

Online

Design Advantage – Fire Sprinkler Systems and the International Building Code

When: Sep 21, 2022 from 09:00 AM to 05:00 PM (ET)

Where: *NFSA Headquarters, 514 Progress Drive, Suite A, Linthicum Heights, MD 21090*

OCTOBER

Tech Tuesday: Best of NFSA's Expert of the Day: Model Codes – ICC and NFPA

When: Oct 18, 2022 from 12:30 PM to 01:30 PM (ET)

Online

CRFSA Developed for the Inspector

When: Oct 19, 2022 from 09:00 AM to 03:00 PM (ET)

Where: *Maryland Fire Rescue Institute, 4500 Campus Dr, College Park, MD 20742*

NOVEMBER

Rough and Final Inspections of Fire Sprinkler Systems

When: Nov 8, 2022 from 08:00 AM to 05:00 PM (CT)

Where: *Broken Arrow Public Safety Complex, 1101 N. 6th Street, Broken Arrow, OK 74012*

Fire Sprinkler System Plan Review (2-day)

Starts: Nov 9, 2022 08:00 AM (CT)

Ends: Nov 10, 2022 05:00 PM (CT)

Where: *Broken Arrow Public Safety Complex, 1101 N 6th St., Broken Arrow, OK 74012*

Tech Tuesday: Best of NFSA's Expert of the Day: NFPA 25 – ITM

When: Nov 15, 2022 from 12:30 PM to 01:30 PM (ET)

Online

Understanding, Applying and Enforcing NFPA 25

When: Nov 16, 2022 from 08:00 AM to 05:00 PM (ET)

Where: *NFSA Headquarters, 514 Progress Drive, Suite A, Linthicum Heights, MD 21090*

DECEMBER

Tech Tuesday: Best of NFSA's Expert of the Day: NFPA 20 – Fire Pumps

When: Dec 20, 2022 from 12:30 PM to 01:30 PM (ET)

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Sharing a Legacy

I still remember my first visit to the Harry S. Truman Little White House in Key West, Florida. Having started my fire protection career with Lockheed Martin at the K-25 Facility in Oak Ridge, Tennessee, I was already a Harry S. Truman fan because of being part of the Manhattan Project facility. The decisions made by President Truman are unimaginable to us today. Also unimaginable to me was the fact that I would be able to sit in the Little White House where Truman made many of those decisions with his Grandson, Clifton Truman Daniels.

It is an honor to have Clifton write my article during the member takeover and it's even more of a blessing to have him come and open our 2022 Business and Leadership Conference in Clearwater, Florida. Clifton brings his grandfather to life for us and I can't wait for you to experience it with us. The opening will include a piece of a speech President Truman gave when he opened the 1947 Presidents Conference on Fire Prevention. This was an event President Truman convened that is still making a difference to this day.

It is hopeful that President Biden will convene a Presidential Summit on Fire in America sometime before he is out of office. We know that our United States Fire Administrator Dr. Lori Moore-Merrill is working hard to make this a reality. She was part of the Truman Fire Forum that was convened in 2019 in Key West thanks to the National Fallen Firefighters Foundation (NFFF) and the Harry S. Truman Key West Little White House Foundation. This event brought all the nation's highest fire officials together to look at the increasing fire problem in America today and yes, Clifton Truman Daniels was at the event.

The Truman Fire Forums will continue around the country thanks to a partnership between NFSA and the NFFF. What we once knew as Fire Team USA will now be the Truman Fire Forums, an attempt to bring policy makers and public fire and building officials to adopt the latest building and fire codes. This is all possible thanks to the Assistance to Firefighters Grants programs of Federal Emergency Management Agency (FEMA) within the Department of Homeland Security (DHS).

Again, the pleasure is mine to introduce Clifton Truman Daniel in the National Fire Sprinkler Magazine. He is a great man and a great friend to the American Fire Service. —*Shane Ray*



“Safety From Fire”

by Clifton Truman Daniel

My grandfather, Harry Truman, is synonymous with many things, the end of the war with Japan, the Marshall Plan, and the Truman Doctrine chief among them. But it is not generally known that he's one of the people responsible for fire sprinkler systems, smoke alarms, fire resistant clothing and furniture, health and safety measures for fire fighters, and many other fire prevention and protection programs and standards that we take for granted.

In the years leading up to my grandfather's presidency, the nation had suffered a series of horrendous fires, notably the destruction of the Cocoanut Grove nightclub in Boston on November 8, 1942, that killed 492 people and injured another 130. On April 16, 1947, fires aboard two ships at the Port of Texas City, TX caused their cargos of ammonium nitrate to explode, destroying much of the port and setting a nearby oil refinery ablaze. The blasts, two of history's biggest non-nuclear explosions, hurled parts of the ships, including a two-ton anchor, almost two miles inland. At least 581 people died, including every member of the Texas City volunteer fire department, save one.

Three weeks later, on May 6th, in opening the first ever national fire prevention conference, my grandfather said, “The Texas City disaster drove home anew the lesson that we must find ways and means to combat the ever-present danger of fire and explosion... Thousands of lives are lost annually and tens of thousands of people are injured in the many less spectacular fires which occur hour after hour, and day after day, throughout the year.”

The conference he convened brought together for the first time the top elected and appointed officials in towns, cities, states, and the federal government, along with national fire prevention and safety groups. The goal was to encourage officials to accept responsibility for fire safety and enlist public support for laws and ordinances on fire prevention and

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From the President's Desk

Clifton Truman Daniel

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protection. As Grandpa said, "We are approaching the fire problem on a truly national basis."

By the following year, 34 states had established fire safety committees, 18 were holding prevention and safety conferences, 1,832 cities were sponsoring National Fire Prevention Week activities (more than double the previous year), and the National Education Association had developed a fire prevention education program.

That my grandfather took such an interest doesn't surprise me. He was — and remains — one of the few politicians to get into the business solely to make things better. He made his name as a county administrator in Jackson County, MO, by building hospitals and roads. As a United States senator, he went after the Wall Street "tinfoil millionaires" for gutting the nation's railroads, crippling vital rail transportation, and leaving almost a million people jobless. During World War II, he led the nonpartisan Senate Special Committee to Investigate the National Defense Program, saving billions of dollars and countless lives by exposing everything from shoddy military housing to bombers with wings too short to fly.

At war's end, he was incensed by reports that black servicemen, having risked their lives for their country, were coming home to be beaten and lynched. He called publicly for the prosecution of a South Carolina police chief who blinded Sgt. Isaac Woodard for not kowtowing to a white bus driver. On July 26, 1948, he signed Executive Order 9981, desegregating the nation's military.

He cared little for political consequences. When South Carolina Sen. Strom Thurmond worried to a colleague that Grandpa was going too far with Civil Rights, the colleague pointed out that Roosevelt had paid lip service to the same things. "Yes," Thurmond said. "But Truman means it." One of my grandfather's longtime aides, George Elsey, once told me that when there was a problem, George presented several solutions, each paired with the political consequences. Grandpa always chose the one that helped the most people but was guaranteed to piss off everybody politically.

"Our first concern is for the lives of our people, especially those of young people," he said at the 1947 conference. "Fire strikes

hardest at youth. Two thousand children, on the average, die every year from burns, and thousands of others are scarred and injured for life."

He went on to point out the devastating financial toll. In the year leading up to the conference, fires had destroyed \$560 million in lost goods, property, and natural resources. The loss going forward, if nothing was done, would approach three quarters of a billion, about \$9.4 billion today.

But, he said, "no dollar value can ever be put on the irreplaceable things which fire destroys. Who can count the value of a human life destroyed by fire? Who can say what a fire costs when it destroys thousands of tons of food sorely needed here and abroad?

"The Texas City disaster drove home anew the lesson that we must find ways and means to combat the ever-present danger of fire and explosion... Thousands of lives are lost annually and tens of thousands of people are injured in the many less spectacular fires which occur hour after hour, and day after day, throughout the year."

What is the value of a house, the burning of which makes a family homeless during this housing shortage? Who can put a dollar value on a burning forest?"

He ended the speech by paying tribute to firefighters: "Were it not for their bravery and their willingness to sacrifice," he said.

"Our death toll would be much higher and our losses even more appalling than they are today. I hope that this conference will help to produce conditions that will make our firemen's dangerous work less necessary, and their services, when needed, of even greater effectiveness."

He ended by calling for the constant vigilance that exists today on the part of our firefighters and among the members of organizations like the National Fire Sprinkler Association and the National Fallen Firefighters Foundation. Their vital work comes home to me regularly. One of my brothers-in-law is the retired fire chief of LaGrange, IL. One of our nephews is a Chicago firefighter. Grandpa called our support of their work, and the work of the organizations supporting them, a year-round public responsibility.

"Safety from fire," he said, "should not be a topic for discussion during only one or two weeks of the year."•

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Fire Sprinklers Save Lives!

Tradition

Tradition is a wonderful thing. We have a tradition at NFSA where once a year those of us privileged to prepare a column for the Sprinkler Magazine ask a fellow member to step in and write the piece in our place. To my guest writer I say: no restrictions, open forum, speak from the heart and enjoy!

My takeover guest needs little introduction; He is the longest tenured Board member in NFSA history and still very active today. Joining the Board in 1981, he has served as Chairman of the Board from 1990 to 1994 then Association Treasurer from 2008 to 2012. The 2008 recipient of the NFSA Golden Sprinkler Award and President of Reliable Automatic Sprinkler Company, I present to you a proud graduate of Boston College Mr. Kevin Fee. —*James Boulanger*



God Bless America, God Bless the Fire Sprinkler Industry

by Kevin Fee

This year on the Fourth of July I reflected on how great of a country is the United States of America. In spite of our present problems, it is by far the greatest country in the world and it is our responsibility to insure that status never changes. The lyrics in our song “God Bless America” ring so high and loud that we all must stand beside her and guide her through the night with the light above. It is our great country that gave birth to the fire sprinkler industry in the very late 19th century, which in turn as grown so significantly and successfully. Because of fire sprinkler systems, so many lives and property have been saved from the ravages of fire.

It is always very interesting to review and reflect on the history of the great development of the fire sprinkler industry. There was a lot of thought, analysis, planning, and hard work involved in the development and implementation of strategies and programs to create an awareness and need for fire sprinkler systems. In the early years, it was primarily the support of insurance companies granting a reduction in insurance premiums for sprinklered buildings. The reduced premiums were large enough that the sprinkler system would be paid off in less than five years. It was the economic benefit that helped stimulate the demand. The greatest single factor in demand creation for fire sprinklers was “trade-offs” in the building design utilizing fire sprinkler systems. These trade-offs allowed buildings to be constructed at much lower costs, thus creating an economic benefit. It was so much easier to create and adopt codes and laws mandating sprinkler systems because by doing so one would receive the economic benefit. This pattern continued, and is still very effective today in stimulating increasing demand for sprinkler systems.

The most important factors in our success are the outstanding performance and effectiveness of sprinkler systems in saving lives and property and the creation of a strong industry trade association to represent our industry in the promotion and adoption of the fire sprinkler concept. We would not be even close to where we are without it.

The fire sprinkler industry has enjoyed great success in our growth and development in the past, but the best years are still ahead. There are many established industries that cannot say that. The world is witnessing major changes in major industries that are having a tremendous modification in providing goods and services to the public. Airline, automotive, pharmaceutical, distribution, hotel, medical, financial, oil, and gas just to mention a few. In my view the fire sprinkler industry has the potential to double the number of sprinklers installed in the U.S. market. We need to continue to install sprinklers in all new non-residential buildings, we must continue retrofitting sprinklers in non-residential buildings without sprinklers. We need to further penetrate multi-family dwellings, from low-rise to high-rise.

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From the Chairman's Desk

Kevin Fee

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The two areas with the greatest potential are the installation of sprinkler systems in every new single-family home and the adoption and enforcement of NFPA 25 in every state, city and municipality in the U.S. NFPA 25 needs to be expanded to include a reasonable, effective, and applicable sprinkler replacement program. This would be developed from a data base of information regarding condition and performance testing of sprinklers which can support replacement recommendations. Successful implementation of the expanded NFPA 25 would help insure the reliability and performance of fire sprinklers in a fire scenario.

This great potential will not materialize by itself. It will require the entire fire sprinkler industry to financially support the development and implementation of programs and strategies to make it happen!!!•



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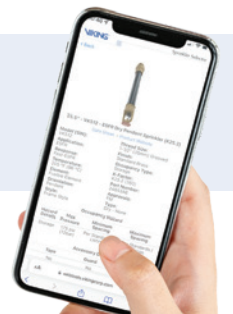
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by Michael J. Joanis, P.E., **Director of Contractor Services/Chief Engineer**



From Michael J. Joanis: Damon Pietraz is the president of Underwood Fire Equipment, Inc. He is an experienced fire pump professional with a demonstrated history of working in the mechanical and industrial engineering industry. Damon is also an NFPA 20 and NFPA 25 technical committee member. Underwood Fire Equipment has served the fire pump industry for over 30 years. Through innovative designs, experienced support, and a diverse network of

suppliers, they meet individual project's needs worldwide. Their products include a variety of brands of fire pumps, control panels, valves, diesel and electric engines, piping, and fiberglass storage tanks for installation projects and repair. They offer emergency fire pump trailer rentals and fabricate pump houses and skid units in-house. Underwood provides expert field technicians to handle testing and maintenance on all types of projects including high-rises, healthcare facilities, big-box warehouses, and industrial and manufacturing plants.

Connectivity: The Future of Fire Protection

By Damon Pietraz

Once you opened this magazine today, we instantly became connected. As a newer member of this organization, I've recently made many new connections with members through the NFSA Fastestwater Forum. Or maybe we've connected through email, LinkedIn, or other electronic platforms.

This concept of fluent remote connectivity goes well beyond business networking. It is common in healthcare, security, and even the industrial field to remotely monitor lift stations and cooling towers. If companies and their employees rely so heavily on remote connectivity to maximize their capabilities, then why isn't this same standard applied to fire safety as well?

Imagine a fire pump system that could be fully monitored and tested remotely with a multifaceted network of sensors that is applied to various components in a fire pump room. With this technology, they'll collect all the necessary data and relay it to a fire pump expert like me, who will be able to read suction PSI or check a flow meter's GPM from behind a desk anywhere across the world. This information can then be recorded so a building owner will have a better picture of what to expect when they turn a pump on, even if its last run was a month prior. Fire safety experts will be able to read transmitted data and interpret it to determine when and why a fire pump started, how long it ran, what parameters were in or out of range, and if a field technician is necessary to examine the system onsite.

Now imagine if this remote connectivity in a pump room were the standard. How much more reliable and efficient would fire pump testing and maintenance be? How many more properties would be properly maintained and protected? How many more lives saved if this dream became a reality? This is my goal and I believe we, as a community, can achieve it through connectivity.

Technologically progressive monitoring of fire pump systems isn't an entirely new concept. Michael Pietrangelo, Director of

Marketing for Tornatech, and I recently discussed this topic. "Remote access to fire pump controllers has been a topic of discussion for many years," He declared after I explained my mission, "The discussion has been based around 'is it necessary?', and yea, I think it's necessary."

Tornatech is an international fire pump controller conception and manufacturer. Their fire pump control panels are listed by UL and approved by FM. They are also built-in accordance with NFPA 20. When it comes to the topic of connectivity in fire safety, Underwood Fire and Tornatech share a similar mindset. Pietrangelo continued, "This discussion keeps going, I think eventually there could be kind of a solution or definite requirement. We're just going to keep working on it until we come up with that definite solution."

Although these ongoing conversations haven't been all optimistic. Some have resulted in perceived obstacles when it comes to achieving remote connectivity in fire suppression. One of the first is more research into identifying attributes that would maximize the benefit to both fire safety suppliers and end users. Additionally, overcoming the NFPA 20 limitations in this area by working with the technical committee to shape codes that will be consistent and attainable. Finally, planning and engineering the physical attributes that aren't already in conception, regarding technology, that would meet the needs of both providers and customers.

From a fire suppression expert's perspective, it's easy to understand why information gathering would be beneficial, we don't often hear the opposite side's perspective. Fire marshals and building owners, for example, both have a hand in maintaining the fire pump systems. Insurance companies review fire pump testing data to ensure equipment was properly tested and operating functionally

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for claims. There are many pieces down the line that information gathering with an expedited process and data storing would be beneficial. We need to hear from the consumer standpoint what critical components and information would make this project more substantial to them. As Pietrangelo said, “Our technology is there. Now we’re trying to figure out what’s required in the market and put the two together to eventually have something.”

From a supplier standpoint, the national standardized codes for fire pump connectivity, or lack thereof, are a largely perceived hurdle. As a long-standing member of the National Fire Protection Association (NFPA) 20 technical committee. Representing the industrial maintenance sector, we oversee the Standard for the Installation of Stationary Pumps for Fire Protection. As it stands now, connectivity is only addressed in an annex, one that lays out many points including equipment, information technology, and cyber security, which are common concerns amongst industry leaders when discussing this topic as well. With the necessary fire pump technology, will the connection be achieved through a firewall? Will building owners accept the exposure risk? How do we lessen our vulnerability to accidental or malicious third parties? These are the answers we need or rather the jumping-off points for a discussion with area experts that I would like to have soon.

A First Step

A first step could be to have a private communication system unique to the fire pump room remote monitoring as the technology piece. As Pietrangelo pointed out, “If it’s an electrical fire pump, it needs its own dedicated service so a communication system would kind of go along with that.” It could even go much further than that as we’re assuming there are options here we haven’t even explored. The current code does not mandate the necessity to have required tools such as ethernet cables and hardlines in a fire pump room. Thankfully, as a member of the NFPA 20 committee, I have a voice where I can advocate for such necessary changes when the direction is apparent.

However, as this has been a long-term discussion, there is much to consider in terms of progress toward this concept that is already completed or ongoing. Organizations like Tornatech have already begun taking preparatory steps to start implementing connectivity components into their products. As Pietrangelo expressed, the technology is there, they are simply waiting for the remaining pieces to take shape before continuing their process. He says Tornatech “welcomes any type of technology or innovation opportunity. To have that discussion I think that’s what makes us get out of bed in the morning. We’re ready to be part of the discussion and see where we can take it.”

They are not alone in wanting to be part of an innovative conversation. Over the years at conventions, meetings, and networking events I have participated in many confabs with a variety of businesses interested in, or already attempting to achieve the same level of connectivity as well. The interest from suppliers is out there, we just need to find a path for them to travel.



In 2022, an annex section added to NFPA 20 called the Modbus Register. This system standardizes the classification of fire pump system events through numerical coding. It is a well-planned and meticulous addition to the code that will be greatly beneficial when universally utilized. One day, when an alarm triggers and the control panel says “42071-D8”, anyone with the credentials to remotely connect to the pump room will be able to tell you it’s a low-pressure suction alarm, thanks to this new classification register. This inclusion does two very beneficial things for connectivity: it creates consistency on a universal level and streamlines the planning of viable content for software used in connectivity.

One of the largest resources to support this vision’s success is right in Underwood Fire’s facility. We’ve created The Lab, a state-of-the-art training facility housing three separate complete fire pump systems featuring split-case, in-line, and jockey pumps, electric and diesel engines, a variety of valves, meters, switches, a backflow preventer, fuel tank, and additional attributes contributing to safe and reliable testing simulation. The motivation for creating The Lab was to offer the ability to promote an acute understanding of fire pump systems that would increase the protection of lives and property and offer a space to develop products and services that would forward that reach. The Lab will undoubtedly offer a controlled and secure environment to execute the testing for remote connectivity products and processes down the line.

The necessity to progress fire pump connectivity has been here for some time. Now the urgency to take our opportunities and progress fire safety to society’s standard expectation of technology and communication is here. The interest and support in the fire safety community are apparent. While there are hurdles to overcome from answering questions to influencing change, I believe there is nothing this community can’t overcome together.

My voice could be instrumental in progressing this concept forward and I want to use it to represent this organization. Take this opportunity and give me your input, share your ideas, and help innovate connectivity in fire protection. Let’s take this discussion back to where it began, on the Fastestwater Forum, and work together with a larger voice to save life and property. •

IBC, ASCE 7, NFPA 13 – Upcoming Changes to Seismic Protection

by Jeffrey M. Hugo, CBO, [National Fire Sprinkler Association](#)
 Victoria B. Valentine, PE, [American Fire Sprinkler Association](#)



Jeffrey Hugo and Victoria Valentine have nearly 50 combined years representing fire protection associations in ICC, ASCE, and NFPA code and standards development. This is an important and timely issue for every fire protection association as NFPA 13 is currently the hanging and bracing standard for several other water-based installation standards.

Seismic bracing of fire sprinkler systems starts when required by the model codes, such as the *International Building Code (IBC)*, and are installed through NFPA 13, Chapter 18, by mostly a prescriptive approach. This approach is one that many fire sprinkler contractors, designers, and technicians use and authorities having jurisdiction (AHJ) use to verify compliance. The prescriptive rules in NFPA 13 are derived from ASCE/SEI 7, Minimum Design Loads and Associated Criteria for Buildings and Other Structures. When ASCE/SEI 7 updates its criteria for nonstructural components, it affects requirements in NFPA 13 that often take time to translate to the prescriptive form of text, tables, and figures. The fire sprinkler industry is at one of those periods in history where the changes in the 2022 edition of ASCE/SEI 7 will have a lasting impact to the industry. This is not the first time the industry has had to make immediate updates to coordinate with structural and load requirements; it has been done successfully in the past and this, too, will become the norm down the road.

Getting from the IBC to NFPA 13

The IBC is the starting place for seismic protection of fire sprinkler systems. Section 1613 requires all buildings be designed to resist earthquake loads. Earthquake loads in Section 1613 are applicable to structural and nonstructural components of the building. Automatic sprinkler systems are considered a nonstructural component. Each building is assigned a Seismic Design Category (SDC) and is categorized into a SDC of A, B, C, D, E, or F. The determination of the SDC depends on several factors such as the building risk category, type of soil, and location to a fault line. Buildings with an automatic sprinkler system and a SDC of A or B are exempt from nonstructural seismic requirements. Buildings with an automatic sprinkler system and a SDC of C, D, E, or F require nonstructural earthquake protection

to be installed per Chapter 18 of NFPA 13.

Where does ASCE/SEI 7 fit?

The structural design portion of the building, such as rain, wind, snow, material, and earthquake (seismic) loads are addressed by IBC Chapter 16, the structural design chapter. Here the user encounters pointers, references, or equivalencies to ASCE/SEI 7 that work and correlate to the IBC. ASCE/SEI 7 is the driver to nearly all of the updates and change to the IBC related to structural loads and design. In short, when ASCE/SEI 7 changes, the IBC will update, and so will reference standards such as NFPA 13.

Codes and standards cycles affect seismic rules

Codes and standards follow a development cycle and many use three-years in-between new editions, such as the NFPA and ICC. The IBC, as a model building code, establishes new construction rules, and references other codes and standards to address specifics, such as referencing the latest NFPA 13 as an installation standard for fire sprinkler systems.

Table 1 – Codes and Standards References

IBC Edition	IBC Referenced ASCE/SEI 7 Edition	IBC Referenced NFPA 13 Edition	NFPA 13 Referenced ASCE/SEI 7 Edition
2006	2005	2002	N/A
2009	2005	2007	2005
2012	2010	2010	2005
2015	2010	2013	2005
2018	2016	2016	2010 Supp. 1
2021	2016 Supp. 1	2019	2016
2024*	2022	2022	2016**

*Currently in-cycle with proposed referenced standards editions
 **NFPA 13 task group drafting TIA to update to the 2022

continued on page 14

continued from page 13

The cycles of each standard development organization (SDO) often do not align but often attempt to reference the latest published edition, as noted in Table 1. This should look familiar to the fire sprinkler industry, as the adopted IBC edition drives the enforcement of the edition of NFPA 13. Here Table 1 identifies an inconsistency between the IBC ASCE/SEI 7 edition reference versus the ASCE 7/SEI edition reference in NFPA 13. Part of this issue is tied to ASCE/SEI 7 is now on a six-year revision cycle. Table 1 also notes the referenced edition of ASCE/SEI 7 and it points out the referenced edition of ASCE/SEI 7 in NFPA 13 (Section 2.3.2). Just as model codes are developed with referenced codes and standards, so the same applies to standards, which also references other codes and standards.

Does the ASCE 7 edition need to match in the IBC and NFPA 13?

The point of referencing another standard is to allow rules to develop through each consensus process of subject matter experts. Both the IBC and NFPA 13 reference ASCE/SEI 7, but the referenced edition can be different. When conflicts arise, the IBC referenced edition of ASCE/SEI 7 will take precedence over the NFPA 13 reference. This is the part that fire sprinkler contractors and designers overlook the most, however, in general, there have not been many differences that materially or economically impact design...until now.

Will the 2024 IBC reference to the 2022 ASCE/SEI 7 have influence on the 2022 NFPA 13?

Yes. The structural portion of 2024 IBC is currently in its development cycle. The 2022 ASCE/SEI 7 did a significant rewrite of its ground motion criteria which affects seismic requirements in NFPA 13 as well as other mechanical systems following these guidelines. NFPA 13 (AUT-HBS) normally reviews proposals for updated ASCE/SEI 7 content but the 2022 ASCE/SEI 7 cycle completed shortly after that of NFPA 13. In short, the completed ASCE/SEI 7 content landed after the AUT-HBS could review the changes. This means the 2022 edition of NFPA 13 still references the 2016 edition of ASCE/SEI 7. While within the NFPA 13 application bubble, this appears to dodge the 2022 ASCE 7 changes, but from a model code enforcement perspective, it will spell trouble for the NFPA 13 user once the 2024 edition of the IBC is adopted by jurisdictions.

Solutions to make it right

Currently in the 2024 IBC development cycle there is a proposal (S133) that forces the NFPA 13 user to design seismic components according to ASCE/SEI 7. This proposal would override every prescriptive method in NFPA 13. The fire sprinkler associations opposed this (<https://www.cdpass.com/videos/5370/>) at the IBC structural committee development hearings in the Spring of 2022 and offered a modification that provides an equivalency of NFPA 13 to ASCE/SEI 7 and vice versa within the context of earthquake protection for fire sprinkler systems. The pro-

posed modification to the original text, supported by NFSA and AFSA reads as follows:

1613.4 Automatic sprinkler systems. Where required, automatic sprinkler system anchorage and bracing, shall comply with ASCE 7 and Section 903.3.1.1.

The modification above was approved the IBC structural committee and goes to the next stage in the cycle for membership approval at the public comment hearings this Fall.

NFPA 13 updates to coordinate requirements

Parallel with this ICC proposal is a NFPA 13 AUT-HBS task group to decipher the new criteria in ASCE/SEI 7 and provide the updates in a Tentative Interim Agreement (TIA) for the 2022 edition of NFPA 13 along with modifications for the 2025 edition of NFPA 13 as that cycle is just beginning. This task group is taking the work of ASCE/SEI 7 and that from a FEMA task group, which reviewed many mechanical systems reference standards, and will be providing a prescriptive path for NFPA 13. This translation will be extremely helpful on the application, installation, and enforcement of NFPA 13. The ICC membership will reconsider S133 in the Fall after the task group presents their work to the full technical committee this Summer.

The task group has reviewed the new criteria and done comparisons for different geographies to determine how impactful the updated ground motions will be to the horizontal force (Fpw) as calculated with the NFPA 13 method. It is significant enough to have concern over the structure and the system working together as intended once ASCE/SEI 7-22 is utilized. Therefore, the task group is recommending modifications that can be used to create a Tentative Interim Amendment (TIA) and during the revisions at the first draft meeting for the next edition.

The maps that previously provided ground motion information (S1 and SS) have been modified to better incorporate soil with the acceleration information. As part of these revisions, there are now more soil classifications in the standard. There is an online tool available to the public that will help in determining values for use in the simplified NFPA 13 method. However, as a reminder, whenever site specific information is available as part of the project, it should be followed.

At the time this article was written, the details of the update are not quite ready for primetime. Once the technical details are ironed out, both AFSA and NFSA will focus on educating the fire sprinkler industry on the importance of these changes and how they are applied.

When will the changes be effective?

If the AUT-HBS task group TIA is approved and the IBC proposal S133 pass their respective approval bodies this Summer and Fall, the 2024 IBC and the 2022 NFPA 13 will both reference ASCE/SEI 7-22. This puts the fire sprinkler industry back in-sync with the building requirements. The 2024 IBC will be published by the Fall of 2023 with state and local adoptions occurring thereafter. •

General Air Products A Family Affair for Four Generations!

<https://www.generalairproducts.com>

Over four familial generations, **General Air Products** has prided itself on being both a leader and innovator within the fire protection industry. Established as General Blower Company in 1936, the company began manufacturing soot blowers and induced draft fans for industrial and commercial use in the Greater Philadelphia area. It wasn't long until the company expanded into the compressed air industry by manufacturing air compressors for laundry equipment and fire protection applications. By the 1980s, the company had become a leader in the fire protection industry, known for custom applications, high quality, and customer service. A decade later, with a new moniker, General Air Products continued to adapt and expand along with the changing industry, including adding the first compressor/dryer on the market to our product line, the Dry Air Pac™.



Today, General Air Products remains the leading authority on filling dry pipe and pre-action sprinkler systems. Just recently, they introduced the Advance Series, an upgraded line of their fire protection air compressors. These oil-less and lubricated compressors, which come in riser and tank-mounted configurations, are outfitted with the only UL-listed Digital Pressure Switch in the industry that's designed and built by the compressor manufacturer themselves. General Air always strives to make the customer experience as convenient as possible, and this Digital Pressure Switch does just that — making it easier than ever to display and adjust pressure settings in the field.

In addition to air compressors, the company's complete line of filling solutions for dry fire protection systems includes not only the aforementioned Dry Air Pac™, but their line of Nitrogen Generators and their residential pump and tank systems for NFPA 13D applications, including the all-in-one, easy to install H2hOme™ — the only residential fire suppression system with an easy slide-out pump.

While innovation is a tenet at General Air Products, the company has another focus that is woven throughout much of what it does: education. The General Air Products Fire Sprinkler System Training Center in Exton, PA has continued to grow as a space for the industry to utilize for both hands-on and classroom training. Currently, the Training Center boasts dry pipe valves from every major manufacturer in the industry, wet pipe system risers, fire pumps and controllers, backflow preventers, and fire protection air compressors and accessories, among other live equipment. Since opening, General Air has hosted day-long company training courses run by various trade organizations, and even used the

facility as meeting space for groups when needed. It's a space that offers industry professionals the opportunity to better understand sprinkler system components as well as discuss current industry trends.

At General Air Products, “Quality and Service Since 1936” isn't just some throwaway motto — they're the words the company was founded on, and words lived by as this family-led business continues to grow and innovate alongside the fire protection industry. General Air Products remains one of the most trusted brands in the fire protection industry and the leading authority for filling dry pipe and pre-action sprinkler systems. •



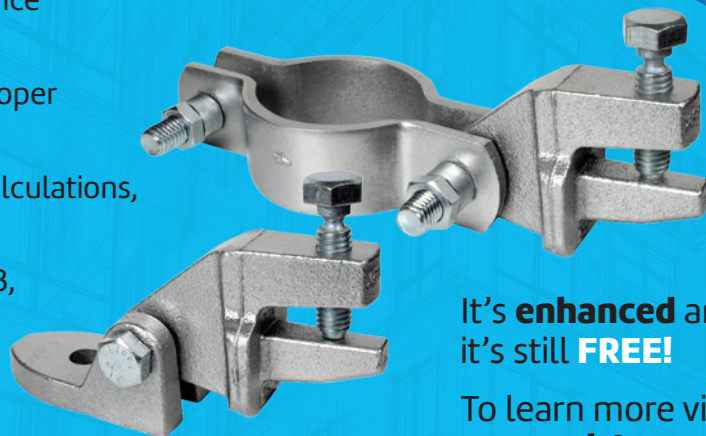
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Learner's Voice: Layout Technician Pathway Review

by Evan Combs



Members drive the decisions NFSAs Learning & Development team make, from what content to focus on to what successful learning looks like. Therefore, for our Member Takeover iteration of Learning & Development Insights, we interviewed a number of students that recently completed our inaugural Layout Technician Pathway class (the curriculum replacing NFSAs Layout Technician Training Class) and are sharing their thoughts. They spoke about the eLearning, the instructor-led class portion, and even shared some advice for potential future students.

eLearning Review

The first portion of the class is a series of self-paced eLearning modules that provide the fundamentals to the sprinkler industry and sprinkler layout. For this topic, students shared:

Riley L.: The online modules were delivered with lots of infographics and resources that you could just click from. They were inclusive of us as learners, getting to interact with the content more than I was expecting. The NFSAs did a good job of sharing expectations with digital communications.

CJC.: I liked the eLearning modules, I was able to learn it all at my own pace, and then we got to quickly review with an instructor, which was very helpful.

Mike S.: It was just right with the pacing, to where it was challenging, it didn't feel too easy, and was not over my head.

Instructor-led Review

After successful completion of the self-paced portion, students attend either an in-person or virtual instructor-led three-day session. This class applies the concepts they learned from the eLearning to a project-based, fully developed sprinkler drawing. Students reflected on this session with:

Tim B.: We had incredibly talented instructors, and what made the class was the interaction between instructors and students. The questions, the answers, and the shared perspectives, is what made the class interesting and made everyone learn more.

Dana L.: The delivery was great, it was presented as a series of questions, discussions, and a project, instead of a series of

PowerPoints. It was very design-focused, and how to get to a full sprinkler system step-by-step. Doing small samples broken up in the eLearning modules prepared me for a large project during the instructor-led portion.

Advice to Others

When asked what advice they had for any potential future students, they provided these thoughts:

CJC.: Ask questions! I think our class was so successful because, we may have taken the instructors off-topic by asking a lot of questions, but these are things we may not have learned otherwise.

Tim B.: Even if you fail an assessment in the online (eLearning) portion, it doesn't mean you fail the class, instructors will intervene and provide additional support to succeed.

Payton B.: The most important takeaway is to know that all the information is in your NFPA standard. Learn how to navigate and find that information instead of memorizing every single rule or formula.

Riley L.: I printed all of the resources in the online portion, so I could have quick references throughout the whole course, they are really useful tools.

Mike S.: Take advantage of the instructors, especially in the eLearning portion, and come prepared. Don't just think you can click through the eLearning portion, take it seriously. There is a lot I took away from the eLearning that helped me in the instructor-led class.

Dana L.: Make time for the online learning, the course breaks up the online portion over a few weeks, and that helped me balance my full-time job and completing the coursework. I was also very impressed with how knowledgeable instructors are, ask them questions, it becomes very informative.

The Layout Technician Pathway has multiple classes throughout the year and can be taken as a combination of eLearning and a 3-day in-person class, or as a fully virtual experience with eLearning and a 3-day virtual instruct-led class.

For more information on the course and registration, follow the QR code or visit our website at: community.nfsa.org/learning

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by Vickie Pritchett,
Vice President/Executive Officer

I am so honored to have our current US Fire Administrator, Dr. Lori Moore-Merrell, takeover “Notes from the Fire Scene!” Dr. Moore-Merrell is America’s Fire Chief. There is no one prouder of her than I, as we both began our careers in the great Volunteer State of Tennessee. We both have a hard time telling the difference between our work and our personal lives—because we don’t have jobs, our work is part of who we are. We are passionate about our nation’s fire service and believe with every ounce of our being that we all have a role to play in support of the men and women who give their all for their communities throughout the United States of America.

Lori is a leader with a passionate, servant heart. She gets it, and she will champion for the cause in a way that is second to none. She understands the important role that fire sprinklers play in ensuring a quality of life that provides safe communities across America.

Please join me in welcoming Dr. Lori Moore-Merrell to our flagship publication, *NFSM*. Ladies and Gentlemen let’s give a warm welcome to America’s Fire Chief! —*Vickie Pritchett*

The U.S. Still Has a Fire Problem

by Dr. Lori Moore-Merrell, DrPH, MPH, U.S. Fire Administrator

The fire and emergency medical services throughout this nation must continue to work to prevent fire and to reduce the risks associated with fires that do occur. We have the science that informs decision makers, now it is time to act on what we know matters.

In 2022, we had over 1200 fire deaths by July 1st. Many of these tragic fires occurred in poor, underserved communities. This situation is one of the greatest inequities we face. Safe and affordable homes should not be a mutually exclusive choice.

In addition to addressing the fire problem, we must also prepare to respond to the changing landscape of all hazards. For example, with ever increasing incidence of wildfire and other disasters, essentially all fire departments are affected. There is a much broader impact nationwide, and it is growing. As the fire service, we must redouble our efforts to prevent ignition and harden the wildland urban interface including proper roofs, sprinklers, and clearing property. We must also address personal accountability in fire safety practices.

The USFA is working with the National Institute of Standards and Technology (NIST) and other federal partners to ensure that we have the science to drive our messaging. We will work to ensure that the results of NIST wildfire and Wildland Urban Interface (WUI) experiments at the parcel level are translated into messaging for fire service leaders, decision makers, and the communities in the interface affected by these fires. The fire service has reduced the incidence of structure fire over the years, and we can do it in the WUI.

To better communicate and amplify messages to change fire safety behaviors, the USFA recently launched the Fire and Life Safety Communicators’ Initiative (FLSCI). This initiative brings the nation’s fire service communicators together monthly to discuss a common messaging plan. The FLSCI created a shared theme calendar to leverage the full power of the fire service to provide timely information through local fire departments to the public. Ultimately, the goal is to influence the alarming rate of fire deaths and property loss throughout the U.S. by sharing ideas and best messaging practices. These themes are available on U.S. Fire Administration webpage here: [Fire and Life Safety Communicators Initiative](#)

Like many other federal agencies, our National Fire Data Center along with local fire and EMS departments must continue to modernize using advancements in technology and sensors, as well as non-traditional data sources coupled with community risk assessments, and historic response data to better understand the reality of today’s risk environment including the impact of climate change on our resources.

For us in the USFA specifically, modernization will address the National Fire Incident Reporting System (NFIRS) system. I anticipate this effort being twofold.

- 1) Building a new cloud-based system with modernized data capture, collection, assembly, analytics, and reporting capability.

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2) Reviewing, revamping, and redeploying the NFIRS data standard to be relevant, timely, and perpetuate good quality data entry and clean data capture while leveraging many data sources that already exists outside the fire service.

On another front, USFA will play a role in addressing the physical and behavioral health challenges that continue to affect our responders. For example, we will be working with our federal partners at National Institute for Occupational Safety and Health (NIOSH) to continue to study personal protective equipment (PPE) and to assure we can stand up the National Firefighter [Cancer] Registry. We will also work with our fire service partners to expand behavioral health resilience training programs to assure that responders have the resources they need to stay healthy both physically and mentally.

Finally, together we will continue to address diversity, equity, and inclusion in the fire service. This is a priority for us, and I believe that together with the fire service, we have the ability and the desire to lead and implement programs to create an inclusive, diverse, and psychologically safe workplace. We can teach cultural awareness of the challenges faced by firefighters from underrepresented groups. I believe that there is a growing willingness to challenge and transform the harmful aspects within the fire service culture.

It is my absolute honor to serve as your Fire Administrator. USFA

stands ready to engage with our industry and I look forward to working with you. Together, we can take action to change the trajectory of the ever-increasing fire threat in America and create resilient landscapes and safe affordable housing for generations to come. •

Meet the 12th U.S. Fire Administrator

On October 25, 2021, President Joseph Biden appointed **Dr. Lori Moore-Merrell** as the 12th U.S. Fire Administrator. She has spent 35 years in the fire service and now holds the top position in the industry.

Moore-Merrell started her career as a paramedic with the Memphis Fire Department in 1987 and holds a master's degree in epidemiology and a doctorate in public health policy and law. After working 26 years at the International Association of Fire Fighters, she most recently, served as the president and CEO of the International Public Safety Data Institute. During her tenure at the IAFF, Moore-Merrell worked with hundreds of fire departments across the country to conduct risk assessments and overall emergency response system analysis. She also led several DHS/FEMA funded Assistance to Firefighter Grant large scale experiments to assess how crew size and assembly of response forces effects not only property loss in fire response, but also the health, safety, and well-being of firefighters and civilians. Many of these experiments considered the effects of sprinklers on fire in structures.

Moore-Merrell's science-based education and work experience is evident in her outlook as fire administrator. Doubling down on US fire service data collection and analytics efforts is one area she is particularly passionate about. This approach includes her commitment to applying a scientific and data driven approach to protecting both firefighters and the public to help alleviate long-standing inequalities.

Instilling better data collection practices in the fire service is far from the only goal Moore-Merrell has for her administration—everything from creating a more inclusive fire service to readying any department to battle wildfires are on the table.

Learn more about our U.S. Fire Administrator and her vision for the fire and emergency medical services.



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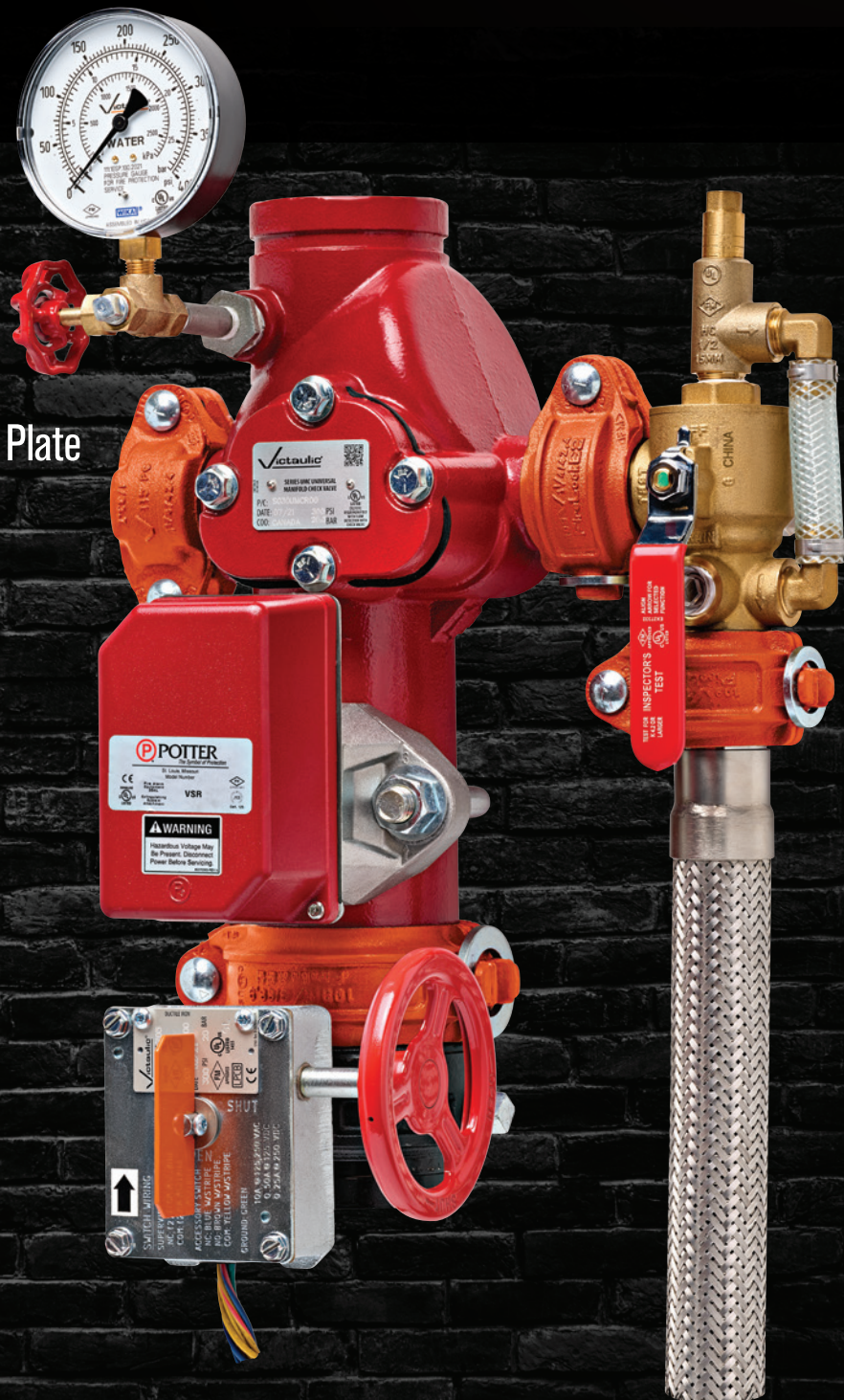
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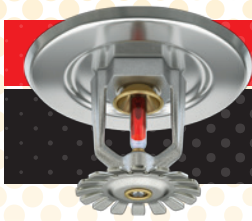
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FIRE SPRINKLERS IN ACTION

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



Colorado



Single Sprinkler Save Storage Facility

Thank you to Steven Parker, Fire Marshal of the Arvada, CO Fire Protection District, for reporting this smoldering fire sprinkler save!

On June 12th, a single engine of the Arvada Fire Protection District was dispatched to a fire alarm at a multi-tenant, commercial storage facility.

Upon arrival, the crews observed that the waterflow switch had activated. On searching the building, they quickly found that a single sprinkler had activated over a storage cabinet within one of the units. The cabinet exhibited heat and smoke damage.

Upon opening the cabinet, the crews discovered a smoldering fire which was quickly extinguished. No fire damage was observed beyond the cabinet itself. Investigators determined that the fire was caused by oily rags stored at the bottom of the cabinet.



on starting the fire. If you look closely, you can see the burned bananas and other items in the photo.

If you ever have had any doubts that what you do makes a difference, know that it does. The sprinkler system knocked back and extinguished the fire and the alarm system notified all guests to evacuate the area and called the fire department. Everything AFPS does ensured all systems worked as needed and no lives were lost! Everyone at AFPS saved lives last night.

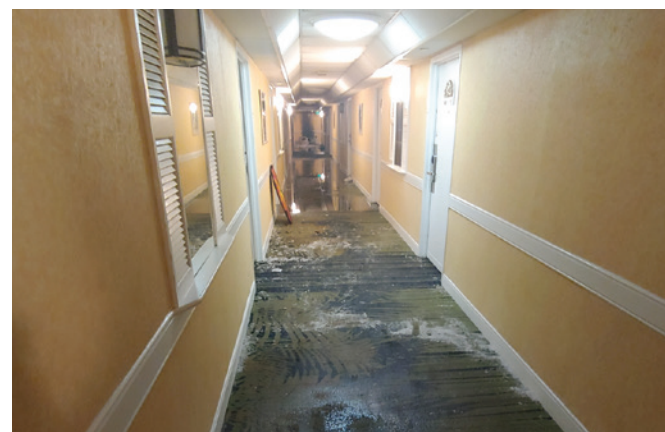
Florida

Single Sprinkler Saves High-Rise Condo Complex

Thanks go to NFSA Member Advanced Fire Protection Services (AFPS) Judd Mickler for sending in this great save and to AFPS's Michael Sudheimer for penning this great account!

One sprinkler saved a 12-story condo on Perdido Key, FL last night... *one*.

Last night, maintenance called me directly to inform me that they had a waterflow alarm on the tenth floor of the West building. Maintenance told me the FD was dispatched and cleared the scene, ten minutes later he called back and stated they had a fire in a unit on the 10th floor. One sprinkler deployed and extinguished the flames in a kitchen, saving a lot of lives. The cause of the fire was grocery items set on top of a stove and eye was accidentally turned



Single Sprinkler Quells Hotel Fire

Thanks go to St. Pete Beach, FL Fire Marshal Kelly Intzes for sending us this sprinkler save.

On July 12th, St. Pete Beach Fire Rescue responded to a structure fire at a seven-story hotel. The fire was in the sixth-floor hallway. One fire sprinkler activated and quelled the flames.

The fire department used fans to remove smoke and assisted hotel staff with the relocation of the guest in the affected area. The fire was contained to that compartment.

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Single Balcony Sprinkler Saves New Apartment Complex

Thanks to North Port, FL fire inspector Rob Needy for submitting this save.

On March 23, 2022, at 15:20 hrs. a structure fire was reported at a new apartment complex located on the east side of the city of North Port, Florida. At 15:23 hrs. first arriving units reported a three-story garden style apartment building with an active fire alarm, residents evacuated the building with no fire/smoke visible from side alpha. Upon investigation, a third-floor balcony sprinkler had activated due to a fire on a balcony. The resident advised that he had been out on his balcony earlier and discarded smoking material before re-entering the apartment. The fire was contained to the balcony with only minimal damage to the exterior siding and a utility closet door.



The building was constructed in 2018 as a Type V structure per the Florida Building Code with a full NFPA 13R sprinkler system and a full fire alarm system as required by the city of North Port Florida Unified Land Development Code (ULDC). Upon investigation, due to the location and damage witnessed, the fire would have most likely spread into the soffit and attic area of the structure (which is unprotected) leading to a catastrophic loss of property and probable risk to life safety had the sprinkler system not been present.

Minnesota

Single Sprinkler Save Apartment Building

Thank you to West St. Paul and South St. Paul, MN Assistant Fire Chief Fire Marshal Terry Johnson for sending in this sprinkler save.



In the early morning of July 5th, South Metro was dispatched to a water flow alarm at an apartment building located in St. Paul. Crews made their way to the underground parking garage with alarms sounding and light smoke. They found the source of the smoke, which was in the garbage room. Garbage in the dumpster had ignited. One fire sprinkler activated, extinguishing the fire. Another great save by one sprinkler.



Oregon

When Batteries Fail, Fire Sprinklers Get to Work!

Thanks go to Medford, OR Deputy Fire Mark Shay and Battalion Chief - Fire Marshal Chase Browning for sending us two great sprinkler saves!

Two fires, both related to battery failures, both knocked down with sprinklers.

Red Roof Inn – 06/25

MFD responded to a structure fire at the location and found an

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Fire Sprinklers in Action

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electric wheel chair that had burned in one of the rooms. The fire, which was between the occupants and the exit, was knocked down by the sprinkler system prior to arrival. The cause is accidental as a result of an unknown failure of the charger or batteries.

Apartment Complex– 06/27

MFD responded to a fire alarm at an apartment complex and located a small fire in the windowsill of a bedroom. The fire was knocked down by the sprinkler system prior to arrival.

The occupant of the apartment woke up to a noise and shortly after a battery pack for his electric bicycle that was charging in the windowsill exploded. The cause is accidental as a result of an unknown failure of the charger or batteries.

Texas



Single Sprinkler Stops Cooking Fire from Spreading in Apartment

Thank you to the McKinney, TX FD's Public Information Officer Merit Ossian for sending us the following press release that was issued after a great sprinkler save.

Proving once again that fire sprinkler systems are awesome!

The McKinney Fire Department responded to the report of a structure fire located in the 6100 block of Alma Rd just after 2

p.m., July 21st.

Firefighters arrived to find smoke in the hallway. The fire had been extinguished by a single fire sprinkler over the stove in one of the units.

The occupant was cooking when the fire broke out.

This year alone, countless fires in multi-family dwellings were controlled with one sprinkler, saving millions of dollars in potential structural damage and reducing personal property loss.

Over 80% of all fire deaths occur in the home. The single most effective way to prevent fire-related deaths is the installation of residential fire sprinklers. •

Pennsylvania

Gas-Fed Kitchen Fire Contained by Single Fire Sprinkler

Thanks go to Lawrence Mascera of NFSA Member Oliver Fire Protection for alerting us to this great sprinkler save posted on PA's Midway Volunteer Fire Company's Facebook page!

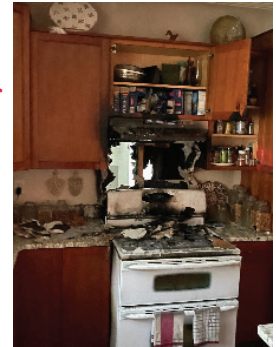
From the post:

On June 16th, crews were dispatched for a dwelling fire in Buckingham Township, PA.

Arriving companies found a natural gas fed fire extending from a kitchen wall that was being contained by a residential sprinkler system. Companies were on scene for about one hour.

We want to point out how residential sprinklers saved this home. A gas fed fire would typically spread to the wood cabinets and furnishings and extend into adjacent rooms rapidly turning into a major fire.

In this case, due to the foresight of township building codes and the proactive steps of the homeowner to have a maintained and working sprinkler system, one sprinkler controlled this fire so that our job was minor overhaul. •

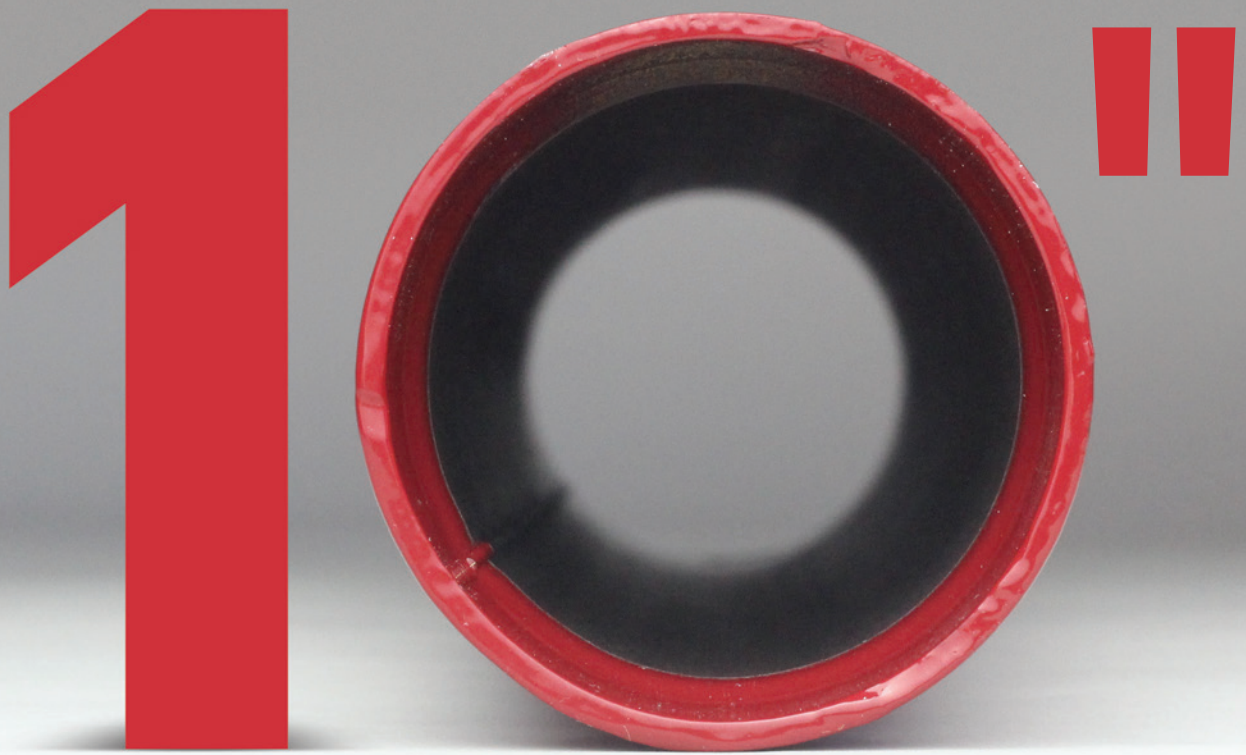


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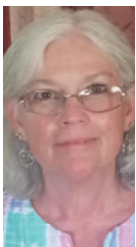
by Vince Powers, *Inspection, Testing and Maintenance Specialist*



From Vince Powers: I chose Cindy Hall to write an article for our magazine because of her dedication and love for what she does. For the last two years, NFSM has participated in the Future Builders of America program (<https://www.futurebuildersofamerica.org/>) Cindy works tirelessly all year to bring this event together. She is responsible for gathering sponsors, volunteers, materials, camp counselors, instructors, and many more things for this program. This program is for about 100 high school kids to attend a trade school camp to participate in hands-on construction trades. This is one of the most rewarding programs I have had the privilege to be a part of and wanted to provide Cindy an opportunity to promote this program.

Future Builders of America

by Cindy Hall



Future Builders of America held their 17th Annual Leadership Summit at the Future Farmers Association Training Center in Haines City, FL in April. Almost one hundred students from thirteen schools from across Florida participated in fourteen core activities related to jobs in the construction industry.



as a team is the sales pitch. All teams are given the same item, such as a speed square, and have one hour to work as a team to produce a promotional sales pitch for the item. Then the teams have to present their sales pitch in which each member of the team must participate and then they are graded on performance, teamwork, participation, and overall presentation.



Our core classes were Carpentry, Shop class, Masonry, Electrical, HVAC, Plumbing, Swimming Pools, Roofing, Onsite Wastewater Systems, Fire Sprinkler Systems, Landscaping, Welding, Drafting and Screen Enclosures. Teams participated in a variety of projects including building a firepit, building “Glamping” Tent Platforms, installing a screen enclosure, and much more. Diamond Sponsors, the Florida Fire Sprinkler Association, and the Florida Roofing & Sheet Metal Association, really ramped up their programs. From virtual reality sessions to hands-on training, students participated in real-world scenarios for 75 minutes in each discipline to help understand the wide variety of careers available in the construction industry. In addition to the hands-on programs, the students participate in a variety of other tasks and activities.

Students were joined by over 60 Adult volunteers including 8 FBA Alumni, twenty teachers and other industry professionals. Vincent Powers with the National Fire Sprinkler Association traveled from Maryland and was a hit among the students as he showed off the NFSM Valve Trailer. The kids were able to open and close valves and start a fire that was quickly extinguished by a fire

When the students arrive, they are placed into teams for the entire weekend. Then they are required to attend an etiquette training class during lunch. One of the first projects they must complete

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sprinkler. Vince interacted with the kids in groups of 5-7 at a time and was one of the more popular instructors. Vince was chosen to receive a special award—a handcrafted cutout of the state of Florida made by our students at Deland High School.

Not only did Vince attend on behalf of the fire sprinkler industry but with him were Dave Haney and Sanjay Oudi with Wayne Automatic Fire Sprinklers, Glenn Painter with Milton J Wood Company, Abbie Gunnells, NFSA and Lorrell Bush, Executive Director of FFSA.



Along with their core classes, students participated in soft skills training, team design projects and team competitions. Special industry speakers included international speaker and author, John Palumbo and Dr. Jennifer Languell, renowned champion of green building principals and sustainable design. One student from each team was selected as the Team Harper Award Recipient for their attitude, participation, and leadership skills. Save the date for next year's Summit on April 20-23, 2023. •

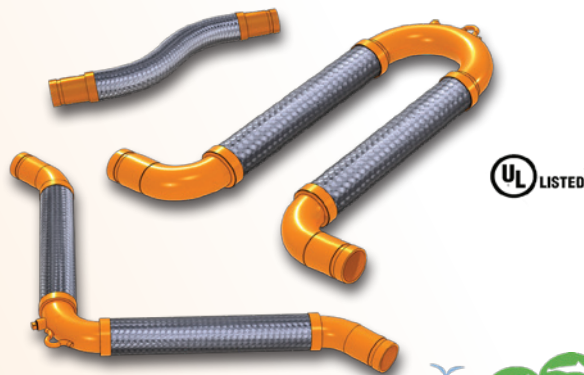


Future Builders of America (FBA) is a program of Home Builders Institute (HBI) and focuses on providing career exploration opportunities in the construction industry for students in FBA Chapters. FBA works with high schools and the local Home Builders Associations to provide extracurricular activities and mentoring for students interested in construction careers. FBA also hosts a yearly 4-day Leadership Summit and has scholarship opportunities for students wanting to get training in the industry. Cindy Hall, Director of FBA, has worked in the construction industry for over 35 years and has served as 2nd Vice President for both the Florida Home Builders Association and the Treasure Coast Builders Association as well as President of the Florida Green Building Coalition for 2 years. MS. Hall took over the director role at FBA in 2016 and has been growing the program throughout the state of Florida. In 2021, FBA became a part of HBI and plans are in the works to expand FBA nationwide. •

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<https://tridentfireandfab.com/>

Trident Fire & Fabrication was founded in 2021 to provide a small business service approach in the largest metropolitan market in the world. With decades of experience in contracting and managing large, blended distribution businesses, we believe our singular industry focus will deliver the service to meet our niche customer expectations in Fire Protection.

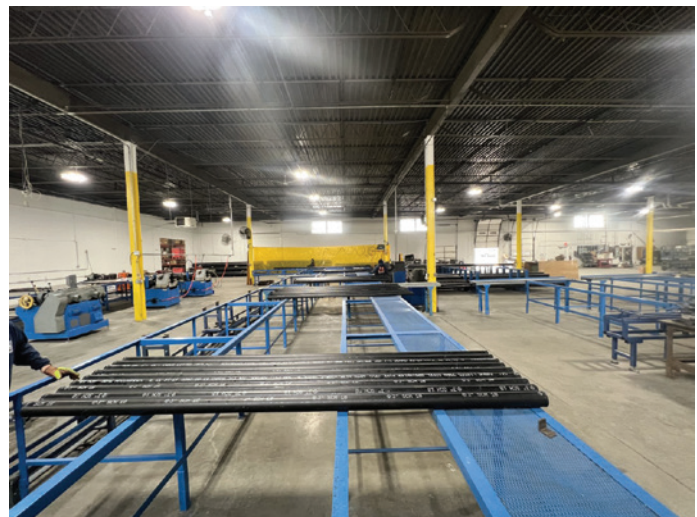
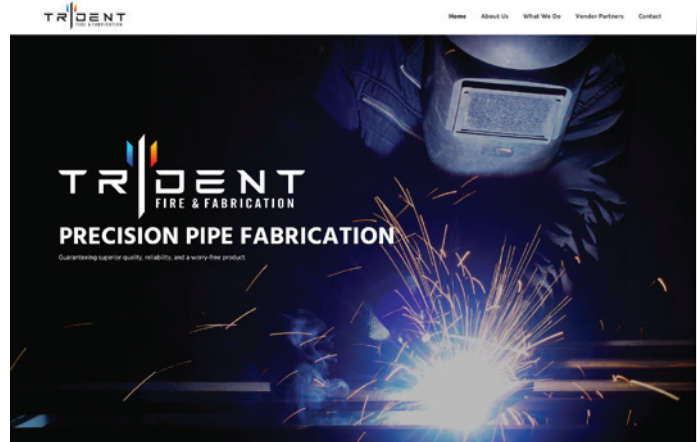
We offer our fire protection contractors competitive pricing, product diversity, and personalized service through our strategic vendor relations with industry leaders and collaboration with other small businesses. Our “*One Team*” approach to working with our customers offers product expertise, custom fabrication, and in-field solutions to the most complicated and ever-changing jobsite conditions.

Construction and maintenance demands are rapidly changing. A once simple industry is becoming increasingly complicated with more intricate architectural designs, mixed-use applications, and vertical utilization in warehousing at an all-time high. We are on the verge of yet another industry transition; Infrastructure Revitalization to support the population and development boom. Plans to strengthen the foundation of roads, bridges, tunnels, and mass transportation, requires efficient, low-impact collaboration between contractors and distribution to keep business moving and get the job done.

Supply chain hurdles and unpredictable raw material costs provide us with opportunities for innovation in sourcing, alternative design, packaging, logistics, or whatever it takes to keep the momentum moving forward. We are partnered with like-minded manufacturers, vendors, and industry colleagues to maintain that vision.

Additionally, we have partnered with local trade schools and universities to develop a Tradesman Developmental Program to offset the shrinking skilled labor pool and educate new graduates about the fire protection industry. Our curriculum includes all aspects of Fire Protection training, not simply distribution and fabrication, but basic industry training of systems, design, heads, devices, and safety. We hope to provide our students with the tools necessary to advance their careers in the fire protection industry at Trident or any of our contracting partners.

Together as fabricators and distributors, we can work to deliver solutions and unbridled service to our contractors to succeed at keeping Fire Protection at the forefront of our market! •



Six Common Misconceptions About CPVC Fire Sprinkler Systems

BlazeMaster® Fire Protection Systems is a cost-effective solution for a wide range of commercial and residential projects that offers many advantages over other piping systems. While more than 2 billion feet of BlazeMaster pipe and fitting systems have been installed globally, there are still some lingering misconceptions.

MISCONCEPTION ONE

CPVC is only for residential projects.

FACT: BlazeMaster Fire Protection Systems is UL listed for all light hazard occupancies as defined by NFPA 13. BlazeMaster pipe and fittings have been listed by UL to UL1821 and approved by FM to 1635. It is widely used in schools, offices, hospitals and other facilities.

MISCONCEPTION TWO

CPVC could melt in a fire.

FACT: Unlike other plastic piping systems, BlazeMaster CPVC resists heat and flame. When exposed to a fire, the water flow cools the inside of the pipe and a charring layer forms on the outside of the pipe and fittings. This charring layer functions as a thermal barrier, which reduces the conduction of heat, ensuring that the pipe and fittings maintain their structure and effectively deliver water.

MISCONCEPTION THREE

CPVC installation is difficult.

FACT: Light, flexible BlazeMaster Fire Protection Systems reduces installation time with its quick, simple joining process that allows one person to complete an entire floor. By comparison, other piping material requires two or more people to do the job, along with use of torches, heat fusion techniques and pipe lifts.

MISCONCEPTION FOUR

CPVC is too expensive.

FACT: BlazeMaster fire sprinkler systems not only reduce upfront material and labor costs, but also save money on maintenance costs long-term because they do not corrode.





MISCONCEPTION FIVE

All CPVC is basically the same.

FACT: In an independent head-to-head comparison against another leading CPVC brand, BlazeMaster fire sprinkler systems showed significant advantages in pressure burst testing and impact resistance. And only BlazeMaster Fire Protection Systems offers the FBC™ System Compatible Program, which takes the guesswork out of chemical compatibility.

MISCONCEPTION SIX

CPVC is bad for the environment.

FACT: BlazeMaster Fire Protection Systems offers a more sustainable option based on an ISO-compliant, peer-reviewed life-cycle assessment. It outperformed other piping material on 12 out of 13 environmental categories, such as climate change impact and metal depletion. That's especially important in commercial projects seeking green building certification.

ONE MORE FACT:

BlazeMaster Fire Protection Systems is the most specified non-metallic piping system in the world.

FOR MORE INFORMATION, download our complete guide to misconceptions about CPVC at [BlazeMaster.com/Misconceptions](https://www.blazemaster.com/Misconceptions).

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National Historic Site Brought Back to Life with Automatic Fire Sprinklers

by Ray Reynolds, M.A., CPM, CCP, *Director of Fire & EMS, City of Nevada, Iowa*

Many contractors and property owners cite sprinkler installation costs as the primary obstacle to bringing more historic buildings back to life. Here is how a small, thriving community in central Iowa overcame those obstacles and began the important process of restoring a local treasure.

Welcome to Nevada, Iowa

The town of Nevada, Iowa, sits directly in the middle of the state, just five miles from Ames, the home of Iowa State University, and a 35-minute drive north of Des Moines, Iowa's capital.

Nevada's downtown is no stranger to devastating fires, which destroyed what is now the 1000 block of 6th Street in 1880 and again in 1882. This four-block area is now listed on the National Registry of Historic Places, and includes 85 buildings, none of which is currently equipped with automatic fire sprinklers.



Nevada's downtown is listed on the National Registry of Historic Places

In 2020, the City of Nevada invested in a \$9 million street improvement project for the downtown district. The town was subsequently awarded the Main Street designation by the State

of Iowa. As such, there is tremendous synergy to renovate the downtown second floor spaces, which will necessitate the addition of sprinkler coverage for the R-2 housing.

The City of Nevada added water connections at the corner of the block during the street improvements to support the installation of automatic fire sprinklers within the downtown area.

The Local Theater

Nevada is the home of a historic building that began as the Circle Theater. Opening in 1928, the 748-seat theater was a popular destination for locals to enjoy vaudeville shows and silent films. In 1969, it underwent extensive renovations to emerge as the Camelot, offering moviegoers first-run films and a charming atmosphere with a ceiling of twinkling star lights, leaving the impression of sitting in an outdoor courtyard.

It's believed that the Camelot Theater's projectionist lived in the single apartment on the third floor in the mid-1950s. To this day, a small wooden door remains between the film room and the apartment for direct access to the living space. The second floor apartment shares a single exit with the third floor apartment. (Under today's modern fire codes, a single exit from the second or third floor would not be permitted.) The apartments offer affordable condominium and apartment city living, a great view of downtown Nevada, and easy access to services and entertainment.



(Right) a view of 6th Street from the 2nd floor apartment.

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Most recently, under private ownership, the Camelot Theater has evolved yet again to become a live performance venue known as The Talent Factory, featuring musical and comedy acts, and remaining a popular gathering place for locals.

Preserving a Cherished Landmark

The Camelot Theater Foundation is a 501c3 nonprofit spun off from the Main Street Nevada Economic Vitality Committee after the need to rehabilitate and preserve the theater was identified as a major goal for the community. The foundation purchased the property in January 2022 as a community collaborative effort with goals to bring the two apartments back to use and to create a multi-use venue for the benefit of the community, while adding a swanky wine bistro and rooftop bar to the theater.

The proposed new design of the Camelot Theater with apartment spaces, movies, and wine bistro.



In the spring of 2022, the Camelot Theater Foundation received a \$200,000 grant from the State of Iowa to add a sprinkler riser to the building. This grant will support renovation of the apartments, installation of sprinklers in both apartments, and allow renovation of structural areas that need improvement.

Nevada is one example of possibly thousands of growing communities trying to invest and develop historic downtown properties. This project demonstrates how strong community support, along with the backing of local and state officials, can bring historic districts back to use while adding safety and value to the building.

Nevada Fire Chief Ray Reynolds says, “It is important we protect the historical significance of our past downtown while finding creative new solutions to add modern safety features our early 1900’s buildings did not have at the time.”

Watch for an update on the Camelot Theater after the renovation is completed. For those interested in supporting the Camelot Theater project contact Melissa Sly, President of the Camelot Theater Foundation Board, at camelottheaterfoundation@gmail.com.

Reynolds adds, “Since 9/11, our federal government has spent several billion dollars shoring up fire departments with equipment, staffing, and fire prevention grants. There are tremendous



benefits in safety and proof of economic rewards to communities if a similar sprinkler grant program for historic districts existed at the federal level.”•

Author: Ray Reynolds is the current fire chief for the City of Nevada. He serves as a board member on the Fire and Life Safety Section of the International Association of Fire Chiefs (IAFC) and is appointed by Iowa Governor Kim Reynolds (not related) as a council member to the Iowa Fire Service and Emergency Response Council. Ray served as the 13th State Fire Marshal in Iowa from 2010-2013. Content was also provided by Melissa Sly.

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An AHJ's Perspective-Stationary Lithium-Ion Battery Energy Storage Systems

by Scott Stookey, *Austin, Texas Fire Department*

Lithium-ion batteries (LiBs) are an extremely efficient and reliable method for storing a large amount of electrical energy in a small space. LiBs have the highest energy density per square foot when compared to conventional lead-acid or valve-regulated batteries. For data and telecommunication centers, this equates to more watts/Ft.², requiring less area to store the required amount of energy. Stationary LiB Energy Storage Systems (LiBESS) can safely operate at higher indoor temperatures, which reduces building cooling costs.

Stationary LiBESS present a unique fire hazard. A LiB fire is an electrochemical event where the heat release rate is dependent on the electrolyte chemistry of the individual cell (a.k.a. battery), the separator (commonly fabricated using polyethylene or polyvinylidene fluoride) and how much energy is being stored, known as the State of Charge (SOC). The higher the SOC, the more energy that will be released.

Thermal Runaway

Thermal runaway (TR) is a thermodynamic event, which, if uncontrolled, results in the cell being destroyed. During TR the energy release rate from exothermic reactions exceeds the rate at which energy is lost from the system through heat transfer.ⁱ TR progresses through various stages and if it is detected early, it can be stopped. What makes TR so hazardous is once a cell has a self-heating rate (SHR) > 0.2°C/minute (32.4°F/minute), the electrochemical reaction is exothermic. When a cell is subjected to this SHR its safety relief device will operate and begin to discharge a mixture of flammable gases and carbon dioxide. When the SHR exceeds 10°C/minute (50°F/minute), TR commences. At 10°C/minute, the cell is at “the point of no return” meaning the temperature increase can’t be compensated by the cooling system anymore.ⁱⁱ The cell is destroyed.

TR immediately releases energy into adjacent cells by radiant, conductive, and convective heat transfer. TR releases a large volume of flammable gases. If accumulated, the flammable gases, when ignited, can exhibit very rapid oxidation and a burning rate of 1-100 m/second, which is defined as a Deflagration. On April 16, 2021, two Beijing (CN) firefighters died and one was injured in an explosion involving a 25 MWh direct current LIB ESS, which is the world’s largest ESS installed at a shopping mall.ⁱⁱⁱ

In comparison to conventional lead-acid cells, Lib cells present a greater fire and toxic gas event because:

1. Water in the battery is replaced with a carbonate solvent, a flammable or combustible liquid.
2. The thermal and chemical stability of the LiB cell is dependent on the anode chemistry.
3. To maximize the amount of stored energy, the LiB cell must be operated within prescribed temperature, voltage and amperage limits. Deviating from these limits can result in TR. 2021 IFC and NFPA 855 require stationary LiBESS be equipped with an Energy Storage Management System (ESMS) to control the charge and discharge rates, internal temperatures, and the SOC.

When a lead-acid or valve-regulated battery undergoes TR, the primary hazard is hydrogen. Hydrogen is a flammable gas with a flammability range of 4-74% by volume in air. Hydrogen gas releases inside an enclosure or building are effectively controlled using properly designed gas detection with mechanical exhaust ventilation systems.

LiB TR releases hydrogen, carbon monoxide, carbon dioxide, and a mix of other flammable hydrocarbons. The volume of gases generated is directly dependent on the cell chemistry and the SOC. Research scientists at Sandia National Laboratories and the University of Texas at Austin compiled 20 years of LiB cell fire test data to reveal that SOC and a cell’s chemistry can result in large rates of flammable and nonflammable gas generation.

- Starting at a 40% SOC, the volume of hydrogen generated during TR increases approximately 20% for Lithium Cobalt Oxide (LCO), Lithium Iron Phosphate (LFP), Lithium Nickel Cobalt Aluminum Oxide (NCA) and Lithium-Manganese-Cobalt- Oxide (NMC) cells for every 10% increase in SOC.
- At < 30% SOC cells manufactured using LCO anodes, TR produces < 20% flammable gases. At ≥ 40% SOC the volume of flammable gases produced significantly increased while the volume of carbon dioxide decreases.
- LFP anodes produce < 20% flammable gases at < 20% SOC. If the SOC exceeds 50%, the volume of flammable gases increases by 30% and continues to rise as the SOC is increased.^{iv}

This data demonstrates the importance of reviewing and analyzing the ESS manufacturer’s UL 9540A, *Test Methods for Evaluating*

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Thermal Runaway Fire Propagation in Battery Energy Storage Systems report. The mixture, volume and gases generated influences the strength of a deflagration. Deflagrations injured several firefighters in Surprise, AZ and can damage fire protection systems.

The variety and type of gases generated during TR makes designing gas detection systems difficult. Research by Underwriters Laboratories revealed commonly available combustible and gas and hydrogen detectors are effective for identifying a thermal runaway event but are not reliable for an ongoing assessment of the hazardous conditions, which would be beneficial to firefighters. This is due to the harsh atmosphere created during TR, which generates corrosive gases, a large quantity of particulates, all while subjecting the gas detectors to high thermal stress.^v

Cascading Cell Failure

If one cell in a module undergoes TR, it will likely cause TR in adjacent cells via various heat transfer mechanisms: direct cell-to-cell contact, impingement of hot vent gases, or impingement of flaming vent gases. During TR the heat released pre-heats adjacent cells and if uncontrolled, will increase the heat release rate of the fire and exhibit much higher burning rates. A series of fire tests performed by the US Federal Aviation Administration confirmed the hazards of cascading cell failure.^{vi}



The 12" wide x 9" deep x 17" long enclosure contains 66 LiB cells & the energy storage management system.

This behavior has been observed and reported in many battery electric vehicle fires. Cascading cell failure was a major contributing

factor to the four firefighter injuries in Surprise, Arizona. NFPA 855 and the 2021 IFC addresses this by specifying certain requirements for the ESMS. However, an ESMS could malfunction or fail.

Properly designed mechanical exhaust systems, deflagration vents, or both, may be required to deal with the hazards of cascading cell failure. Other methods like providing thermal barriers between cells or modules or increased separation distances are viable design approaches.

Stranded Energy

A fire-damaged ESS may create a Stranded Energy hazard to emergency responders and secondary responders such as utility power professionals or electricians that maintain ESS. Stranded energy is the remaining electrical energy stored in a damaged stationary ESS. This hazard is not addressed in 2021 International Fire Code or NFPA 855. To safely disassemble a fire damaged stationary ESS, the stored electrical energy must be discharged at a controlled rate to lower the SOC to a level that reduces the arc flash and electrocution hazards. The discharge rate is controlled to prevent TR from occurring. One method is to connect the damaged ESS to a load bank and safely discharge the stored electrical energy and convert it into heat. This is difficult to accomplish when the ESS is fire damaged. The National Fire Protection Association Research Foundation has an on-going stranded energy research program with the goal of developing guidelines and procedures for managing this hazard.

Review Of Selected Fire Incidents

There are certain themes that recur in the investigation of incidents involving LiB ESS. These themes reveal some issues with the incident process and make it difficult to group incidents together or gather meaningful data. First, although in some reporting schemes the investigator is required to determine the cause of the incident, it frequently appears meaningless to assign a single cause as the incident has arisen from a particular combination of circumstances. Second, it is often found that the incident has been preceded by other incidents that have been "near-misses". These are cases where most but not all of the conditions for the incident were met. A third characteristic of incidents is that when the critical event has occurred, there are wide variations in the consequences. In one case there may be no injury or damage, while in another case that is similar in most respects, there is some key circumstance that results in severe loss of life or property.^{vii}

The Electric Power Research Institute maintains a database of stationary energy storage failure events.^{viii} At the time of this writing, the database documented 50 incidents around the world. Researchers analyzed the incident data from EPRI website and other open and closed sources cataloging vehicle and stationary LiB incidents. Most of the stationary LiB ESS incidents involved systems installed inside of shipping containers not intended for human occupancy. These specialized enclosures are defined as Dedicated-Use Buildings in NFPA 855 and the 2021 International Fire Code.

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For stationary LiB ESS the findings are predictors of what the US fire service can anticipate:

- Responding to a stationary LiB ESS incident is a difficult and potentially risky operation for fire and rescue services: rendering the fire under control may take hours if not days and there is the explosion risk due to the flammable gases vented by the cells.
- No battery chemistry is exempt from TR.
- Installing stationary LiB ESS in an on-top and side-by-side configuration and in upper stories of buildings should be avoided.
- Fire detection and fire protection systems need to be optimized: clean agent systems may be effective at preventing an external incipient fire from initiating a TR. So far no clean agent suppression system has proven effective for controlling or stopping TR when the stationary LiB ESS is installed inside a shipping container.
- The cells may not be the root cause of the fire. The ESMS and other components can cause of TR. TR can occur during equipment construction or commissioning, or when the stationary LiB ESS is charged and idle, or during charging or discharging energy.^{ix}

The US fire service has more incident experience responding to battery electric vehicle (BEV) fires than stationary LiB ESS incidents. BEV fires foretell incident information that may reveal how fire departments respond to stationary LiB ESS fires.

A 2021 National Transportation and Safety Board Safety Report^x of motor vehicle accidents resulting in BEV fires revealed these incidents require a large volume of water but the fire stream flow rate (GPM) is low. The on-scene times for these incidents range from 2-8 hours. Water supplies at these incidents required 300 to 2,600 Gallons/Hour (GOW) to sustain 100-150 GPM flow rates. In a Lake Forest, CA vehicle fire, the fire department flowed 20,000 GOW over several hours. 2021 incidents in Austin and The Woodlands, TX required the fire departments to flow 10-26,000 GOW to extinguish BEV fires. In all of the reported incidents, re ignitions of damaged cells occurred.

This limited incident data can imply that a stationary LiB fire inside a building could require water supply for an automatic sprinkler system that is beyond the duration specified in *NFPA 13, Standard for Sprinkler Systems* (2021 edition).

CHANDLER, AZ INCIDENT

On April 18, 2022, the Chandler, AZ Fire Department (CFD) responded to a commercial building fire. The building housed as 10 MW/hr. stationary LiB ESS. No injuries were reported. This 14 day incident revealed that the US fire service may be required to spend days on-scene to extinguish the fire. Because the incident is currently being investigated little information is known about the LiB ESS or the design of the building's fire protection systems.

An interview of the CFD Assistant Fire Chief for Operations

provided very useful information:^{xi}

1. The ESS was constructed in 2017. At the time of construction, the adopted fire code had no requirements for stationary LiB ESS. It is unknown if the ESS was tested based on UL 9540A. The ESS manufacturer, the cell chemistry and the SOC at the time of the fire is unknown.
2. CFDs initial response was for a linear beam smoke detector activation. While responding the Engine company was notified of an automatic sprinkler water flow alarm.
3. Upon arrival firefighters observed grey smoke being emitted from an approximately 9,000 Ft.² 1-story noncombustible building. The Officer requested a 1st alarm building fire response and a Hazardous Materials Response Team. Firefighters connected hose lines to the fire department connection (FDC) and a public fire hydrant.
4. The Officer assumed the role of Incident Commander and declared the operations would be Defensive, meaning no firefighters were to initiate interior firefighting activities.
5. A firefighter at the scene had toured the building during a previous pre-fire planning event. The firefighter's knowledge of the building contents and fire protection system was used by the Incident Commander to decide that a Defensive operation was the safest approach to this fire.
6. The hazardous materials response team deployed gas detectors. The gas detectors identified the smoke contained hydrogen, hydrogen sulfide, oxides of sulfur and hydrogen cyanide. An exclusion zone was established around the building.
7. The building management stated the automatic sprinkler system was designed to flow 30-50 GPM/sprinkler. The number of sprinklers that operated is unknown.
8. CFD did not enter the building during the first 48 hours. On the 3rd day, a law enforcement robot opened the building door. Firefighters observed dramatic fire growth, at which time the Engine company pressurized the hose lines supporting the FDC. This action controlled but did not extinguish the fire.
9. An unmanned aerial vehicle equipped with thermal imaging capability was deployed to survey the interior. It found two



UAV screen capture of a law enforcement robot opening the door to the building housing a 10 MW/Hr. ESS.

(Photo source: Chandler AZ Fire Department)

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battery racks, each with 14 battery moduli, exhibited the highest temperatures in the building. It is unknown if these temperatures were recorded. The UAV was recovered, and the door was closed.

10. CFD maintained an Engine company on scene for another 10 days. Personnel reported smoke would be nonexistent for several hours followed by an increase in smoke production, which was assumed to be a TR. These events were inconsistent and unpredictable as to when they occurred. After 14 days on scene, CFD opened the building door and firefighters entered the building. The fire was extinguished.
11. The electric utility constructed temporary dikes to contain the automatic sprinkler water.
12. The incident consumed 1.5-2 million GOW.

Does this mean that all incidents where stationary LiBESS are burning require this volume of water? No – it is wrong to make this conclusion. Factory Mutual Global fire tests of two stationary LiBESS with different cell chemistries concluded these fires can be controlled when a properly installed and maintained automatic sprinkler system designed for an Extra Hazard Group I occupancy has is provided, combined with adequate separation between each ESS rack and fire-resistive rated construction.^{xiii} The Chandler incident confirms that an automatic sprinkler system (more than likely designed using the control mode-design area method) can eventually suppress an ESS fire. But it may take a long time to control the fire because of how Li cells are packaged inside of modules, the number of modules in the rack, and if the racks are adequately separated.

VALLEY CENTER FIRE PROTECTION DISTRICT (VCFPD), CA INCIDENT

April 5th, 2022, VCFPD responded to a TR event at a renewable energy company. No injuries were reported, and fire companies remained on scene for 24 hours before returning the site to the owner. Interviews with the Fire Marshal revealed a more effective and efficient automatic sprinkler system design based on the UL 9540A report for the specified ESS. Lessons were also reinforced as to the importance of recognizing the sensitivity of air-aspirating smoke detection systems.^{xiii}

1. VCFPD was the AHJ for the construction the 429 MWh energy storage facility. The site has 51 noncombustible battery enclosures that are not intended for human occupancy. Depending on their size, the ESS can store approximately 8 to 13 MWh of energy.
2. The ESS was permitted and constructed to the 2019 California Fire Code, which is the 2018 International Fire Code with State Fire Marshal amendments. VCFPD's design review and fire protection system design were based on the UL9540A Cell and Module tests. To mitigate TR, each module is constructed with an "in-rack" sprinkler designed

to flow < 10 GPM. Each module sprinkler is connected by a flexible hose to a pre-action deluge valve. Activation of the air-aspirating smoke detection system fills the pipe network with water. When module TR occurs, the sprinkler activates and applies water inside the module. The installed system is listed to UL 1642, *Standard for Lithium Batteries and UL 1973, Standard for Batteries for Use in Stationary, Vehicle Auxiliary Power and Light Electric Rail Applications.*

3. VCFPD was dispatched to an automatic smoke detector activation. While responding the business reported the alarm activation was unintentional and was caused by smoke from an external source beyond the facility's property.
4. Several minutes later VCFPD dispatched a Commercial Building Fire assignment. The 1st arriving Engine Company observed visible smoke and declared the fire a Defensive Operation.
5. As part of the fire protection design, a centralized location was provided for firefighters to monitor each battery enclosure. The Building System User Interface is a graphical display reporting the status of the fire protection system, the status of the hydrogen and carbon monoxide gas detectors and the inside temperature of the enclosure.
6. Fire department resources remained on scene monitoring the incident for 24 hours. After 24 hours, firefighters entered the enclosure and found that a fire had occurred in one module and the fire did not extend beyond the module of fire origin.



The automatic sprinkler in the module protected the ESS system from thermal runaway cascading to the adjacent modules.

(Photo source: Valley Center Fire Protection District, Valley Center, CA)

7. The module experienced TR because its ESMS was damaged by water from the automatic sprinkler system. The connection to the module sprinkler and the piping was completed with a flexible hose. When the smoke detection system activated, it tripped the pre-action sprinkler deluge valve. The pressure surge caused the hose to fail, which discharged water onto the ESMS, disabling it. Since this incident, the sensitivity of the smoke detection system has been adjusted to allow facility personnel to investigate fire alarm signals before the activating the pre-action valve.

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WHAT LESSONS CAN BE LEARNED?

All of the incident history reviewed involves stationary installations inside of enclosures that are not intended for human occupancy. In the simplest terms, they are a Box of Watts. It's nothing more than a noncombustible structure filled with thousands of cells, assembled into ten-hundreds of modules managed by an ESMS. It has safety and fire protection systems and these are listed systems. However, the Surprise, AZ fire and deflagration changed the game. So expect firefighters to assume Defensive Operations.

The information presented can offer guidance to AHJs and design professional when dealing with smaller stationary LiB ESS in single or mixed-occupancy buildings. The two incidents reviewed occurred in locations that are not heavily populated or in an urban setting. Take the information from these incidents and apply them to a hypothetical 100 kWh stationary LiB ESS in a

commercial, mixed occupancy mid-rise apartment building with 300 residents and 5 restaurants located in a densely populated Austin, TX neighborhood. A TR event involving a 100 kWh ESS could require firefighters and electric utility personnel to remain on scene for 24 hours or more. This introduces a host of emergency response safety and logistical issues including:

1. What is the mechanism for sprinkler and fire stream water removal? If the elevators are damaged, rescue and evacuation times will increase. One consideration is to provide floor drains based on the automatic sprinkler design.
2. As a result of TR, a deflagration occurs and damages the building. Individuals are trapped and are located near the damaged ESS. How does the fire service safely strengthen the building to perform rescues and evacuations without coming into high voltage branch circuits being supplied by the ESS?
3. Based on the Tempe incident, safe pathways need to be established to limit the evacuees' exposure to the TR products of combustion. In a worse case scenario, occupants may be temporarily sheltered-in-place to prevent exposure to the hazardous fire gases.
4. How will the stranded energy hazard be managed and what are the key measurements that can be used by firefighters to safely return a building to an owner?

To limit the risk of a TR fire or deflagration all parties involved in the design and construction must review and verify compliance with the UL 9540A report and the listing information for the installed systems. UL 9540A reports provide important design information –NFPA 855 and the IFC specify the AHJ has the final authority for approval. An AHJ has the option of requiring a Technical Report and Opinion to assist in demonstrating how the proposed ESS installation will comply with the adopted fire code based on the presented design. The AHJ should require a detailed plan for commissioning of the system and an Emergency Response Plan that includes a Building System User Interface (as part of the Fire Alarm and Detection System) to provide information about the ESS and provide useful information to firefighters.

Finally, the US fire service should investigate and catalog stationary LiB ESS incident information. As more ESS incidents occur, documenting the “near—miss events,” successes, failures, and factors that affected fireground operations will benefit building users, design professionals, and responders. •

About The Author



Scott Stookey with Austin (TX) Fire Department is a Graduate Engineer A – Hazardous Materials in the Fire Marshal's Office. He has 21 years with AFD and over 30 years of regulatory and emergency response experience. Scott is a graduate of the Fire Protection and Safety Engineering Technology program at Oklahoma State University and a Professional member of the Society of Fire Protection Engineers.

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Different

by Chief John Buckman, *Graduate of NFSA's Inaugural Leadership Institute Class of 2022*

Is this the time for fire and EMS organizations to be different? Can we reimagine our future? What are the challenges we have today that require innovation and creativity? Now is not the time to accept the status quo. “No” should not be an acceptable answer from those who control the future of their community and public safety. They do not have to say yes the first time. If we are going to be ready for the future, we are going to need to be different. We have not done a very good job of marketing the economic impact of fire. Lives lost is just one piece of data. What is the cost in loss of tax revenue when a property burns? Do we consider when, or if, the tax income from that property will be restored? What is the value of fire prevention? It’s hard to quantify *“a fire prevented is a life loss prevented resulting in less property damage.”*

We offer something people need and many of them need us often. We provide great product in our diverse services. Everyone has access to our services 24 hours per day. We most often respond in less than ten minutes to a request for services. Before we go outside our organization, we have to ask the question; are we ready to change? Who amongst us will become the visionary with an entrepreneurial spirit? If we are satisfied with the status quo, then so be it. I don’t think so. I believe we can reimagine the future. We are a monopoly. There is very little competition from another organization to deliver our level of service. That is not a valid reason to not think about the future. There is competition from other public agencies. If we were a business with competition, what would we change to remain competitive? What could we do to develop a better service-delivery model? Entrepreneurial thinking has changed the world. Entrepreneurs are innovators and problem solvers. We need leaders who have an entrepreneurial mind set. The Christian Science Monitor says that thoughts can be spawned and acted upon in less than 150 milliseconds. What is the key to marketing in today’s environment? *Be different!*

Marketing

I propose the first thing we would need to do would be to market all our services. What are those services that we provide that bring value to our cost? Our mission to market is not just about the value of our services. It is about the organization as a whole and all the parts that make our community a better place to live and work. If our community is a better place, our customers are safer and in less danger of catastrophic events happening to them. Write down the top ten services that we provide. At least five of those services

have to be in our non-emergency role. Be specific. Now tell me how those services could be improved? How much effort do we put into the non-emergency roles? What would the outcome be if we improve services? Are those outcomes clearly measurable? When you start a new idea, you have to create the rubric. Trying new ideas will not always be successful. Some ideas will fail.

We must experiment with our current organizational operations model. I believe we must change and experiment with new ideas, methods, processes, procedures, vision. We can experiment through trial and error. There is that word that creates fear - “error.” Some ideas are not worth pursuing. You will have to be aware that some ideas will just spin the wheels and not gain traction. Also, when an idea is being tried but not working - “declare a dead horse.” Move on to something else.

Fear of being different

Leaders have a fear of being different. They are fearful of the attention being different can bring them. What if they are proposing something that no one else has ever thought about? What if the idea is just weird? What if the idea makes people squirm in their seats? Our own fear of standing out is the number one reason why we struggle to get out of the status quo. We want to look as good as others, so we act like others. We need ideas that make us feel uncomfortable, or even threatened, because change is necessary. The problem is that leaders have focused on fitting in. Imagine you are in a group of ten people and they are all dressed identically. How could you spot the one individual who is different? You couldn’t identify the one individual that is different unless you know something about one of them that makes them different.

Now imagine that one of the group turns their shirt around and is wearing it backwards. Could you spot the difference? That is what marketing today requires - stand out from the crowd to show you are different and have something else to offer. The world is not better or worse, it is just different. Different is how you stand out in an instant. If we are to reimagine our future, we are going to have to be different. Leadership needs to be a little less humble and first accept the public’s gratitude when they give it. Don’t say I was just doing “my job”. They know you were doing your job, but they want to show some appreciation to you. Don’t blow off their appreciation by saying I was just doing my job. Say thank you. Say I appreciate your recognition. Be polite in all dealings with

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the public. That person who has called for EMS assistance today is someone's mother or father and they believe they need help. You took an oath of office when you were hired or promoted. As part of that oath, somewhere in there it asked you to, or stated that, you serve the members of the community by doing your best at all times in their service.

Saying the words in an oath is not enough. You must live the words that are in that oath. It is time to do something that is bold and audacious. If you aren't willing to challenge the rules you will also be stuck in a safe place. Leadership is not a game of hide and seek. Leadership has a duty to be noticed. Our decisions must be obvious and noticeable. Leadership must get off the bench and out of the dugout. My dad had me read a book called I Dare You

when I was about 18 years old. As like most kids I half-assed it. Then, about 20 years later, I realized that I had missed several things from that book that could help me to make a difference in my quest. I found a copy at the library and today I have it digitally on my iPad. I encourage all of you to find that book and study it. Make notes and accept at least two action items from the book. Write down what you are going to do. These two action items become "urgent and important." These two action items become high priorities to complete.

Our mission is bigger than your fear. Leaders must be courageous to meet the needs of our community in the near term and the distance future. I dare you to step up and stand out. I dare you to be different. Your community is depending upon you. •

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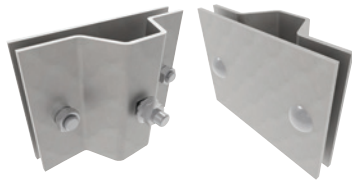


Fig. 131 seismic structural brace attachment

- Design allows for a secure, positive connection with only two holes in the wooden structure (joist)
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- Features installation stamp mark to help with proper installation orientation



Fig. 74 upper attachment

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Impressed by Inspect Point's social media presence, I reached out to Marketing Director Joanne Brown to see if she was interested in giving my brain a break and taking over Social Scene for this issue. Thankfully, she graciously accepted and was actually excited by the prospect. I was thrilled to receive Joanne's finished piece, as it is not only informative, but laced with humor that grabs the reader and keeps them wanting more.

My thanks to my fellow Joanne (she's even got the "e" at the end!) and a personal invitation to submit articles whenever the spirit moves you! —Joanne Genadio

A Joanne by Any Other Name...

by Joanne Brown, Inspect Point Marketing Director

Hello fellow members and readers. I know you were probably hoping for another excellent piece by Joanne Genadio. Surprise! As this is the Member Takeover issue, you're getting another Joanne. I can only try to be as informative and entertaining as the original Joanne always is. Here goes!

I'll let you in on a little secret; I never really liked marketing. Before you clutch your pearls in horror, let me explain. Yes, I am the Marketing Director at Inspect Point, and I love my job. I don't love the reputation marketing has, and sometimes rightly so, for shady dealings and being more about numbers than people. In a nutshell, marketing is traditionally defined as a type of paid media. I started my career in public relations, which meant earned media. The PR people were always a bit too self-righteous about that. That would greatly annoy the marketing people, as well as the sales department.

The Inspect Point Team Hard at Work!

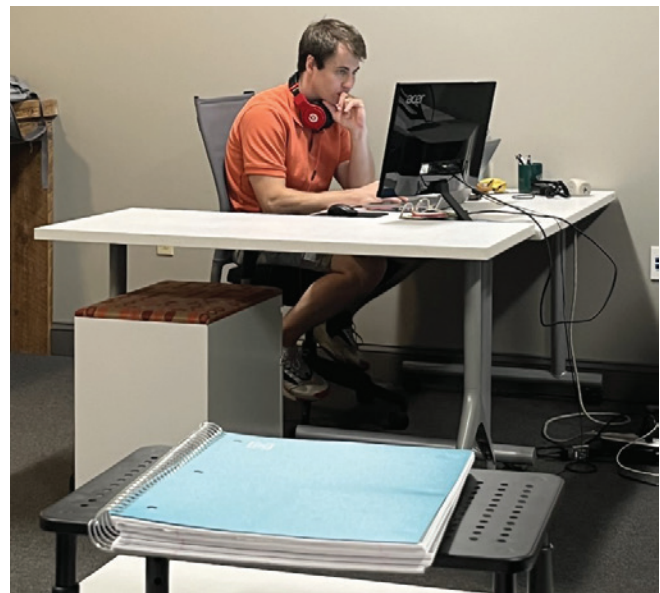


In today's world, there is more of a dotted line between PR and marketing. Often, PR is considered part of marketing. However, this would have had my PR mentors' heads exploding. PR under marketing would be even uglier and messier than it sounds, as many PR people I worked under were part of the day of the PR Superstar. Think of the spokesperson for Madonna, Liz Rosenberg. She was even one of the targets of a Saturday Night Live sketch - Mike Meyer's "Coffee Talk," leading into the days of the children of entertainment bigwigs being famous because their parents or clients were famous. Some PR people wanted to be part of the story or the entire story. Thank goodness, in fire protection and life safety, that stuff wouldn't fly.

What does fly are the various ways and means we use to promote Inspect Point. We try to use every viable channel to get the word out. We use such channels as Google Adwords, Microsoft Ads, digital marketing (email blasts), The Fire Protection Podcast (with your host, Drew Slocum), SEO, webinars, trade shows, social media, white papers and guides, blog posts, website work, case studies and testimonials, infographics, all kinds of advertising from print to digital to TV, etc., sponsorships, influencer marketing, all types of content creation just mentioned, and billboards. Ok, so no billboards or influencer marketing yet, but we've thought about it. One thing we'd never consider using is carrier pigeons. Besides being rather messy, they would not go over well with the FAA.

For many B2B companies in what are considered niche markets, Google AdWords is one of the most effective ways to get to the people who are actively searching for what your product is and does. That works exceptionally well for us. It takes honing your keywords and not fearing traffic loss by being extremely specific. It is essential not just to reach masses of people but the right people.

Other top methods for us are webinars, case studies, customer



testimonials, and trade shows. Webinars are a great way to share a lot of information dynamically. They can be recorded for further sharing, and the content divided out to use for social posts, blogs, etc. The key is choosing suitable subjects and leaving the right amount of time for promoting before and following up after the webinar. Case Studies and customer testimonials are the easiest way to let others know what issues your customers solved with your product, how they work with you and your product, and why they stay with you. It is always an honor to work on a case study or get a testimonial from a customer. I always learn so much and enjoy getting to know a customer like that.

We love to get out and meet fire protection and life safety people anywhere. We're happy to be back to live events, seeing familiar faces, meeting new ones, and sharing information and best practices again! We find we garner a lot of leads at these shows at the exhibition table and meet even more people by having a speaking engagement. You obtain leads while working your booth, at show networking breaks, at other company-sponsored functions, and from your presentation. Also, when you exhibit/attend a show, you usually can get a copy of the registration or attendee list. These people have opted in for messages from show vendors so that you can contact them regarding your product. We will attend the **NFSA Annual Seminar and Business & Leadership Conference** at the end of September, and we look forward to meeting up with you there. Drew Slocum will be playing golf and presenting, and we'll have a tabletop in the exhibit area.

Speaking of Drew Slocum, he is one of Inspect Point's co-founders, our Chief Strategy Officer, and the host and creator of *The Fire Protection Podcast*. Drew is heavily involved with our industry's organizations and is an active member of several NFPA

Standards and Codes committees. The podcast is an excellent way to promote the company. One of the biggest things that sets Inspect Point apart from every other fire protection and life safety SaaS on the market is that we are fire people who create Inspect Point for fire people. Our staff includes fire protection professionals like Drew. That type of thought leadership is priceless. It drives so much of what we do to promote ourselves. Using the things that differentiate your business from others in your industry is one of your most essential strategies. Our thought leadership informs most of our content.

We have been really getting into our social media and exploring the various outlets and the types of communications and posts that do well on each. We are on LinkedIn, YouTube, Instagram, Twitter, Facebook, and Pinterest! I hope you'll please follow us everywhere, and we will reciprocate. Each platform has its audience, and what works for one might not work for another. The difference among social media platforms is the subject of several articles. We have seen our likes and follows grow by injecting humor into our posts and primarily by aiming to provide helpful content.

I hope that gives you a little insight into what we're doing at Inspect Point to promote what we do at Inspect Point! I would be remiss as a promoter, PR person, and marketer if I didn't say, please visit our website, www.inspectpoint.com, follow us on all social media, and book a demo of Inspect Point. We'd love to hear from you and show you how we can help you grow your business.

I want to wrap up here by saying I am a year and a half into working in the Fire Protection industry, and what hits me every day is the passion our community has for the work we all do and the commitment to excellence that passion inspires. Our work, your work, saves lives. To me, that says it all. •



2023 NFSA Call for Presentations

The North American Fire Sprinkler Expo is in Austin, Texas, May 3-5, 2023! To help us make this annual conference and expo the best yet, we are looking for speakers who are passionate and knowledgeable about fire sprinklers! The NFSA is seeking individual and panel presentations for fire sprinkler contractors, designers, inspectors, AHJs on:

1. Advocacy and successful solutions for local adoption
2. Solutions for protecting new technologies
3. Research and testing reports
4. Updates on codes and standards

You may access the submittal form at <https://bit.ly/NAFSE23>.

Team NFSA Reps #Fastestwater at NFPA Expo



To say we were pleased with the turnout at our booth at the NFSA Expo is an understatement! We couldn't have been happier to be able to be back in person at the Convention Center in Boston!

There was constant traffic at the booth, attracted by our now famous *#fastestwater* prize wheel, which we were told could be heard spinning from quite a distance away! While they came to see what all the excitement was about, many stayed to talk about

fire sprinklers. We enjoyed answering many questions about the association, membership, technical problems, side-by-side demos and so much more.

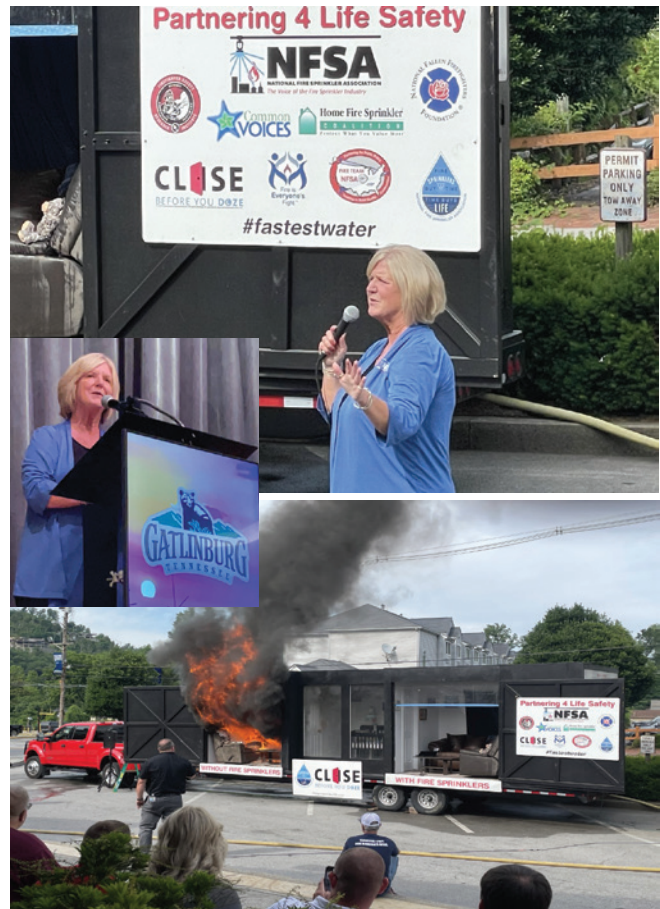
We collected quite a few business cards from attendees interested in joining the association. Our EOD handbooks were a big hit, with many stopping by to look through the books and commenting on the great content. We also sold quite a few copies!

Thanks go to **Dave Kurasz**, **Joanne Genadio**, **Frank Ellis** and **Dave Davis** for staffing the booth and engaging with the many members, and prospective members-to-be, that stopped by to talk *#fastestwater*!

NFSA staff and members were selected to present at several NFPA education sessions. Allies and partners invited our staff to be guests at several receptions and events, such as the AFAA Annual Breakfast and an exclusive tour with Reliable Automatic Sprinkler of a vintage FDNY fire boat.

The NFSA Engineering and Standards Committee members attended and participated at the NFPA Technical Meeting and voted in the next edition of Codes and Standards, including the 2023 edition of NFPA 25.

Side-by-Side Burns in the Smoky Mountains



NFSA Vice President **Vickie Pritchett**, Southeast Regional Manager **Brian Biggs** and Special Project Coordinator **Marty Blackwell** supported Smoky Mountain Weekend and the East Tennessee fire service. It is rewarding to see the difference we are able to make by conducting side-by-side burns in this manner.

Brian and Vickie did an awesome job of tag-teaming the burn narration, and Marty provided solid support to the team. Local media coverage was positive, and Vickie reported that several people who saw the burn were convinced to include fire sprinklers in new homes about to be built and several also asked about retrofitting existing homes.

What a great example of “Partners in Progress” as the Tennessee State Fire Marshal’s office brought the trailer donated by NFSA for this event. Working together, we see our mission realized daily. Thanks to everyone who plays a part!

Team NFSA Reps Fire Sprinkler Job Opportunities at American School Counselors Conference

On July 9th-11th, Team NFSA was proud to be a platinum sponsor and exhibitor at the ASCA conference in Austin, TX.

NFSA’s **Lorrell Bush** and **Joanne Genadio** staffed the booth and reported that they opened many eyes to the career opportunities available in the fire sprinkler industry. Counselors from across the US stopped by the booth to learn what was available for their students. They loved the fact that our classes were available online, that they were self-paced and that there is a great need for employees in our industry. Many took contact info of our field ops staff so they could reach out when they were hosting a career fair.



As a platinum sponsor, NFSA was afforded a speaker session where Lorrell spoke for 30 minutes on job opportunities and the life-safety aspect of our industry which fuels our passion. Not only did Lorrell touch on the great need for employees, but she dispelled some of the many myths that we deal with on a daily basis.

We are proud to spearhead this important outreach on behalf of our members. Get ready... the future leaders of the fire sprinkler industry are on the way!

Common Voices Captures New Video of Advocates for Future Resources

Ten of the 12 Common Voices advocates traveled to Nashville, TN the weeks of July 11th and July 18th for an intense two weeks of filming. Each advocate will have new resources created for the Common Voices library that includes 30 second, 60 second, two-minute, and 10-15 minute segments documenting their respective stories.

Interviews were conducted with **Vina Drennan**, **Pam Elliott**, **Tina Jordan**, **Jeff Jordan**, **Gail Minger**, **Donna Henson**, **Justina Page**, **Rob Feeney**, **Mark Esker**, **Pamela Golinveaux**, along with **Bruce LaRue**, **Vickie Pritchett** and **Jenna Pritchett**. In addition to the individual segments, the group is creating a trailer for a proposed documentary titled *The Truth Burns*. The documentary will be pitched to streaming services, and the advocates are hopeful that this will help educate Americans about America’s fire problem and the solution (*fire sprinklers*.)

Your donation will help make this happen, and donations to support their efforts can be made by using the QR code. A big reveal of the new material will be showcased at the **2022 NFSA Business & Leadership Conference** in Clearwater Beach, Florida. We hope you can join us there and support the efforts of this great group that is focused on their mission of Creating a Fire Safe America by turning tragedy into advocacy. •



WE NEED YOUR HELP!



We Want Your Input!

Watch for an email coming to your inbox from Readex Research. We value your opinions, and our advertising members would like to know your thoughts on their ads in this issue of NFSM. You'll also have the opportunity to influence the content of future issues. All respondents will be entered into a drawing to win a \$100 gift card.

Don't miss out!



Florida Chapter *This is Your Time!*



We have seven FFSA Board of Director seats and one SAM seat terms that will be up on December 31, 2022. Would you like to be a part of the most active board in the NFSA? The Florida Board is made up of 15 Board Members, 2 SAM Members and 2 Professional Members. They are all committed to making this industry better. They work with other associations, volunteer for committees, learn and work on the legislative front and have a passion for life safety. What is required?

- Your company must be a member of NFSA
- Four board meetings per year across the state (first meeting of year always in Tallahassee)
- Willing to be a part of a committee - ITM, Legislative, Codes & Standards, Public Education, Future Leaders, Leadership & Education
- A desire to show up and make a difference

Are you up for the challenge? You can't make a difference if you don't get involved. Please send in a nomination for yourself or someone you would like to nominate to bush@nfsa.org.

Board members are voted on by contractor members in the state of Florida, SAM members are voted on by Florida SAM members.

You can nominate yourself or a colleague who fits the criteria above. Please decide today to be a part of the change and run for a seat on the FFSA Board of Directors.°

Michigan Chapter *NFSA President Shane Ray visits NFSA Michigan Chapter*



Pictured L to R: Christen and Damon Pietraz, Darrell and Carol Underwood, NFSA President Shane Ray

The Michigan Chapter held a very successful outing at NFSA Member Underwood Fire Equipment's new training center and warehouse located in Wixom, Michigan on July 20th. Underwood Fire Equipment was established by Darrell and Carol Underwood, who sold their business to long time employee Damon Pietraz and his wife Christen. President Ray was honored to spend time with both families for their commitment to professional excellence and their willingness to host this event. °

A tour of Underwood Fire Equipment impressive state-of-the-art training facilities and warehouse was provided to guest in attendance. °



President Ray was the keynote speaker for our event. He provided exciting news and information on legislative, public outreach initiatives, and codes and standards accomplishments at the national level.°



President Ray welcomed Macomb Fire Protection as our newest NFSA member in Michigan. Macomb Fire Protection is in Sterling Heights, Michigan. °

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L to R: NFSA Field Service Coordinator Ron Ritchey, NFSA President Shane Ray, Macomb Fire Protection Vice President Scott Johnson & Vice President John Johnson, and Wade Sylvester.

NFSA Michigan Chapter Chairman Marty Corcoran provided updates on important initiatives happening at the state level to all members and guests in attendance.*



NFSA Michigan Chapter Chairman Marty Corcoran addresses the attendees.

Members of both the Detroit Fire Sprinkler Advisory Board and NFSA Michigan Chapter contributed throughout the meeting.*



L to R: Rod Mathis (John E Green), NFSA President Shane Ray, NFSA Field Service Coordinator Ron Ritchey, Jim Ritcey (Victaulic), Bill Jacques (Absolute Fire Protection), Jeff McNamara (Shambaugh & Son), and Marty Corcoran (Wolverine Fire Protection).

Texas Chapter

Fire Sprinkler Chats with AHJs

Chat with Local Austin, Houston or Dallas/Fort Worth AHJs – 2 CEU's

During July 2022; FSCATX, FPANT and NFSA Texas Chapter co-hosted three Joint Fire Sprinkler Discussion Meetings in our three major metropolitan areas focused on local code amendments, state fire sprinkler rules and how fire sprinkler contractors can best be prepared to design, install and inspect/maintain fire sprinkler systems. The very well attended Discussion sessions were hosted in Austin (July 13); Houston (July 20) and Dallas (July 27).*



(L to R) Chat Moderator Ryan Kiefer, Western States Fire Protection, Panelists: Kelley Stalder, Texas State Fire Marshal Engineer, Benjamin Flick, Austin Fire Department Managing Engineer, Glenn Trubee, Lake Travis Fire & Rescue Assistant Fire Chief of Prevention, Lt. Darrell Wright, Round Rock Fire Marshal, Keeling Neves, Williamson County Assistant Fire Marshal, Mike West, Georgetown Fire Department Fire Prevention Specialist.



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

Join today!



Western Fire Chiefs Association’s Senior Policy Advisor, Bob Roper, Appointed to the Biden-Harris Wildland Fire Mitigation and Management Commission

The **Western Fire Chiefs Association** announces that its Senior Policy Advisor, Bob Roper, has been appointed to the Wildland Fire Mitigation and Management Commission (WFMMC). In this role, Roper and his colleagues will work collectively to form federal policy recommendations and strategies on ways to better prevent, manage, suppress, and recover from wildfires, and provide recommendations for aerial firefighting equipment needs.



“The wildfire problem needs a fresh outlook as our environment is changing and we must project solutions to future wildfire challenges,” comments Roper. “My goal is to raise awareness of the true costs of wildfires and to create the out of the box thinking needed to meet future wildfires. I am honored to be appointed considering the huge outpouring of qualified candidates and I am dedicated to contributing to this noble effort.”

The WFMMC is part of the Department of Agriculture, the Interior and Homeland Security through the Federal Emergency Management Agency. In his role with the WFMMC, Roper will focus on

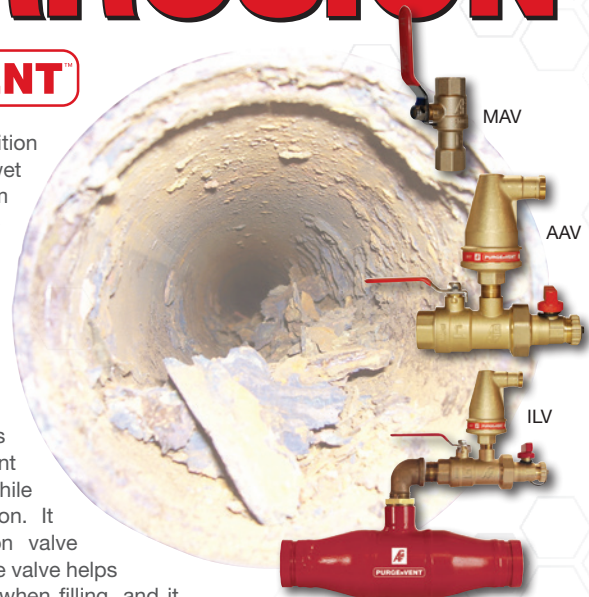
the National Cohesive Wildland Fire Management Strategy, working with colleagues to develop creative strategies to address the current and future environment of wildland fires.

Roper’s experience includes not only serving as Senior Policy Advisor for the WFCA, but he also served on California Governor Schwarzenegger’s 2003 Wildfire Blue Ribbon Commission. Prior to his role with the WFCA, Roper was the Fire Chief for the Ventura County Fire Protection District. After his Ventura County career, Roper became the Nevada State Forester in 2015. •

VENT TO PREVENT CORROSION

PURGENVENT™

NFPA 13 requires the addition of an air vent on each wet pipe fire sprinkler system that utilizes metallic pipe to help mitigate internal pipe corrosion. PURGENVENT valves come in a variety of styles. The 7910MAV is a manual air vent that has the smallest footprint on the market. The M7900AAV features an 7900V automatic air vent that releases excess air while the system is in operation. It also includes an isolation valve and purge valve. The purge valve helps air exit the system faster when filling, and it can be used as a vacuum break when draining the system. The vacuum break helps the system drain faster and protects gaskets from being dislodged on other system components when draining. The M7930ECA includes a pipe cap for easy installation, and the M7950ILV features an air separation chamber that installs into the main branch line for applications with difficult to reach system high-points.



www.agfmfg.com

SPRINKLERING OF NEWS

■ Viking SupplyNet Announces New Branch in Mobile, AL

Viking SupplyNet announces a new location in Mobile, AL. The new branch is Viking SupplyNet's first location in Alabama, and will service the Alabama, Mississippi, Louisiana, and the Florida panhandle areas.

The new location offers a fully staffed branch in a 17,500 square foot facility. This location's proximity to the I-10 and US Highway 90 makes travel to the Mobile Regional Airport or the Mississippi state line a breeze in under 30 minutes, and is less than an hour from Pensacola, FL. The branch is even located closely near one of Alabama's famous attractions, the USS Alabama battleship!

Our new Mobile branch can be reached by phone at (251) 699-1410 or by email at mobile@supplynet.com. The branch's hours will be from 7 AM – 4 PM from Monday to Friday each week. You may visit www.supplynet.com/locations to find your nearest Viking SupplyNet branch.

Visit www.supplynet.com to browse and order products.



■ Dyne Fire Protection Labs' New Service – Listed Antifreeze Verification

Dyne Fire Protection Labs announces the growth of our laboratory services to include a listed antifreeze verification service. The current, 2020 edition of NFPA 25, the Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems, states that, "Except as permitted by 5.3.4.4.1 and 5.3.4.4.3, all antifreeze systems shall utilize listed antifreeze solution." One of the exceptions allows legacy solutions to continue to be used in systems installed prior to September 30th, 2012, but only until September 30th, 2022, which is quickly approaching.

These listed antifreeze requirements were the direct result of an incident in 2009 where it was reported that a legacy antifreeze

solution discharged from a sprinkler system and ignited when exposed to a fire. In response, UL investigated and concluded that certain concentrations of legacy antifreeze can, indeed, intensify a fire. As a result, NFPA quickly reacted, limiting the concentration of legacy antifreeze solutions currently in use and setting requirements on the use of listed antifreeze solutions moving forward.

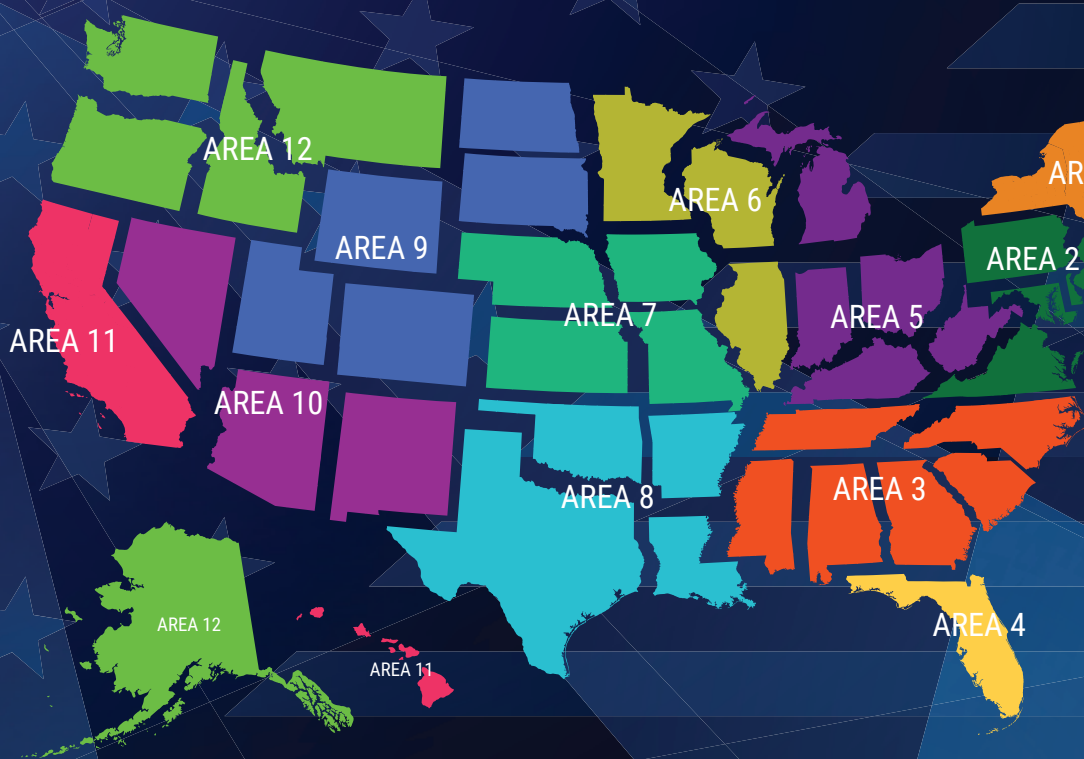
A listed antifreeze solution is simply an antifreeze solution which has been evaluated by an independent third party to determine acceptability against a set of requirements. In this case, UL developed UL 2901 Antifreeze Solutions for Use in Fire Sprinkler Systems that contains the set of requirements to which an antifreeze solution must meet to be listed. This standard requires a variety of tests including, but not limited to, temperature stability, electrical conductivity, corrosion rate, compatibility with various materials, toxicity, and firefighting effectiveness which are all designed to ensure safe and effective antifreeze solutions. There are currently three listed antifreeze solutions at UL: Tyco LFP® Antifreeze, Lubrizol Freezemaster™ Antifreeze, and Tyco LFP® Antifreeze+. Please consult the listing information and/or the manufacturer for more information on their installation and application.

As building owners continue to transition from legacy to listed antifreeze solutions, Dyne Fire Protection Labs is here to help differentiate these solutions during routine inspection, testing, and maintenance (ITM). The listed antifreeze verification test* determines the chemical composition of a sample and compares it to the known chemical compositions of listed antifreeze solutions.** When requested, the listed antifreeze verification test would be done in addition to the routine antifreeze solution testing already offered by Dyne, which includes an assessment of the solution's refractive index and density to fulfill the annual (before the onset of freezing weather) testing requirements in NFPA 25. The report for the routine antifreeze solution testing also includes the solution's pH, and, for legacy solutions, confirmation on the type of antifreeze, an estimation on the % concentration of antifreeze in the solution (both by weight and by volume), as well as an estimation on the freeze point.

According to Grant Lobdell, the General Manager at Dyne Fire Protection Labs, "NFPA 25 requires the replacement of any antifreeze solution that cannot be reliably determined. When installation or maintenance records are insufficient, our new listed antifreeze verification service is a way for building owners and/or their designated representatives to verify they have a listed antifreeze solution installed."

**Additional fee applies.*

***The exact chemical composition of the agent cannot be reported. The result will simply be reported as PASS or FAIL based on the agent specified. Us*



Area News

From Maine to California, and every place in between, NFSA's Field Ops Team brings the best of the Association right to your doorstep.

Helping our members is Job #1.

AREA 2

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

Onsite Visit - Brick Township Junior Fire Camp Ages 12-16

On July 11th, the NFSA Mid-Atlantic Team was honored to be asked to present the fundamentals of fire sprinklers to the fire cadets of Brick Township, New Jersey. What a fantastic group! Everyone had amazing questions and were very engaged. The group of fire cadets have a weeklong camp from July 11 – July 15th, jam packed



with fire department related activities where they learn about what a firefighter does. This includes fire station tours, fire service history, vehicle extrication, NJ Forest Fire Service demo, NJ Division of Fire Safety K-9 demonstrations, fire sprinkler training, water rescue and EMS training.

What an amazing program for the kids! Programs like these are instrumental in laying the future brickwork of the fire service. Volunteer numbers are down drastically and the lack of interest in the younger age brackets is concerning. It is programs like the Brick Township Fire Camp that will light a spark in the kids that will continue to grow as they get older and ultimately keep the fire service alive. Thank you, Brick Township, for all your hard work

and dedication to the younger generations and the vested interest in the future of the NJ firefighter.

Special thank you to the Brick Township Fire Marshal's office for the invite.



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AREA 4

FLORIDA, PUERTO RICO

On the Road with FFSA



The Florida Fire Sprinkler Association (FFSA) Board of Directors and Florida Future Leaders (FFLC) took a trip to Michigan to visit the Viking Corp headquarters in Grand Rapids, Michigan. While in Michigan, the FFSA Board and FFLC were hosted by Total Fire Protection for a welcome cocktail reception. Total Fire Protection is a member of NFSA in Florida and it was great to visit the headquarters in Michigan. Viking Corp hosted the group the next day for a tour led by James Golinveaux, CEO, and Jim Lake, VP of Training and Development. The manufacturing facility was extremely impressive. The tour continued with a sampling of the learning opportunities available through Viking Corp, including virtual reality, hands on labs, and one of the favorites of the day, a lesson on the history of fire sprinklers with spray pattern demonstrations through the years.



Viking's new training facility is worth visiting! They offer quite a few training opportunities on their website, www.vikinggroupinc.com.

The FFSA Board is always looking for opportunities to bring more ideals back to Florida and to better understand the products available. We certainly got some great ideas this week and we are

anxious to share some all-new training methods with our Florida members.



Thank you, Viking, for the hospitality, it was a great experience.

TechNotes for the Win!

Garret Granitto with Summers Fire Sprinklers in Boca Raton, FL recently shared with FFSA Executive Director **Lorrell Bush** that he looks forward to getting NFSA's monthly e-bulletin, *TechNotes*. As a matter of fact, Garret has every TechNotes update from NFSA stored in his computer for the last 15 years. Garret said when someone in his office has a technical question he can usually go and look through his TechNotes library and find a helpful answer.

Thanks for sharing Garret, and NFSA will keep providing you with the latest information available in the Tech world of fire sprinklers!



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AREA 6

ILLINOIS, MINNESOTA, WISCONSIN

New Layout Technician Pathway Class

The newly revamped **Layout Technician Pathway Class** was unveiled for the first time in June and attended by North Central Regional Manager **Tim Butler**. The combination of online, self-paced Electronic Learning Modules (ELMs), followed by hands-on classroom sessions at the beautifully remodeled NFSA Learning and Development Center in Linthicum Heights makes the class more engaging and more convenient for attendees.

NFSA's instructors for the inaugural class included Installation Standards Manager **Roland Asp**, Chief Engineer **Mike Joanis**, and Fire Protection Engineer **Jeff Dunkel**. Students from Baltimore, Chicago, Milwaukee, Denver, and Saint Paul – from a variety of experience levels and backgrounds, added to the learning experience and the collaborative design exercises.

The new Layout Technician Pathway Class is part of a new “pathway” for design professionals, getting them “up to speed” in short order via the electronic learning elements, then following that initial learning with the hands-on experiences and instructor one-on-one discussions. The class would also be very helpful to field technicians who want to understand more of the design considerations and hydraulics, and for fire inspectors who conduct initial and final inspections on installed systems.



NFSA's Roland Asp

NFSA President Shane Ray and Minnesota Firefighters

President **Shane Ray** made a two-hour presentation to Minnesota firefighters at the Bloomington, MN Fire Station. The presentation, “*Operating at Fires in Sprinklered Buildings*” is an eye-opening session that provides additional tactical considerations for firefighting operations where sprinklers are operating. From residential homes to “big box” stores, to gigantic distribution center fires, President

Ray provided information on how to better protect the building and contents, how to support the sprinkler systems in operation, and vital information to keep firefighters from being injured or killed in these unique and challenging situations. It is a “must know” for firefighters, fire officers, and fire command officials!



NFSA helps Farmington, Minnesota Celebrate 150 Years!

The City of Farmington was established 150 years ago this year, and NFSA was on-hand to help celebrate the event at the City’s annual “*Dew Days*.” NFSA State Coordinator **Tom Brace** and Regional Manager **Tim Butler** conducted a side-by-side demonstration for approximately 180 people right in front of City Hall. Deputy Chief Matt Price and the crew from Farmington Fire Department “Ladder 1” are wonderful Partners in Progress! They provided very friendly and professional support for the live-fire demonstration.

AREA 7

IOWA, KANSAS, MISSOURI

Hawkeye focuses on Protecting Historic Buildings

The **Annual Hawkeye Fire Prevention & Building Safety Education Conference** will be held on November 1-3 in the Des Moines area. The conference theme is Protecting Historic Buildings. At the time of this writing, the conference plans include a tour of a

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historic building/district, a panel discussion, a presentation on NFPA 914, and an 8-hour ICC course on the 2018 IEBC, and an awards banquet and social event. NFSA North Central Regional Manager **Tim Butler** serves as the Education Chair on the Hawkeye State Fire Safety Association Board of Directors.

AREA 8

ARKANSAS, LOUISIANA, OKLAHOMA, TEXAS, ARKANSAS

State Fire Marshal Retires

Arkansas State Fire Marshal **Lindsey Williams** was honored with a Retirement Celebration on June 27, 2022. Major Lindsey Williams was thanked by the Arkansas State Police and the Arkansas Fire Service for his 37 years of service with the Arkansas State Police.

Major Lindsey Williams was commissioned as an Arkansas State Trooper in 1985 and assigned to the department’s Highway Patrol Division. Williams was promoted to the rank of lieutenant in 2004 and assigned to be the State Fire Marshal. He was promoted to the rank of captain in 2012 and major in 2015. Among his credentials, Major Williams graduated from Harding College, now Harding University, in 1979 with a Bachelor of Science degree in Business Management. Major Williams is a 2008 graduate of the Criminal Justice Institute’s Arkansas Leader, a Command College of the Federal Bureau of Investigation. Major Williams served as a volunteer firefighter with the Searcy Fire Department for over thirty years.

LOUISIANA

**Legislation Of Interest
to The Fire Sprinkler Industry**

ACT 579 – HB 1039 HB1039 (la.gov)
HB 1039 Engrossed 2022 Regular Session by Representative Scott McKnight

Abstract: Establishes a fee for electronically tagging life safety and property protection systems and equipment.

Present law provides for the assessment of fees to be collected by the state fire marshal.

The new law retains present law and provides for the assessment of a fee of \$1.50 for electronically tagging life safety and property protection systems and equipment using a Quick Response (QR) code decal or hanging tag.

The new law provides that QR code decals or hanging tags used to electronically tag portable fire extinguishers and hoses are exempt from the \$1.50 fee requirement.

The new law provides that a 50-cent transaction fee shall be assessed per instance of a firm with a portable fire extinguisher and fire hose endorsement accessing a QR code on a portable fire extinguisher.

Provisions in the new law relative to Louisiana Life Safety and Property Protection Trust Dedicated Fund Account supersede certain provisions of Act No. 114 of the 2021 R.S.

Louisiana State Fire Marshal Retires

Governor John Bel Edwards announced that **State Fire Marshal H. “Butch” Browning** has accepted the position of executive director of the National Association of State Fire Marshals, which becomes effective May 15, 2022. Browning has served for 14 years, giving him the distinction of being the longest serving state fire marshal in Louisiana history.

Browning was first appointed in 2008 and has served through two, two-term governors. Under Browning’s leadership, the state fire marshal’s office has become a leader for the business community to depend on. He has implemented higher safety standards for building and construction and increased arson abatement across the state to professional levels that has received nationwide recognition. Lastly, he has developed, from the ground up, a robust, responsive, and recognized Urban Search and Rescue program that puts the SFM at the forefront of disaster response at a moment’s notice across Louisiana and beyond.

Welcome to the New Louisiana State Fire Marshal **Daniel H. Wallis!** NFSA looks forward to working with the Louisiana State Fire Marshal’s Office.

Oklahoma Department of Labor

The Oklahoma Department of Labor–Alarm, Locksmith and Fire Sprinkler Industry Committee is discussing two items of interest to the Fire Sprinkler Industry. The next meeting of the ALFS Committee will occur on July 13, 2022, at the Oklahoma Department of Labor.

8. Discussion regarding contractor competency and the number of trainee licensees working under one licensed technician. Continued Committee and public discussion regarding contractor competency and the number of trainee licensees working under one licensed technician, with potential Committee action.

9. Description and discussion of NFPA 13D fire sprinkler systems and businesses and individuals involved with such systems; their proper regulation and licensing under the Alarm, Locksmith, and Fire Sprinkler Act (“ALFS Act”) and the Plumbing License Law of 1955; whether adjustment to the ALFS Act is necessary and/or beneficial for the regulation of persons and/or businesses involved with such systems; and, if so, what particular adjustments, to include, but not limited to, discussion of an NFPA 13D fire sprinkler endorsement for licensed plumbers who have received certain training.

NFSA South Central staff **Cindy Giedraitis** and **Michael Phillip** have been providing comparative information from surrounding states regarding their Fire Sprinkler Licensing Legislation information and NFPA 13D Training & Exams. The Oklahoma Fire Sprinkler Association has actively surveyed all OFSA members to determine individual opinions regarding Fire Sprinkler licensing.

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AREA 9

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

Insurance Industry Learning About Fire Sprinklers

Over the past several months, insurance professionals in Utah, Wyoming, and Colorado have had the opportunity to learn about the benefits of fire sprinklers. Fire service and NFSA personnel made presentations and provided side-by-side sprinkler demonstrations.



The events were very well-received by the insurers with several of them asking, “Why aren’t these already being installed in homes?” Perhaps the most sobering response was from those who were surprised that not all sprinklers in a facility go off at once.

Several attendees indicated they would seek the opportunity to participate in their local Home Fire Sprinkler Coalition. Although we still have a way to go in educating the public, we did gain some strong supporters in one of our more important stakeholder industries.

Colorado Sprinkler Fitter Exam Requirement Deferred Until 2023

Sprinkler fitters renewing their Colorado registrations are required by regulation to take an approved exam in the year after the Division of Fire Prevention & Control adopts a new edition of

the codes. Normally, this would have been required in 2022 since the Division adopted the 2021 I-Codes last August. The purpose is to ensure that sprinkler fitters remain familiar with the latest fire sprinkler provisions.

As the deadline for renewal was approaching, the Division learned that several of the approved exam providers based their exams upon previous versions of the codes and standards. Although the State had just completed its own exam, to augment the others, it was clear that there would not be enough time to deliver it to all fitters needing an exam. As a result, a reprieve was granted. All fitters seeking renewal will have until June 2023 to complete an approved exam. All new fitters will still need to complete an exam prior to initial registration.

AREA 12

ALASKA, IDAHO, MONTANA, OREGON, WASHINGTON

Fire Marshal Forums and Sprinklerman Shootout!

The Northwest Region/Area 12 welcomed NFSA President **Shane Ray** in August. President Ray attended both the Puget Sound and the Columbia-Willamette chapter meetings, as well as made site visits to several members. The chapters will be hosting area fire officials at their fall meetings for the annual “*Fire Marshal Forums.*”



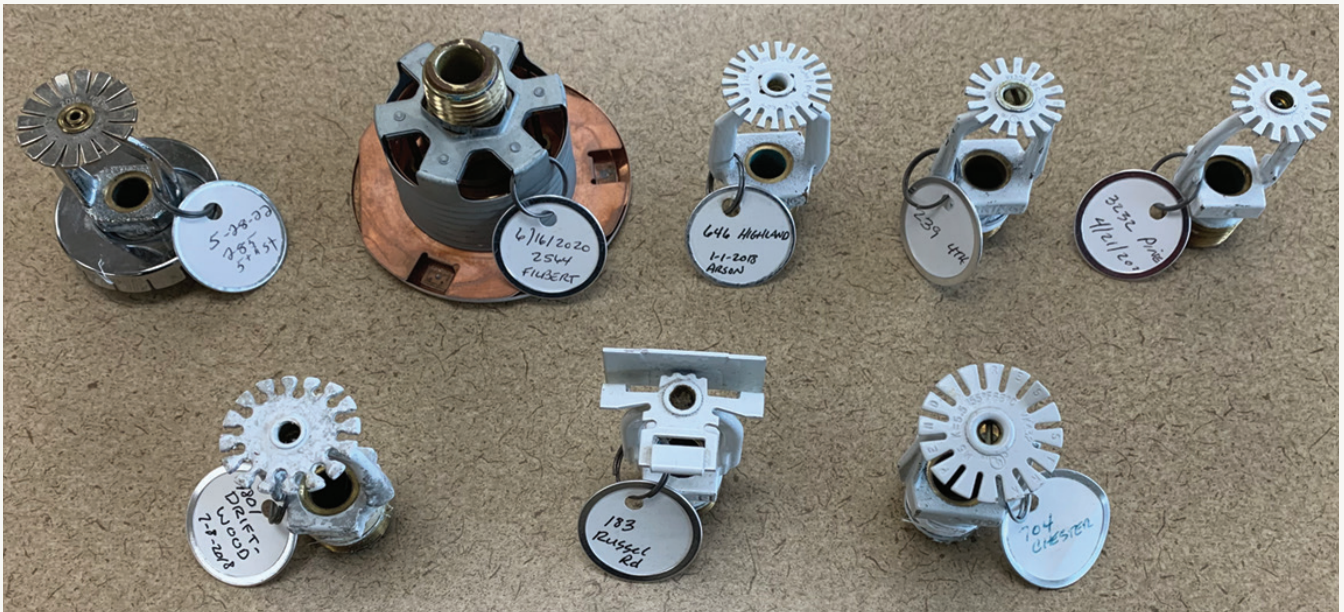
Reliance Fire Protection fielded two teams at the annual Sprinklerman Shootout in July. The event drew fire sprinkler fitters, contractors, and suppliers from the Puget Sound area.

The Fire Sprinkler Advisory Board and Sprinklerfitter Local 699 recently hosted the annual **Sprinklerman Shootout**, with proceeds benefiting the Seattle Fire Foundation. Thank you to all golfers, hole sponsors and our event sponsors: Smith Fire Systems, Victaulic, Core & Main, and ASC. The new venue, Auburn Golf Course, turned out to be a hit!

As we gear up for the fall, members should be sure to watch their inbox for fire sprinkler training opportunities throughout the Northwest sponsored by NFSA. •

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At Bremerton, WA Fire Department, the reminder that fire sprinklers save lives and property is never far. The fire marshal's office displays sprinklers that have been activated in its jurisdiction. Fire Marshal Michael Six and the team at Bremerton have been strong advocates for fire sprinklers. In 2007 Bremerton City Council approved an ordinance requiring all occupancies that experienced a fire extending outside the unit of origin or 2 or more fires in a two-year period to retroactively install a fire sprinkler system as part of the rebuild/repairs. Since that time, two buildings have experienced fires. Luckily, both were saved by their new fire sprinkler systems!

SIMPLE MATH: Fire Sprinklers + Firefighters = Unbeatable Team!



+



An Unbeatable Team!

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

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



 @NFSAorg

 NFSA.org

 National Fire Sprinkler Association

#fastestwater



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Linthicum Heights, MD 21090
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National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

NFSM Article Submission Guidelines

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

Query

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

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

Feature Articles

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

Writing Guidelines

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

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

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