September-October 2021
No. 228

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

NFSA
NATIONAL FIRE SPRINKLER ASSOCIATION
The Voice of the Fire Sprinkler Industry

MEMBER TAKEOVER ISSUE

Inside This Issue:

2020 MARCOM GOLD WINNER

Reliable®

Know Before You Flow!

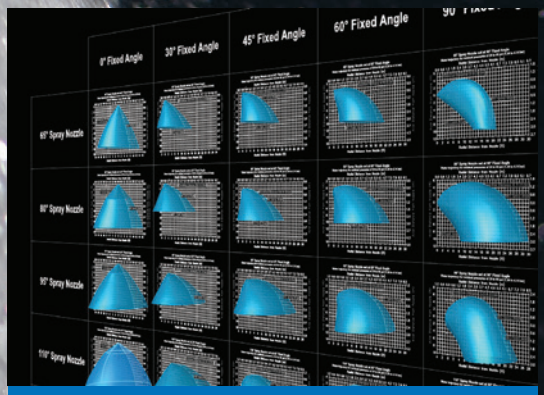
8 deflector angles, 7 orifice sizes, Brass with or without ENT, Blow-off caps available

c UL us

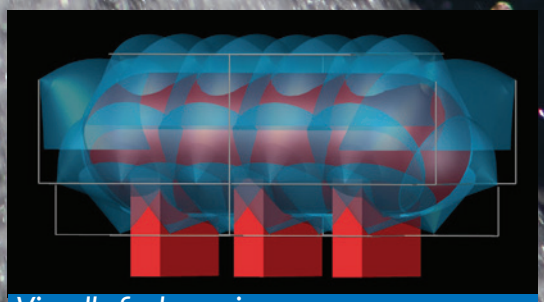
3D spray pattern blocks help you visualize and confirm spray pattern coverage!

If you are designing fire protection systems with nozzles on exposed vertical, horizontal, curved, or irregularly shaped surfaces, you will enjoy this useful tool.

MV Model Medium Velocity Nozzles



72 3D nozzle spray pattern blocks



Visually find gaps in coverage area. Know before you flow!

The complete set of 72 Medium Velocity Nozzle spray patterns reflects nine discharge orientations and eight nozzle deflector options.

MV Nozzles, used primarily per NFPA 15, provide exposure protection and help prevent structural damage. The small droplet size cools and prevents excessive absorption of heat from an external fire.

See Bulletin 106 for complete information.

reliablesprinkler.com/mvnozzles

ON THE COVER

Team NFSA is proud to present our annual Member Takeover issue. All photos on the cover have been submitted by our members. Thanks to all who contributed to make this issue one of the best of 2021!

ADVERTISERS

EDITOR
JOANNE GENADIO

DESIGNER
JOHN L. SULLIVAN/SULLIVANDesign

NFSM (ISSN 1050-4958) (USPS 524-010) is published six times a year (January/February, March/April, May/June, July/August, September/October, November/December) by the National Fire Sprinkler Association, Inc., 514 Progress Drive, #A, Linthicum Heights, Maryland 21090.

Telephone: (443) 863-4464.
Subscription free to NFSA members and member companies.

Second-Class postage paid at Mahopac, NY.

POSTMASTER: Send address changes to:
NFSA, 514 Progress Drive, Suite A, Linthicum Heights, Maryland 21090
or update your membership profile at www.nfsa.org

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

September/October 2021 • No. 228

CONTENTS

FEATURES

DEPARTMENTS

THEY'RE ALL REDDI

OUR REDDI-PIPE LINE NOW COMES IN A RANGE OF STANDARD COLORS—
PLUS CUSTOM OPTIONS!

Bull Moose Reddi-Pipe has always arrived at your shop pre-colored and ready to fabricate. But now we utilize a super-durable, gloss polyester powder coating in your choice of standard or custom colors.

AVAILABLE* IN:

- Schedule 10
- Schedule 40
- Bull Moose Eddy Flow
- Hot-dip galvanized

Reddi Pipe saves you the time and cost of sending pipe out for powder-coating. And in sprinkler applications, the pipe is factory stenciled for full traceability.

Plants located coast-to-coast

Get Reddi-Pipe...and get right to work.

**Lengths up to 21', with 1" to 8" NPS.*

BULL MOOSE TUBE

800.325.4467 | Chesterfield, Missouri
BullMooseTube.com
USING METALLURGY TO DRIVE SPRINKLER PIPE INNOVATION

NFSA's North American Fire Sprinkler Expo and Board Meeting This October!

October 5-7, 2021

NORTH AMERICAN FIRE SPRINKLER EXPO & NFSA BOARD MEETING
LAS VEGAS, NV • OCTOBER 5-7, 2021

Special Contractor and AHJ pricing... see website for details.

There's still time to get in on the action! Register today at www.nfsa.org.

Here's a sampling of our sessions. CEUs are available!
Visit our website for full schedule.

- **High-Rise Fire Protection**
- **Free Resources for the Fire Protection Professional**
- **Fire Safety Concepts for Energy Storage Systems**
- **Managing Costs in Evolving Fire Sprinkler Market**
- **Importance of Water Supply Assessment in Aging Infrastructure**

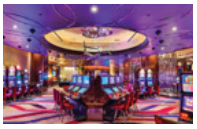
Networking, Education (CEUs available), an Expo featuring the best and the brightest of the Fire Sprinkler Industry – all showcased at the fabulous Cosmopolitan in Las Vegas! Special rates for AHJs and a first-time virtual experience are available!

We hope members of the fire service and fire sprinkler industry will join us in Las Vegas. We are proud of the lineup of speakers, our program, and certainly those who will be honored with awards.

FIRE SPRINKLERS BUY TIME TIME BUYS LIFE
NATIONAL FIRE SPRINKLER ASSOCIATION

VIRTUAL

A great way to include team members who are not able to travel to Las Vegas!



THE COSMOPOLITAN™ of LAS VEGAS

@NFSAorg
NFSA.org
National Fire Sprinkler Association

#fastestwater

Fire is fast. Fire sprinklers are faster.

NFSA
NATIONAL FIRE SPRINKLER ASSOCIATION
The Voice of the Fire Sprinkler Industry

514 Progress Drive, Suite A
Linthicum Heights, MD 21090
(443) 863-4464 • nfsa.org

From the President's Desk

Shane Ray
with Takeover by Steve Kerber

How Many?

What an honor to have the Vice President of Research for UL Fire Safety Research Institute Steve Kerber take over my column in National Fire Sprinkler Magazine. I always knew that Steve would be in a prominent position in fire protection, and he will certainly upgrade my column. It has been a pleasure to work with Steve over the years in the study of fire and its impact on firefighters, building occupants, and the building itself. It has been a joy watching him build a successful organization from the ground up. Steve is one of the top fire protection researchers in the world with a bachelor's and master's degree from the University of Maryland. He most recently completed his doctorate at Lund University in Sweden after defending his thesis titled, "Utilizing Research to Enhance Fire Service Knowledge"

Steve and his team at UL FSRI not only conduct the research, but they also share it with the world freely and openly. I am very grateful for all the support and assistance Steve and his team have given to NFSA over the years and look forward to building upon the relationship not only with research, but also investigations of fires in sprinklered buildings. By the time this magazine is out, UL will have announced a change from the name UL Firefighter Safety Research Institute to UL Fire Research Institute. They will remain very actively involved with the fire service but will now expand their scope to also work with great organizations like NFSA.

A special thanks to Steve for contributing to our Member Takeover edition, but most of all for the difference he has made to the fire service and fire protection overall. I know you will not only enjoy his words, but you will learn something in the process.

Take care, stay well and stay safe.

Shane Ray, *President*

How many fire deaths, or what trend in fire deaths does it take to bring attention to the topic of fire safety? This sounds like a rhetorical question, but I think it deserves an answer, or at least some thought. because I don't know. Over the last 20 years, I have worked in the fire safety field and, if you watched the macro trends, the data always seemed to be headed in the right direction. These macro trends are usually rooted in the late 1970s or 1980, based on when USFA and NFPA begin their comparisons. I am sure you have heard the stat; "fires are down by more than half since 1980." This is true, and is a testament to the hard work that has gone into fire safety up to present day. This includes efforts such as the Conference on Fire Prevention in the 1940s and America Burning in the 1970s.

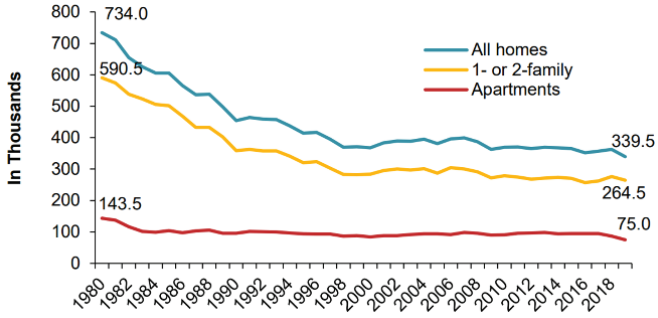
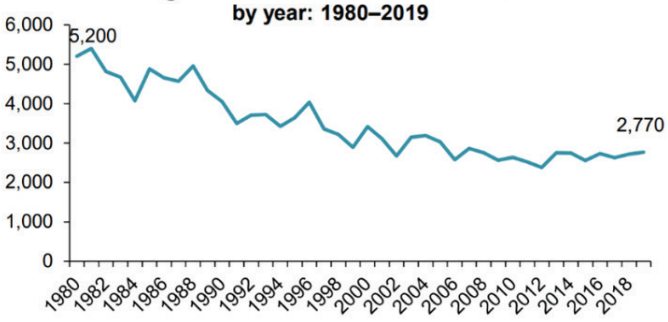


Figure 2. Home structure fire deaths by year: 1980–2019



There are also ways to normalize the data to account for specific factors, such as deaths per 1,000 fires. This accounts for the decrease we have seen in number of fires to gain insight on risk of dying in a fire. Here we see no significant progress since 1980, in fact it is worse, especially in homes where people should be and feel the safest.

Let's step away from the macro and into the micro for the rest of this article and dig a little deeper. First, if we look at home fires and home fire deaths since 2000, we have been relatively flat. However, home fire deaths have been on an upward trend since 2012. This tail of the graph can get overlooked when compared to decline experienced from 1980-2000.

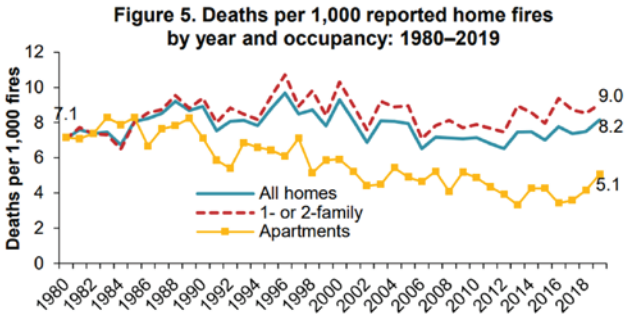
continued on page 6

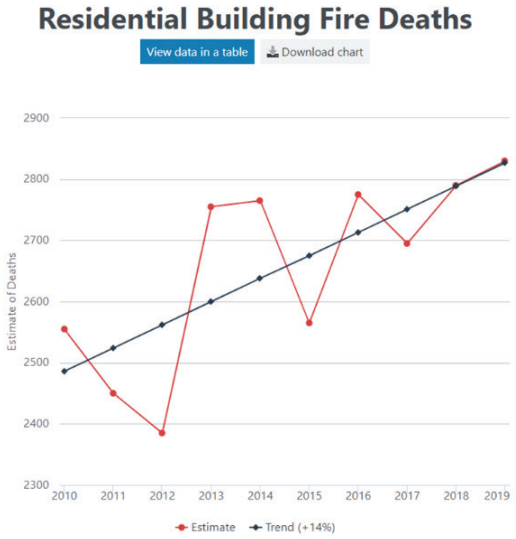
continued from page 5

From the President's Desk

Shane Ray

with Takeover by Steve Kerber

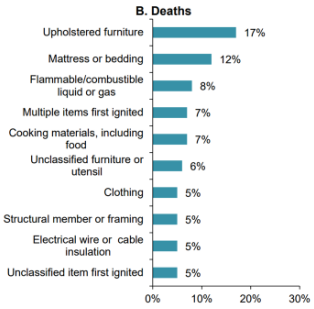




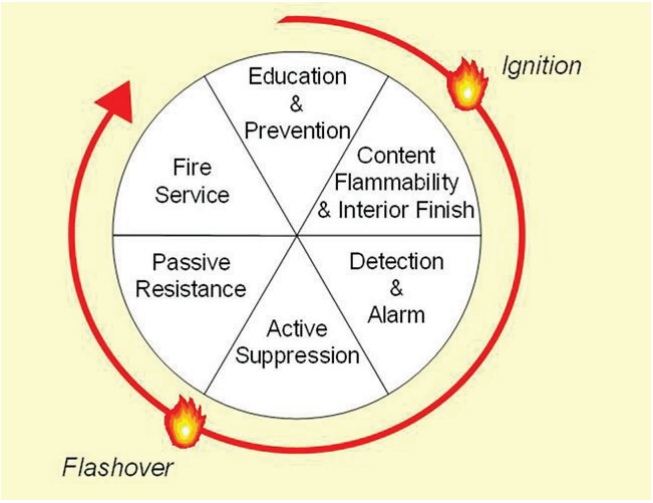
I don't see this as a failure of fire safety… yet, but we need to acknowledge it and work to understanding why and what to do. There are many possible contributing factors to this change in trend, but the one I believe is critical is FIRE IS FAST! Examining the leading first items ignited during home fires that result in a death does not reveal any surprises. Upholstered furniture and mattresses/bedding are large fuel loads comprised of materials that result in high heat release rates. If these fires are not met with fastestwater, they will grow rapidly in size resulting in flashover or flashover conditions, depending on how much oxygen is available. When we see fires in the news that have fire coming out of a door or window it is likely because upholstered furniture or mattresses are involved.

Research has shown that from small flaming ignition on a sofa to flashover in a living room can occur in 4 minutes or less. This is well before the fire service can manually intervene. So, what are the options? We know we have many layers or tactics to influence fire safety.

Leading items first ignited in home structure fires: 2014–2018



Marty Ahrens and Radhika Maheshwar. Home Structure Fires. NFPA 2020.

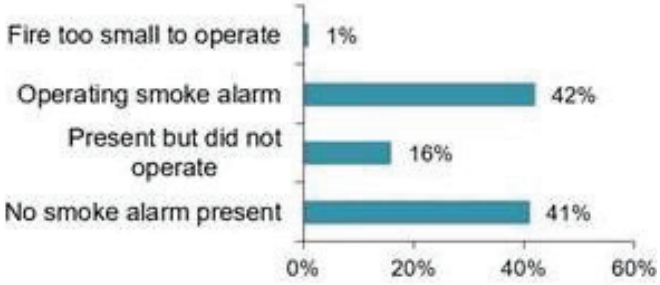


Education & Prevention: We can work to prevent fires and educate the public how fast fire is so that they have escape plans, working smoke alarms, and take other proactive measures such as Close Before You Doze. Public education can always get better, and there are many in this space trying to reach those that need to hear the message and take action.

Content flammability & interior finish: Significant strides have been made to improve the fire safety of mattresses. Effective July 2007, mattress sets are required to meet the federal safety standard for open-flame fire resistance. This mandatory standard intends to limit the intensity of a mattress fire and is estimated to save as many as 270 lives each year. (ref: https://www.cpsc.gov/s3fs-public/560.pdf) Similar efforts for upholstered furniture have not been as successful but other efforts encouraging the balance of fire safety and human health are under way. (ref: https://chemicalinsights.org/wp-content/uploads/UL-118F_04.19.21_FINAL.pdf)

Detection & Alarm: Smoke alarms save lives by alerting occupants as early as possible to give them the most egress time possible. Smoke alarms that are properly installed and maintained play a vital role in reducing fire deaths and injuries. Home structure fire deaths by smoke alarm performance (2014-2018) show that in

57% of fire deaths there is no smoke alarm present, or it did not operate. Recently improvements have been made to smoke alarm standards to reduce their chances of having a cooking nuisance alarm to prevent people from taking them down. (ref: UL Smoke Alarm Safety)



Active suppression: Home fire sprinklers detect a fire and control it automatically. The sprinkler puts water on a fire while it's still small, which is important when we look at the speed at which an upholstered furniture fire grows. When sprinklers were present, fires were kept to the room of origin 97% of the time. (ref: https://www.nfpa.org/Public-Education/Staying-safe/Safety-equipment/Home-fire-sprinklers). The civilian death rate of 1.1 per 1,000 reported fires was 91% lower in homes with sprinklers and hard-wired smoke alarms.

Passive resistance: Homes built today, especially one- and two-family homes, have little required passive resistance. It is common for walls to be removed from homes or for homes to incorporate an open plan concept. This reduces passive resistance, and the last line of defense is usually a hollow-core wood door. This door can buy valuable time (ref: www.closeyourdoor.org) for occupants to find a way out or to be rescued by the fire service. However, this time is limited.

Fire Service: The final layer of protection is fire service response. In the U.S., the target total response time is 6:35 90% of the time per NFPA 1710. This does not include the time it takes for the fire to be noticed and a call to be placed to the local 911 center. With the potential for flashover to occur in four minutes or less, the fire service can be met with challenging conditions as they work to save lives and property.

Every layer in this fire safety continuum has the potential to reverse the fire death trend. Each layer has a cost and different potential for impact. Each layer has different barriers to implementation and the potential for a breakthrough or innovative approach. This may come in the form of technology, policy, knowledge, or some other breakthrough, but we need it if we are going to review the statistics in another 20 years and be proud of how we prevented the trend toward more fire fatalities. Who is in?

We know that the National Fire Sprinkler Association is in and doing its part to promote fire sprinklers from homes to high-rises. Your partnership in research, testing, and demonstrations to get the overall message out is making a difference. Every time your team at NFSA conducts a side-by-side demonstration, which we were proud to assist with making improvements to include multiple cells, you promote all the components that mitigates the impact of fire.

It was an honor to share this President's Column with you and to partner with you in getting the word out that FIRE IS FAST. You represent the industry that has the fastestwater, and I encourage you to continue to innovate and educate so the number of fires, the severity of fires, and the risk of dying in fires, are truly reduced.

As NFSA drives legislation at the local, state, and federal level, perhaps all the fire groups in D.C. should focus on creating the next Truman Fire Prevention Forum or an American Burning level report that focuses on all layers of influence on fire safety, and determine who is truly all in.•

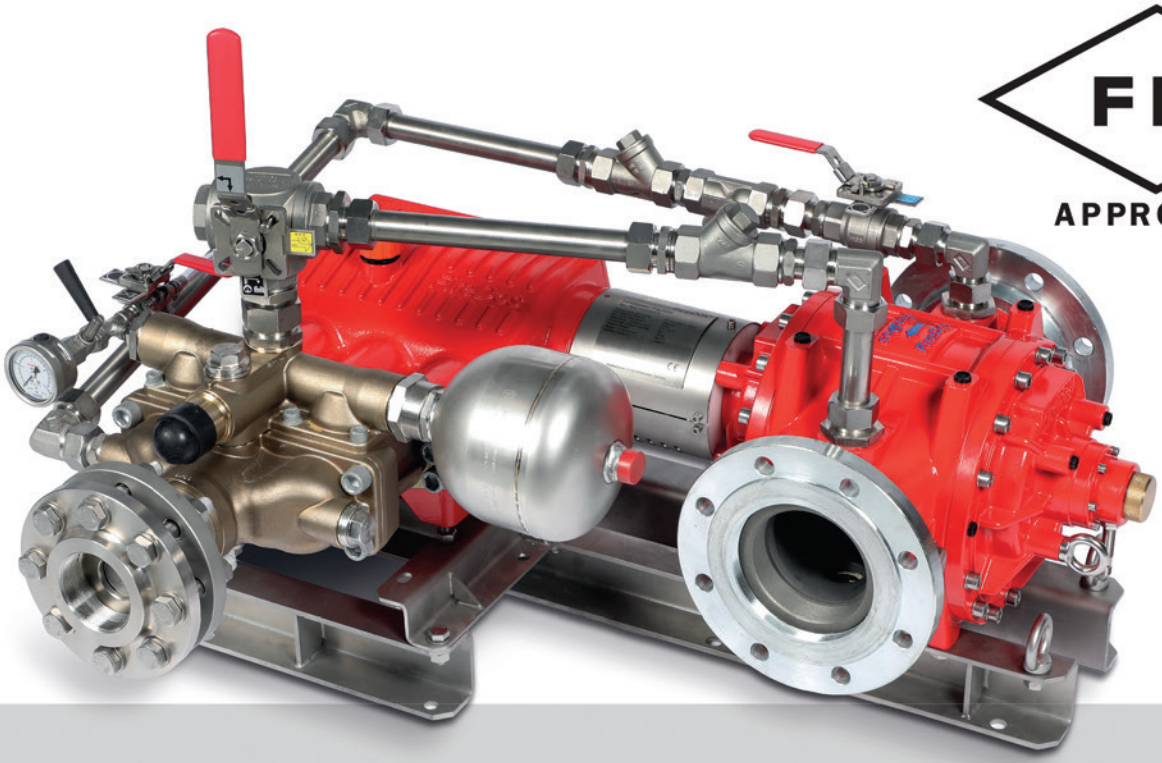
Cannistraro

AUTHORIZED DISTRIBUTOR OF

FireDos®

GEN III FOAM PROPORTIONING SYSTEM

NEWLY FM-APPROVED!



FM APPROVED *

REDUCE RISKS

Purely mechanical – maximum reliability

IMPROVE PERFORMANCE

Consistant proportioning rate over a wide operating range

REDUCE COSTS

Cost-effective and eco-friendly – proportioning rate testing without foam

CONTACT US TODAY TO LEARN MORE!

BRYAN PHILLIPS

Business Development Principal - Strategic Accounts

J.C. Cannistraro, LLC. - cannistraro.com

MOBILE: +1 (617) 581.3494 EMAIL: BPhillips@cannistraro.com

* Valid for selected product types. See FM Approval Guide Listing.

J.C. Cannistraro, LLC. – A North American Distributor for FireDos

From the Chairman's Desk

Kent Mezaros
with Takeover by Bruce LaRue

504 days

And here's.... Bruce!

So, it's that time a year again when we turn it all over to you – the members - and we get the chance to hear what you have to say for a change. Hopefully, you will enjoy my choice to author this edition's Chair's Desk column – our beloved Treasurer of the Board, Bruce LaRue.

Some of you may wonder what qualities one should have to be an outstanding treasurer for an organization such as ours. When we first had conversations regarding candidates for treasurer some four years ago, I knew Bruce would be the right choice, largely because he has the shortest arms of anyone on our Board! Bruce is our Board's version of Steve Austin's Bionic Man, having at least a hip and a couple of knees upgraded and replaced since he took office. Lord only knows what other implants or enhancements he may have had done that he hasn't shared with us!

So, take it away Bruce. By the time he reads this introduction I should hopefully be on cruise control riding out the rest of my tenure as Board Chair so there won't be much chance for retribution!

Hoping all of you, your families, co-workers and employees are healthy and doing well. See you again next edition.

Respectfully yours,

Kent Mezaros, *Chairman*

It is June 29, 2021, and the NFSA members and staff that have traveled to Indianapolis are seated for dinner at the famous St. Elmo's restaurant in downtown Indy. It has been 504 days since the last 'in person' meeting of this group. The mood that fills the room is one of sincere gratitude and camaraderie. A room full of competitors, friends and staff all gathered for the sole purpose of growing the fire sprinkler industry.

We as a nation, and as an association, have survived the dark times of COVID, and the uncertainty, confusion, and virtual lockdown it caused. But even with our country in lockdown, our industry continued a pace slowed only by that part of our nation that could not function. In the absolute roughest of times, our industry and its mission of saving lives and protecting property proved to be so resilient that even a global pandemic couldn't stop it.

As I look around the room at this gathering, I see the ***past, present*** and ***future*** of the NFSA and the fire sprinkler industry.

The ***past*** being those seasoned veterans with decades of experience gathered here to embrace our mission and one another. Confident that the association is in good order and ready to assist the present and future leaders with knowledge of the road ahead with its twist and turns. Looking to those soon to take the reins as incoming board members and to carry on the NFSA's mission.

The ***present*** is so strong with the experience of many years of industry knowledge at every level that the future is brighter than ever. Shane Ray, as NFSA President, has assembled a team that is full of energy and that are all engaged, creating the momentum we feel and need at this time.

The ***future*** is here as well with its thirst for more knowledge and energy to drive for results. We have so many qualified members who will be joining Shane and his team to ensure that our future is bright.

I see the most cohesive group of talented individuals united to take the Association to its highest achievements yet. This is a group, all pulling in the same direction, with a leader that supports and guides his team of professionals while instilling confidence in the membership, our industry and national fire officials.

It is a time when the past, present and future work together to accomplish a shared mission. It is an even greater time when no one cares who gets credit for getting it done, just that it gets done. Cheers to the National Fire Sprinkler Association and everyone who is part of moving it forward. The future is so bright that we should all wear shades!

You can reach me at:

kmezaros@qrfpss.com

kent@quickresponsefireprotection.com

DRY SPRINKLER COMPRESSOR

RISER & FLOOR MOUNT CAPABLE

A quiet, easy to install, air compressor unit for fire sprinkler applications

GAST®

P/N: 87R-100S

A wide range of pressure and system capacity ***all in one unit***

FULLY ADJUSTABLE, EASY TO SET DIGITAL PRESSURE SWITCH	
PRESSURE (PSI)	SYSTEM CAPACITY (GALLONS)
10	1350
12	1110
14	950
16	825
18	725
20	650
22	580
24	530
26	490
28	450
30	415
32	385
34	360
36	335
38	315
40	300

SCAN FOR PRODUCT INFORMATION PAGE

WWW.GASTMFG.COM

NORTH AMERICAN FIRE SPRINKLER EXPO & NFSA BOARD MEETING

LAS VEGAS, NV • OCTOBER 5-7, 2021

VISIT US AT BOOTH 39!

GAST MANUFACTURING, INC.
A Unit of IDEX Corporation
2300 M-139 Highway, Benton Harbor, MI 49022
Office: 941-416-0252 | Tech: 269-934-1296

Construction Delays

by Stuart Zisholtz

Editor's note: Stuart Zisholtz comments on New York State Law

Many construction projects are delayed for various reasons. The pandemic caused numerous delays, changes, impact claims, increased costs, etc., which resulted in subcontractors being at the mercy of the general contractor and/or the owner. The question is, do the subcontractors have any rights if they were delayed or impacted during the pandemic period?

A delay claim is recoverable in certain circumstances. A contractor can recover from the owner additional costs for an extended period. Many contracts, however, contain a "no damage for delay" clause which prevents the recovery by a contractor against the owner for delays. If, however, the contract does not contain a "no damage for delay" clause, then a party may be able to recover certain damages for delays.

To recover for such a delay or impact claim, the contractor must prove specific damages. The contractor must show the additional costs associated with the claim, that the contractor did not cause the delays, that the damages are real and that the parties could not have expected or anticipated to incur such damages at the time the contract was executed. If these items are established, then the contractor may be able to collect from the owner the damages sustained by the delay.

The other issue is whether a contractor is responsible to the owner when the job is extended for an inordinate amount of time. Can an owner recover from a contractor lost profits for delays caused by the contractor?

The Appellate Division, First Department, has held that an owner must demonstrate that at the time the construction contract was executed, the parties contemplated economic loss as a potential basis for damages in the event of delays. To do this, the contract must have a *"time of the essence"* clause. The contract must also have a cla use addressing the expected damages in the event the contract is not completed by a specified time. While a contract may have a completion date, it must state that time is of the essence. Incorporating a completion date in the contract does not, by itself, make time of the essence. Failure to incorporate those items in the construction contract will prohibit an owner from recovering for loss profits.

Once liability is proven, the owner must establish, with reasonable certainty, its lost profits. Speculation is not enough when proving lost profits. The owner must be able to establish real damages when attempting to collect lost profits. He must come forward with actual damages and with proof of loss profits to be entitled to damages from the contractor.

During the pandemic, many businesses, including developers and contractors, were shut down. Many construction projects were delayed, and costs were incurred. It remains to be seen whether such delays and impact claims will be successful once the projects are completed, and damages are calculated.

Never let your lien time run out!

For a free copy of our Sixth Edition pamphlet pertaining to mechanic's liens and payment bond claims, kindly contact us.

ZISHOLTZ & ZISHOLTZ, LLP
200 Garden City Plaza – Suite 408 Garden City, New York 11530 (516) 741-2200 stu@zz1lp.com

The lineup you've been waiting for.

Introducing the VXD for deluge and preaction.

Viking's VXD valves make installation a breeze with their lighter weight and smaller footprint.

With the same dependable performance and ease of operation as our legacy valves, the VXD features a single moving part, a self-cleaning seat and clapper, and is readily available in a multitude of connection types and sizes up to 10".

Valve and System Configurator

Configure your complete system riser for any wet, dry, deluge or preaction system right from your phone! Check out our Valve and System Configurator by scanning the QR code or visiting **https://webtools.vikingcorp.com/valveconfig/**

Visit **www.supplynet.com** to place an order or to contact a Viking SupplyNet representative.

VIKING®

Legionnaires' Disease and Fire Sprinklers

by Nicholas Brondum

After enduring a trying and extremely tragic COVID-19 pandemic, the world has grown quite weary of respiratory illnesses. One of these "legacy" respiratory afflictions is Legionnaires' disease, itself becoming more commonly identified since 2000. To prevent further suffering, numerous prevention methods have been prescribed to combat this illness. In solidarity with our plumbing colleagues, the fire sprinkler industry should evaluate and do as much as possible to mitigate the risks of Legionnaires' disease. Information on the origins and biology of Legionnaires' Disease is discussed in the following sections, as is information on the risk posed by Legionnaires' Disease in fire sprinklers and possible prevention methods.

What is Legionnaire's Disease?

Before the Legionnaires' Disease can be discussed with fire sprinklers in mind, the origins and infection methods need to be examined.

The disease got its name after it infected numerous members of the American Legion at a conference in Philadelphia, Pennsylvania. This 1976 conference left more than 30 dead and more than 200 hospitalized with a previously unknown illness. Many of these victims all occupied the same hotel and all suffered from symptoms all too familiar to a post-COVID-19 world: fevers, severe coughs, headaches, muscle aches, and chest and muscle pains. While it was quickly revealed that the disease was not contagious, twenty CDC investigators descended upon the city. Some of this investigation focused on the hotel's ice machines as well as heating and cooling systems. Months after the outbreak, investigators discovered a new bacteria strain. This bacteria strain was dubbed Legionella, after the moniker of Legionnaires' Disease crafted by several newspapers. The investigators quickly determined that the hotel's cooling system had spread the bacteria in an aerosol form to the unsuspecting victims.

The Legionella bacteria not only spreads Legionnaires' Disease, but also a less serious illness known as Pontiac Fever. While these two afflictions are known as legionellosis, Pontiac Fever generally only imparts muscle and headaches upon its victims rather than the lung-related symptoms seen in Legionnaires' Disease. While these bacteria are found naturally in freshwater sources, they are most dangerous in buildings. As with the previously mentioned outbreak, occupants must inhale the bacteria in an aerosol form to be infected. However, while the disease can be combatted with antibiotics due to the bacterial origin, there is no vaccine to prevent an infection.

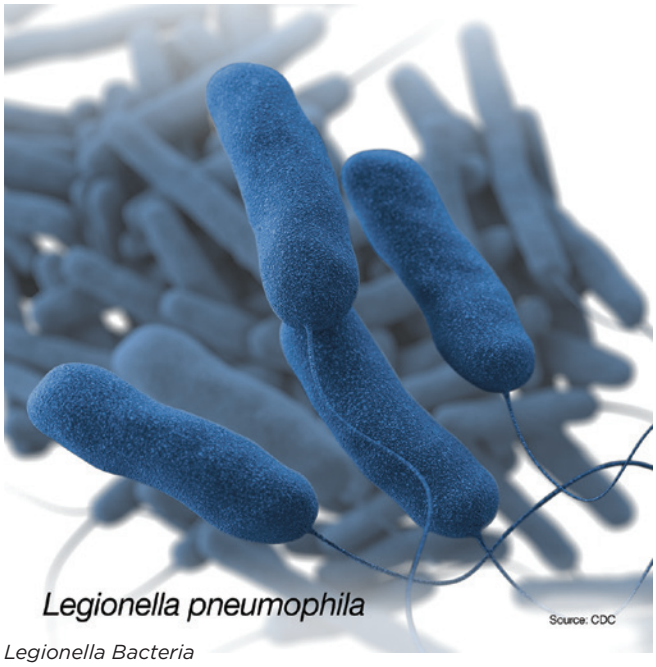
1976 American Legion Conference Headquarters Hotel, site of the namesake of the Legionnaires' Disease Outbreak

As seen with many other respiratory afflictions, elderly individuals and those with compromised immune systems are often at risk of suffering severe complications from an infection. In these cases, the disease can also prove fatal.

Unfortunately, large building complexes can be quite conducive environments for the spread of a legionellosis outbreak. These complexes can include hospitals, increasing the lethality of the infection. Legionnaires' Disease may only yield a 10% mortality rate according to the CDC, but outbreaks in institutions such as hospitals may result in one in four victims succumbing to the

continued on page 14

continued from page 13



Legionella Bacteria

illness. These outbreaks warrant an examination of the potential methods to reduce infections.

Preventative Methods

As previously mentioned, Legionella poses its greatest risks when contained in several building systems. These systems include piping arrangements, water heating arrangements, hot tubs, and air conditioning and ventilation systems. A special area of interest is cooling towers, as several major outbreaks have originated from these structures. Therefore, thorough cleaning of these surfaces is strongly recommended. However, due to the high temperatures of these systems, disinfectants may not be as effective at controlling the Legionella population growth. It is also recommended to remove water from these fixtures when feasible, especially hot tubs.

As it is not the scope of this article, the CDC toolkit cited in the references section of this paper should be visited for further preventative measures. This document provides step-by-step guidance on a water management policy that should be implemented in all at-risk buildings.

While some of these may already be in place in several buildings, with the potential lapse in maintenance due to the COVID-19 lockdowns, potential Legionella populations need to be measured to minimize the risks of potential infections.

Fire Sprinklers and Legionnaires'

While generalizations of preventative measures were made above, it is time that this article focuses on the often-misunderstood relationship between Legionnaires' Disease and fire sprinklers.

While the stagnant water in wet-pipe systems and the metallic piping common to most commercial sprinkler systems would seem to provide an extremely conducive environment for Legionella growth, the temperatures of these systems need to be examined. It is also recommended to attempt to maintain the temperature of these fixtures at lower levels. This consideration is made as Legionella grows best at temperatures above 68°, or 20°. While air conditioning units are often used to maintain rooms at this temperature, this may not be the case for fire sprinklers. These systems are required to be maintained above freezing temperatures, at a minimum of 40° or 4.5°. Outside of this restriction, fire sprinkler systems do not need to be maintained at any specific temperatures, unlike the other systems mentioned in the previous section. Other than as protection from cold environments, fire sprinkler systems do not need to be insulated, allowing their temperatures to fall below the optimal Legionella growth temperatures. Furthermore, the pH and oxygenation levels of the water usually do not facilitate Legionella growth.

Another way to protect a fire sprinkler system from freezing is the implementation of a dry-pipe system. Without any water in these systems, there is not a risk of water freezing in the sprinkler piping arrangement. These systems also do not have as severe of a Legionella risk due to the omission of stagnant water and the limited possibility of biofilm growth on the interior of the piping. Another mitigation measure against Legionella growth is piping materials such as CPVC. While this material is limited to residential and dwelling unit systems, the absence of metallic material further restricts the growth of Legionella.

While the growth of Legionella is limited in these systems, fire sprinklers also do not have the same ability to infect occupants. The nature of occupants to attempt to evacuate from a building when a sprinkler activates is the most obvious reason for this decreased ability to infect potential victims. It should also be noted that most sprinkler systems do not activate all at once as often depicted in Hollywood blockbusters. A more scientific justification for this reduced ability to infect victims is the size of the water droplets created when these systems are activated. While the systems listed above can facilitate the spread of Legionella in an aerosol form, fire sprinklers do not. While these droplets can fracture on their descent toward the floor through contact with each other or other obstructions, the droplets do not facilitate spreading infection in their normal state.

While these systems generally do not facilitate the spread of infection to occupants, they may pose hazards to inspection and maintenance personnel. Because an elimination and a substitution of these hazards are not feasible, these individuals should be trained and equipped to mitigate these hazards by using several administrative and engineering controls. Some of these include a strict maintenance schedule and an established plan to test for Legionella in a system. These personnel should also be provided with appropriate personal protective equipment for respiratory protection.

While installation technicians might be at a higher risk than occupants of contracting Legionella through fire sprinkler systems, it is important to not overstate these risks.

continued from page 15

Conclusion

Overall, several documents state that the risk of Legionella in fire sprinkler systems is minimal. These risks can be greatly reduced through the implementation of a testing and maintenance schedule. By using these schedules, any potential Legionella can be detected and dealt with accordingly. When compared to the numerous benefits provided by fire sprinkler systems, Legionnaires' Disease is a relatively benign concern. In fact, in the words of one international fire protection company, "Additionally, there are no recorded cases of anyone contracting Legionella from a sprinkler system anywhere in the world."•

REFERENCES

Center for Disease Control. (2017, June 5). *Developing a Water Management Program to Reduce Legionella Growth & Spread in Buildings*. https://www.cdc.gov/legionella/downloads/toolkit.pdf.

Centers for Disease Control and Prevention. (2021, March 25). *Legionnaires Disease and Pontiac Fever. Centers for Disease Control and Prevention*. https://www.cdc.gov/legionella/index.html.

Harrison, A. (2020, June 9). *Is there a risk of sprinklers causing legionnaire's disease?* QSD UK. https://www.qsduk.com/2020/06/09/is-there-a-risk-of-sprinklers-causing-legionnaires-disease/.

Klein, C. (2016, July 21). *Remembering the Legionnaires' Outbreak*. History.com. https://www.history.com/news/the-discovery-of-legionnaires-disease.

Legionella Control. (n.d.). *Legionella & Fire Sprinkler Systems – Is there a Risk?* Legionella Control International. https://legionellacontrol.com/legionella/legionella-fire-fighting-sprinkler-systems/

Legionnaires' disease: lockdown risks and reopening safely. Legionella and Fire Safe Services. (2020, November 27). https://www.legionellaandfiresafe.co.uk/legionnairesdisease-lockdown-risks-and-reopening-safely/.

Loss Prevention Council. (1999, May 14). *Legionella and Fire Fighting Systems.* https://www.ultrasafe.org.uk/wp-content/uploads/2020/10/Legionella-Information.pdf.

Turner, S. (2008, January 8). Find and Prevent Legionella in Your Building Water Systems. Buildings. http://www.buildings.com/articles/34798/find-and-prevent-legionella-your-building-water-systems.

Ultrasafe Fire Suppression. (2020, October 19). *What about legionnaires in fire sprinklers?* Ultrasafe. https://www.ultrasafe.org.uk/what-about-legionnaires-in-fire-sprinklers/.

University College of London. (15AD). *Legionella and Fire Fighting Systems*. https://www.ucl.ac.uk/safety-services/sites/safety-services/files/tn-073.pdf.

ASC™
Engineered Solutions

Anvil and Smith–Cooper are opening a new chapter

Visit us at the **Fire Sprinkler Expo** in Las Vegas, Booth #8.

Introducing ASC Engineered Solutions.

Our new brand marks a transition from two leaders working side by side to a single team with a shared purpose: to be the first choice for the professionals who build and maintain our world.

We're dedicated to building connections that last. That passion for excellence has unified Anvil International and Smith–Cooper International ever since we joined forces. Now we're taking the next step, making those connections stronger than ever.

One company.
One focus.
Your success.

www.asc-es.com

Building connections that last™

Partnerships + Participation Equals Success in Code-Making

by Jeffrey M. Hugo, CBO, Vice President of Codes and Public Fire Protection
with Takeover by Jason Webb

Jason Webb is currently the Director of Industry Affairs for Potter Electric Signal. Jason is a past fire marshal, trainer, past Director of Public Fire Protection for the NFSA, and past Director of Industry Relations for the Automatic Fire Alarm Association (AFAA). He is passionate innovator and promoter of collaborating with other industries and associations to make fire protection systems advance in codes and standards. He "takes over" Code Corner this month to highlight some of the recent successes when using cross-industry stakeholder collaboration in the NFPA and ICC code development processes. –Jeff Hugo

As an industry that relies heavily on mandates, the ability to influence those regulations is critical to our mission. When we speak on an issue, we bring with us well over a century of practical experience, not to mention an overwhelmingly positive record of sprinklers providing the ultimate in fire protection. That positive record and relatively indisputable science behind water-based fire protection not only provides a comfort level for decision-makers, like an AHJ, but also creates a sort of "fan base". Those fans of our technology are often very willing to work together to take advantage of the value sprinklers bring to the built environment. This creates an almost self-perpetuating energy that grows our influence while helping others grow theirs as well.

As the benefits sprinkler trade-off's (or trade-ups) began to be realized in the last quarter or so of the 20th century, there were those who argued that too much was "traded" for sprinkler protection. But those concerns have almost always been proven to be unfounded. When working sprinklers are present, NFPA data has consistently shown reductions in fire related deaths and property losses, even though building materials have continued to get lighter, and buildings grow larger.

The Value of Coalitions

None of this success happens from any one person or organization alone. The value of coalitions of like-minded interests with a common goal cannot be overstated. The NFSA itself is, for all intents and purposes, a coalition. But even within our Association, coalitions are at work constantly.

A recent example of coalition work to affect a code change involves the use of nitrogen and c-value of pipe. The idea has been around a long time, but together, a coalition of supporters developed language and a strategy to get it adopted. Ultimately, the NFPA 13 Technical Committees responsible for approving the concept did so, and the next edition (the 2022 edition) will contain provisions for both a c-value of 120 when nitrogen is used in dry and preaction systems, as well as the minimum installation requirements for the nitrogen generation systems themselves.

These types of efforts may take a while to produce, but often result in a better outcome simply because they bring out the best ideas and allow for each coalition member to leverage their own unique strengths. Coalition members often represent a broad swath of interested parties. The fire service is a tremendous coalition partner; others include related industry associations (more on that later) and safety advocates of all types. Besides nitrogen and c-factor, the list of important code changes that have come from coalitions is long and growing. A few examples include:

- Working with partners to lower the sprinkler threshold for group E (educational) occupancies.
- Sprinkler retrofit requirements for high-rises across all model codes.
- Driving the requirement to retrofit sprinklers into existing A2 (bar and restaurant) occupancies that serve alcohol. This change stemmed from the initial lowering of the sprinkler threshold following the Station Nightclub tragedy. That code change was a tremendously important coalition effort as well.
- Even seemingly minor design changes such as the requirement to provide a means to vent trapped air reducing corrosion in wet pipe sprinkler systems have been achieved.

The list of coalition efforts that ultimately became code requirements goes on and on and those efforts continue all the time.

Strengthening Codes with Other Industry Associations

The sprinkler industry enjoys an unparalleled reputation for developing and shepherding crucial code changes. But like with coalitions within the sprinkler industry, working together with related industries plays a key role as well. Groups such as the Automatic Fire Alarm Association (AFAA) and others work together seamlessly advocating for positive code changes.

As more and more sprinkler companies delve into the fire alarm

continued on page 18

continued from page 18

business (and vice-versa) the value of cross-industry partnerships grows. In nearly every case, what is good for one industry benefits the other, and all to the benefit of saving lives and protecting property.

Although industry groups may sometimes differ in a particular approach, the value of working together and presenting a united front benefits all. As NFPA 4 – Standard for Integrated Fire Protection and Life Safety System Testing was progressing to the point of being referenced by NFPA and ICC fire codes, there were differences of opinion about how best to proceed. Rather than a prolonged dispute dividing the industries, supporters of each came together to pull off the seemingly impossible task of aligning the code bodies. This only happened because of a willingness by both sides to work together for a common goal.

What You Can Do

One of the most important steps an individual company can take is to simply get involved. Participation in the code development arena provides tremendous value that goes beyond just having a say in the direction the Technical Committees take. Nothing smooths a hard conversation with an AHJ more than the mutual respect that comes from each knowing the other truly understands not only the how, but the why. These benefits extend to everyone from the CEO to the entry-level person.

The best part is that getting involved isn't difficult. Apply for a seat on a technical committee, join in on meetings of code-making bodies, read and comment on a code-development blogs…the list of opportunities is nearly endless. The value that being involved in this process brings is growing at an exponential rate. With changing technology and system integration blurring the line between traditional water-based mechanical systems and smart electrical components, it's more important now than ever before.•

NEW MEMBERS

Contractor

Atash Fire & Safety
Chicago, IL

Blue River Plumbing
Overland Park, KS

Fire Sprinkler Service
East Windsor, CT

Industrial Sprinkler LLC
Orlando, FL

SprinkMT, LLC
Helena, MT

Swanson Fire Protection, Inc.
Jacksonville, FL

Olympic West Fire Protection
Tempe, AZ

SAM

Rotaflow
Edmonton, Alberta, Canada

Individual

Lee Adams
Piqua, OH

Tate Albert
Meri-K Appy
Portland, OR

Christopher Autorino

Brian Bailey
Ferguson, MO

Hught Baird
Chaguanas, Trinidad

Elizabeth Bednarcik
Brighton, CO

Jen Blair
Madison, WI

Bill Bryant
Severna Park, MD

Luis Bueno
Algonquin, IL

Derek Bullington
Chantilly, VA

Wayne Butler

Garren Cain

Dan Carlson
Wilsonville, OR

Mike Carsten
Tucson, AZ

Darcy Chaney

Peter Christ
New Tripoli, PA

Thomas Clark

Francisco Collado
Wildomar, CA

Brad Davidson
La Junta, CO

Rick DeArtola
Centennial, CO

Mark Esker
Manchester, MO

Jason Fife
Rochester Fire Dept.
Rochester, MN

Dennis Fischer
Kirkwood, MO

James Fiscus

Mark Frischkorn
Anchorage, AK

Andrew Grafstrom

Clint Gray
Georgetown Fire Dept.
Georgetown, TX

Leigh Grosvenor
Deltona, FL

Andrew Hache
Altamonte Springs, FL

Todd Hall
St. Louis, MO

Justin Hazellief
Okeechobee, FL

James Hill
Saint Charles, MO

Marty Hoiten
Sioux Falls, SD

Howard Hopper

Amanda Hornung
Madison, WI

Johnny Hoskins
Greater Brighton Fire Rescue District
Brighton, CO

Edwin Howard
Norfolk, VA

Zishanul Hussain

Denise Ilescas
Murrieta, CA

Brad Johnston
Bonita Springs, FL

Rick Jones
North Fort Myers. FL

Joel Kneifel
Madison, WI

John Kosmatka
Madison, WI

Megan Krautkramer

Daniel Krier
Brooklyn Park Fire Department
Brooklyn Park, MN

Brian Kruser
Madison, WI

Amy Lampe
Madison, WI

Chad Lawry
Vancouver, WA

Robert Marshall

George Michehl
Lake Zurich, IL

Doug Milks
Madison, WI

Mark Miller
Stoughton, WI

Tim Moes

Terry Mohr
North Fort Myers, FL

Scott Moore
Battlefield, MO

Sue North
Janesville, WI

William Pagano
University City, MO

Joe Powers

Gary Price
Atco Fire Protection
Rome, GA

Ray Reynolds
Nevada, IA

Evan Robbins
Warrensburg, MO

Greg Rogers
Spokane Valley, WA

Jason Schaub
High Ridge, MO

James Schweda
Bayside, WI

Philip Sconyo P.E.
Audubon, NJ

Joe Seifert
Madison, WI

Zach Siegrist
Charlotte, NC

Raymond Stephens
Forney, TX

Scott Strassburg
Madison, WI

Doug Strosnider

Teresa Sullivan
South Pasadena, FL

Hessam Tavoosi

Daniel Turner
New Lenox, IL

Christopher West
Sanford, FL

Michael Whalen
Michael E. Whalen LLC
Monroe Twp, NJ

Michael Wieland
Mount Dora, FL

Adolf Zubia
Las Cruces, NM

BUY NFSA

LOOK FOR THE LOGO

2021 SAM MEMBER

NFSA

NATIONAL FIRE SPRINKLER ASSOCIATION

The Voice of the Fire Sprinkler Industry

Brought to you by the NFSA SAM Council

To see a full list of SUPPLIERS & MANUFACTURERS (SAM) Council Members and product updates, visit nfsa.org/SAM

FIRE SPRINKLERS BUY TIME TIME BUYS LIFE NATIONAL FIRE SPRINKLER ASSOCIATION

@NFSAorg – engage in our #fastestwater conversation!

facebook.com/NFSAorg

Fire is fast. Fire sprinklers are faster.

NFSA
NATIONAL FIRE SPRINKLER ASSOCIATION
The Voice of the Fire Sprinkler Industry

514 Progress Drive, Suite A
Linthicum Heights, MD 21090
(443) 863-4464 • nfsa.org

NOTES FROM THE Fire Scene

Voluntary Consensus

by Vickie Pritchett,
Vice President/Executive Officer
with Takeover by Todd Short

I am so excited for Todd Short to "take over" my From the Fire Scene column! I have known Todd for years, and he is an early champion of Fire Team USA and understands very well the importance of fire sprinklers in a communities' quality of life. We need more AHJs like Todd in the world, and I hope you'll enjoy learning from him with me!

Cheers!

Vickie

Voluntary consensus is a powerful tool that can drive improvements for both AHJ's and contractors. The previous sentence is part of the guiding principles used in our Best Practices Forum. This forum provides a place where AHJ's and fire sprinkler stakeholders can dialogue on aspects of the fire sprinkler installation process and results in the published Best Practices Guide. And the guide is a very practical tool that can be used by contractors and Fire Marshal's to improve the fire sprinkler permitting and installation process. But that is not the most significant benefit of the forum.

I used to think that being a fire marshal was like being the local sheriff who roamed the city looking for contractors that were trying to pull a fast one. Gotcha! Chatter in the office ringed with tales of absurd situations that required intervention to resolve. When walking onto a job site there was no doubt when the sheriff arrived to make sure that everyone was following the code to the letter of the law. The interesting twist in this scenario was the realization that I was not as prepared or informed as I needed to be. What? An AHJ that admits to not understanding all aspects of NFPA 13! Looking intently at an installation and thinking to myself, "there just simply must be something wrong here". I have heard from multiple contractors that even though they believed an inspector to be wrong, they were caught in a conundrum. Often, they concluded it was simply easier to just do whatever the sheriff wanted versus trying to challenge the AHJ. How can that be?

The Washington Fire Sprinkler Coalition hosts four Best Practices Forum's every year. A purpose and structure to help AHJ's and Sprinkler Stakeholder's build relationships to begin working together for the life safety benefit that fire sprinklers provide. Guiding principles of the forum state that we are better together, and we gain from sharing ideas and experiences with each other. I am often asked by contractors about the best way to discuss issues with code officials. The answer is always, respectfully! And never try to mislead or bend the truth. Integrity lost is never gained back. But AHJ's should be equally respectful and I have tried to live by the mantra that I should always be willing to answer any question about what we are requiring and why. I should always be open to feedback because someone may have an insight to improve what we do. Fire Marshals are tasked with understanding a multitude of technical components that are built into modern buildings. It has become necessary to partner with the experts in each field to better understand the intricacies of each system type. The Best Practices Forum is the place for this dialogue to occur for fire sprinklers.

Washington State adopts the International Codes and allows for local adoption of codes that are more restrictive than the state adoption. In our last code cycle the State Building Code Council (SBCC) adopted a provision that requires fire sprinklers in all new townhome structures with 5 or more units. The SBCC vote on this sprinkler proposal was unanimous and without a negative vote! The City of Seattle adopted a provision requiring fire sprinklers in all townhome structures regardless of size or unit count. Additionally, the City of Shoreline passed a local ordinance requiring fire sprinklers in all new built one-and two-family structures and townhomes. The Shoreline city council voted 7-0 for their ordinance. I cannot directly link the most recent fire sprinkler "wins" with the Best Practices Forum. But I can tell you that there is a lot more open conversation amongst the AHJ's, contractors, builders, plumbers, developers, and water purveyor's in the State of Washington. Achieving progress requires open conversation and respect for all opinions especially those that seem to be contrary to your own.

Oh and in case you missed it, the most significant benefit of the Best Practices Forum?… Is the ability to dialogue and build relationships with fire sprinkler stakeholders for the benefit of providing the life safety benefits that sprinklers provide. We really are better together!

We can add a plug for the presentation at the conference in October?

A presentation highlighting the Best Practices Forum is scheduled for the upcoming ***Business and Leadership Conference*** on October 5, 2021.•

BIOGRAPHY:

Todd Short *is the Fire Marshal in Redmond, Washington. On April 13, 2007, the City of Redmond became the first city in Washington State to require fire sprinklers in new homes and gain approval from the State Building Code Council for their local ordinance. Todd is currently serving as the Chair of the Washington State Fire Sprinkler Coalition which sponsors the Best Practices Forum held four times a year.*

FIRE SPRINKLERS IN ACTION

Fairbanks, AK

Single-Family Home Saved by Single Sprinkler!

NFSA thanks long-time member Kyle Green, Fire Marshal at the University of Alaska Fairbanks Fire Department for sharing this great sprinkler save. Kudos to Interim Fire Chief Forrest Kuiper for reminding the Fairbanks community that sprinklers have a long history of protecting lives and property.

On July 1st, the University Fire Department was dispatched to a structure fire. Firefighters arrived to find a single-family dwelling with light smoke showing from the building. The occupants were found safely outside. Firefighters entered the home and found a cooking fire had occurred which was suppressed by a single fire sprinkler located in the kitchen. Firefighters checked the ceiling and wall areas around the cooking appliance for fire extension. Finding no fire, they helped the homeowner secure the sprinkler system.

The fire investigation determined oil ignited as an occupant was readying it to cook. The occupant ran down the nearby stairs into the finished basement to retrieve another occupant and their dog.

"Had the sprinkler system not been in place, the volume of fire and smoke the pan of oil created would have likely trapped the occupants in the basement," explains Fire Marshal Kyle Green. "Thankfully, the original homeowners installed a residential fire sprinkler system. It worked perfectly. It allowed the occupants enough time to escape this fire."

There were no injuries to the home's occupants, their 8-year-old dachshund, or to firefighters. "That is the awesome thing about fire sprinklers," adds Interim Fire Chief Forrest Kuiper. "There's well over 100 years of history of fire sprinklers saving lives and property. They protect us at work, when we worship, when we recreate, and when our children are at school. They absolutely can keep us safe when we're at home as it did for these occupants today. We wish more homes had them installed."

Park Forest, IL

Single Sprinkler Saves Senior Housing Center

Thank you to Captain Phillip Myers of the Park Forest, IL Fire Department for submitting this sprinkler save.

A resident of senior citizen housing center had fallen asleep while cooking. A fire started on the stove and traveled up the cabinets, activating the single sprinkler that controlled the fire.

Upon notification of the fire alarm, the building maintenance accessed the apartment to find the occupant still in bed. They assisted her out of the apartment while walking past the activated sprinkler.

Fire crews arrived to find only light smoke in the apartment and the fire extinguished. The occupant was checked out by EMS and refused any other care. No further fire damage beyond the stove and cabinet. The system was serviced that afternoon and back in service the same day. None of the other 94 apartments received any damage or any other reported injuries.

"The sprinkler stopped the fire and saved a life. If this building was not protected the outcome could have been much different." Captain Myers

Park Ridge, IL

Residential Sprinkler Save

Thank you to Park Ridge, IL Fire Marshal Lt. Kevin Plach for sending in this sprinkler save.

On July 4th, the Park Ridge Fire Department (PRFD) was dispatched for a house fire. PRFD personnel arrived in less than four minutes and found smoke coming from the residence and a person injured on the front lawn. An initial rapid search found that there were no additional victims in the house and that the installed residential sprinkler system had extinguished the fire prior to the

arrival of PRFD units. Due to the quick and effective response of the home sprinkler system, the fire was stopped from spreading to the other areas of the home, thereby preventing further damage.

One resident was transported to the hospital with burns to his extremities. There was some smoke and water damage in the house, but it was limited to the area of the fire. The cause of the fire has been determined to be accidental in nature.

Mehlville, MO

Single Sprinkler Saves Building Under Construction

This save was reported on the NFSA St. Louis Chapter's Facebook page.

On the evening of June 15th, Mehlville firefighters responded to a fire in a building under construction. Fortunately, the office/warehouse building was near completion and the sprinkler system was in service. A single sprinkler activated, extinguishing the fire that began in a pile of rags that quickly spread to painting materials, nearby combustibles, and the plywood wallcovering. "The contractor and owner were both glad that the system had been required to be in service before they were granted their TCO," said Fire Marshal Ed Berkel of the Mehlville Fire Protection District.

Cheyenne, WY

Single Sprinkler Contains Basement Fire

Thanks to Cheyenne Fire Chief Byron Mathews for sending in this sprinkler save.

On July 8th, Cheyenne Fire Rescue responded a structure fire to find a fire extinguished by a single fire sprinkler in a storage room.

Firefighters were called at approximately 3:00 a.m. and arrived on scene at 3:05 a.m. When firefighters arrived on scene, they found the fire had been controlled and extinguished in the basement storeroom. Damage to the location was limited to light smoke and water from the fire sprinkler system. Firefighters remained on scene to assist building staff with the water clean-up and to assist with the investigation. The fire damage was limited to the items in the storeroom because of the fast water applied by the fire sprinkler system. No injuries were reported.

In the article that was published about the incident, Cheyenne Fire Rescue reminded all citizens that fire sprinklers save lives and limit property damage.

Salisbury, MD

Sprinkler Save at Wood-Framed Apartment Complex

Thank you to the Maryland Office of the State Fire Marshal for documenting this sprinkler save.

Date:	July 1, 2021
Time:	4:59 p.m.
Location:	Salisbury, MD
Type of Incident:	Fire
Description of Structure / Property:	Three-story wood frame apartment building
Injuries or Deaths:	None
Estimated $ Loss:	Structure: $700 Contents: $200
Smoke Alarm Status:	Present/Activated
Fire Alarm / Sprinkler Status:	Present/Activated
Primary Responding Fire Department:	Salisbury Fire Department
	# of Alarms: 1
	# Of Firefighters: 4
Time to Control:	15 minutes
Discovered by:	Occupants
Area of Origin:	Bathroom
Preliminary Cause:	Accidental, candle too close to combustibles
Additional Information:	As a result of a sprinkler activation, the fire was contained to the bathroom.

continued on page 24

continued from page 23

Plainfield, IL

Sprinkler System Saves Middle School

Thanks go to Plainfield Fire Marshal Mary Kay Ludemann for sending in this great sprinkler save!

According to the Village of Plainfield Police Department, a juvenile allegedly used a lighter to ignite a paper towel in the men's restroom at Ira Jones Middle School in Plainfield.

Police said the student believed he had put the fire out and returned to class. However, the fire continued to spread.

The school's fire sprinkler system put out the blaze. All students and staff were evacuated safely from the school.

Fortunately, no injuries were reported.

Lakeland, FL

Fire Sprinkler System Extinguishes Candle Fire in Occupied Apartment

Thanks go to Lakeland FD Fire Inspector/Investigator David Sutherland for sending in this detailed report of a great sprinkler save.

On June 19th, the Lakeland Fire Department responded to a structure fire involving an apartment complex. The building involved was a 3 story 48- unit Type V construction apartment building with two breezeways. The building is protected by a 13R wet-pipe sprinkler system and sprinkler monitoring fire alarm system with notification throughout. The unit involved was on the 3rd floor of the structure.

At the time of the incident, the apartment was occupied by a 13yr old boy and 9yr old girl who were home alone at the time. The cause of the fire was determined to be a candle that was knocked over. After the fire was ignited, the boy ran outside to get help and the scared girl ran into the master bedroom and locked herself in the room. As the fire grew, it produced heavy smoke and enough heat to activate two sprinklers, which extinguished the fire, except for smoldering within the couch. Due to the calls for help from the boy, residents attempted to enter prior to fire department arrival and were unable to enter due to heavy smoke.

Upon LFD arrival, there were reports that the girl was still inside the apartment. The initial attack crew entered the apartment and was met with heavy smoke causing little visibility. The crew made their way through the structure, unable to locate fire and checking the apartment in a systematic process. They came upon the locked bedroom door and found the girl inside and safely rescued her. She suffered no injuries. They then found the burnt couch and extinguished the smoldering within the couch.

This incident would have turned out much worse had the building not been protected by an automatic sprinkler system. Given the larger than normal fire load in the apartment, the location of the girl and the construction type, this incident could have had a deadly ending. Instead, the building suffered no fire damage and other damage was limited to water damage and fire department access during primary searches of neighboring units. Only the residents immediately below the affected units were displaced due to water damage rather than the entire building.

continued from page 24

Frisco, TX

Single Sprinkler Saves Senior Apartments

Thank you to Frisco, TX Fire Marshal Kelly Kistner for sending us this great synopsis of a sprinkler save at a senior apartment complex.

On Sunday, July 25, in the morning hours, Frisco Fire Department responded to Watermere Senior Living Apartments for a water flow alarm. The water flow was located, and it was determined a single sprinkler was activated in the kitchen of this apartment. The origin of the fire was on the stovetop. The fire was the result of an air fryer that was placed on the stovetop while the burners to the cooktop were also on. The burners ignited the fryer, with fire extending to the microwave above the stove. Fire and smoke damage was contained to the apartment of origin, and another 5 units were affected by water damage.

Considering it was a weekend and early in the day, many residents were home. The sprinkler activation was able to prevent what would have been the high probability of a much worse incident, especially considering the specific use of the occupancy.

St. Cloud, MN

Two Sprinkler Saves Within Two Weeks at Same Multi-Family Building!

Thanks to Jon Nisja, Fire Safety Supervisor,Minnesota State Fire Marshal Division and St.Cloud Fire Marshal Michael Post for sending in these sprinkler saves!

On May 23rd, the St. Cloud Fire Department responded to a report of a building fire.

Upon arrival crews reported a two-story multi-family dwelling with nothing showing. Upon further investigation, they then reported a sprinkler-controlled fire in one unit, fire out.

Occupant indicated that he had been cooking with oil prior to the fire and that it flamed up, extending to the cabinets before they exited the unit to call 911. No injuries were reported..

On May 28th, the St. Cloud Fire Department responded to a report of a building fire..

Crews arrived on scene to the same apartment building with nothing showing and people outside. Upon further investigation, they found a sprinkler-controlled fire in one unit. Bystanders stated everyone was out of the affected apartment.

The fire was out. Crews found a smoking pan on the stovetop. It was on an electric range that was turned to the hottest setting.

Captain turned the range off and cooled the pan. Tenant stated she was cooking with oil when the pan burst into flames as soon as she put it on the range. No injuries were reported.

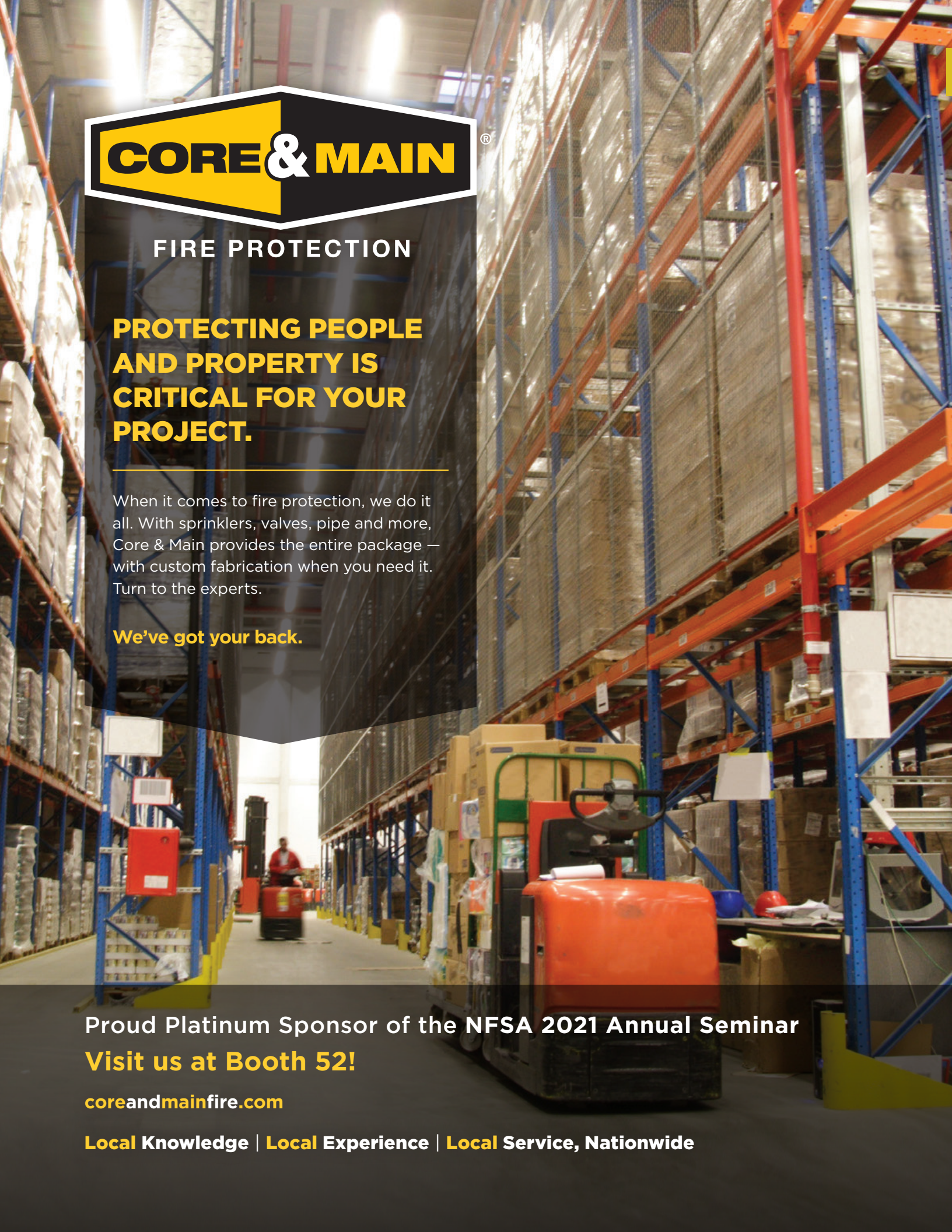
Port Orange, FL

Single Sprinkler Saves Apartment Building

Thanks go to Port Orange Fire Marshal Beau Gardner for sending us this sprinkler save.

The Port Orange Fire Department responded to a late-night structure fire at a local apartment complex. Each building has 24 units.

The involved apartment, a first-floor unit, was charged with smoke and upon making entry, crews found that an air fryer on the stove had caught fire. The fire was controlled with a single fire sprinkler! •



CORE & MAIN®

FIRE PROTECTION

PROTECTING PEOPLE AND PROPERTY IS CRITICAL FOR YOUR PROJECT.

When it comes to fire protection, we do it all. With sprinklers, valves, pipe and more, Core & Main provides the entire package — with custom fabrication when you need it. Turn to the experts.

We've got your back.

Proud Platinum Sponsor of the **NFSA 2021 Annual Seminar**

Visit us at Booth 52!

coreandmainfire.com

Local Knowledge | Local Experience | Local Service, Nationwide

Smart Sprinkler Systems Are the Way of the Future… Is the Industry Ready for Change?

by Vince Powers, *NFSA's ITM Specialist*
with Takeover by Jack Coffelt

Jack Coffelt was chosen to write an article for the member takeover edition of the Inspection, Testing, and Maintenance column of the National Fire Sprinkler Magazine because of his vast knowledge, experience, and passion of the fire protection industry. Jack has held various roles in the fire protection industry and is now the General Manager for Asurio. Asurio stays heavily involved in the fire protection industry and is always contributing to the technical side, as well as providing one of the leading electronic inspection reporting systems in the industry. There is no doubt that this article will pique some curiosity. –Vince Powers

With the quantum leaps and bounds of technology occurring all around us, it's no wonder that the fire sprinkler industry also will be facing big tech advances in coming years. Big data – and the insights that come from it – are changing industries, practices, and processes in virtually every industry. My concern for the sprinkler industry is the slow rate of adoption of technologies that can bring transformative change based on hard data. For example, if a sprinkler device or sprinkler system can't provide data back to the facility managers, how can we predict its performance today, tomorrow, or a year from now? And, perhaps more important, if the industry is slow to move toward smart systems, how do we convince data driven industries that need fire protection to purchase & install sprinkler systems which are so crucial for saving lives?

We at Asurio, Inc. strongly believe that the more data is gathered through these new smart devices, the more we can modify protocols and practices to what's really needed and what's most effective for accomplishing life safety goals.

There currently are multiple fire sprinkler manufacturing companies that are investing significant R&D dollars into the development of smart sprinkler systems overall and smart sprinkler devices within a sprinkler system. This is exciting for so many reasons. The positive ramifications of a next-generation, sprinkler system with smart devices are many and varied. For example, a smart sprinkler system might be able to tell a fire alarm system or a building's fire command center that the water in a sprinkler pipe is heating to a dangerous level…or that the water or air pressure in a sprinkler pipe has just dropped precipitously.

"Smart" Sprinkler System Tech Advances Are Coming

Both today and historically, fire sprinkler systems have been comprised of a source, valves, pipes, and water. The next-generation sprinkler systems in development today digitize the system for enhanced system monitoring, enhanced fire suppression, and minimized water damage when the system is activated to suppress a fire. The top examples of smart sprinkler system technology include:

1 – General Remote System Monitoring, Testing & Inspection:

Computers will be used more and more for the monitoring, testing and inspection of sprinkler systems overall. This will be accomplished with a combination of electronics, video and possibly drones that could be used to both monitor and/or control fire sprinkler systems.

Benefits of This Technology Trend:

Faster Problem Resolution: Ongoing 24/7/365 monitoring allows facility managers to keep the pulse on system performance and operation throughout the entire year vs. once a quarter or once a year from a physical inspection. This allows for faster identification and resolution of problems that could compromise the performance of the sprinkler system.

More Cost-effective: Continuous remote monitoring and testing will be more cost-effective than frequent in-person monitoring and testing.

Minimized Water Damage: Remote monitoring and control of a sprinkler system allows the system to carefully deploy water where it's needed, and in the quantity needed, which helps minimize water damage when sprinkler systems must deploy.

2 – Smart Water Flow Switches: Smart water flow switches already are in existence.

Over time, they are going to get smarter – with the ability to be continuously monitored, providing data back to a building command center.

Benefits of This Technology Trend:

Faster Problem Resolution: Obviously, water must be able to flow

continued on page 28

continued from page 27

freely for a sprinkler system to do its job. Ongoing monitoring will detect problems more quickly, including problems that affect water flow upstream from the building.

3-Specialty Sprinkler Heads:

In the complex world of fighting fires, different facilities will have different flammable materials on site, and one sprinkler head will not fit all applications. Some exciting possibilities for specialty sprinkler heads include: sprinkler heads specifically designed for applying water on 3-dimensional building assets, for minimal water usage in geographic areas where water is at a premium and more.

Benefits of This Technology Trend:

Faster Fire Suppression: Sprinkler heads designed for specific firefighting scenarios will help suppress fires faster, saving lives and property.

Better Protection of Assets: Sprinkler heads that can protect a three-dimensional object vs. a straight-down water flow may ultimately do a better job of protecting special equipment, priceless sculptures and more.

Efficient Deployment of Water: There are places in the world where water is more valuable than gold. In those locations, it's critically important to deploy only the water that's truly needed to extinguish a fire.

Smart Fire Sprinkler Technologies Will Yield Code Changes Based on Hard Data

When I look at these technology advances at the 30,000-foot-view, the data we can gather from smart fire sprinkler systems and devices will be tremendously helpful in developing codes, processes and standards based on hard data. Currently, those of us sitting on NFPA standards committees are making decisions on codes and standards based on historical information. It is quite possible that information streaming in from smart sprinkler systems will yield data that results in significant changes to NFPA life safety codes.

Smart Sprinkler Systems Bring Many Questions With Answers Still To Be Determined

The "internet of things" is making inroads into all aspects of our lives – from smart homes and smart refrigerators to smart cars, and more. It's also coming to your sprinkler and fire alarm systems. But as all these systems and devices move to digitalization, it raises a whole host of questions which have yet to be answered:

If a smart sprinkler system's monitoring uncovers a glitch in the system, where will that information be funnelled?

Who will be responsible for reviewing the data and taking action?

Will building owners or facility managers be inundated with system performance alerts from 10 different devices per day (or more)?

How will the massive amounts of data generated be parsed to influence changes in codes and safety standards?

These are just some of the questions that must be answered as the industry moves toward smart sprinkler systems.

In addition, smart sprinkler systems will have significant ramifications for the inspections industry. How will smart systems and 24/7/365 monitoring change how we inspect buildings and when we inspect buildings? While the volume of questions continue to increase, Asurio is spending time, effort and resources to be part of the solution process on how these pending tech advances will affect inspections.

There are two main reasons why the industry will be well-served in adopting smart fire sprinkler technology advances: 1) Save more lives and property, and 2) Justify the investment in sprinkler systems…to save more lives and property.

The world around us is becoming more digital with every passing day. The sprinkler industry is going to need to adopt smart sprinkler systems to stay in the conversation. The proliferation of life-saving sprinkler systems could become even greater if developers and building owners were given compelling data that powerfully justifies building or retrofitting sprinkler systems into facilities where people live, work, and play. •

ABOUT THE AUTHOR:

With more than 30 years of experience in the fire life safety industry, Jack Coffelt brings extensive, practical knowledge across all the different fire life safety inspection disciplines – fire alarm, fire sprinkler & fire suppression systems, fire pumps, and more – to his role as General Manager for Asurio, Inc. Prior to joining Asurio, Inc., Mr. Coffelt served as a fire life safety contractor for 20+ years, and also as a fire & security technician in the U.S. Navy. Jack currently serves as a technical committee member for NFPA 72, and he's a long-time NFSA member. He can be reached at: jack@asurio.com, or 877.444.1488.

SUPPLIERS SHOWCASE

Get to Know Ferguson Fire & Fabrication

WWW.FERGUSONFIRE.COM

About Us

Through a combination of organic growth and judicious acquisitions beginning in 1987, Ferguson Fire & Fabrication became the nation's largest independent distributor of fire protection systems in 2005. Ferguson provides contractors a huge inventory of sprinkler heads and devices, special hazards equipment, fittings, pipe and hangers. Ferguson also supports fire protection contractors with the most locations and fabrication facilities across the United States with industry leading and highly trained associates. This means contractors can find the services and support they need, when they need it.

Quick Access to the Products Fire Protection Contractors Need

Ferguson Fire & Fabrication is proud to help their customers do their jobs every day. Ferguson has distribution centers strategically located throughout the U.S. and Canada. With more than six million square-feet of warehouse space and 95,000 unique SKUs, the company provides unparalleled fill rates with the industry's most comprehensive product selection. Ferguson Fire & Fabrication continually leverages vendor relationships to provide customers with the highest quality inventory that addresses the many needs of the fire protection industry:

- Fire sprinklers
- Steel pipe
- Galvanized pipe
- Grooved coupling and fittings
- CPVC
- Cast and ductile iron fittings
- Hangers
- Fire alarms and detection components
- Backflow Preventers
- A variety of engineered fire products

Industry-leading Associates

Ferguson provides the best, brightest and most experienced associates in the fire protection industry. Hands-on product and process training is predominant throughout the company's business structure. It's Ferguson's associates who make the difference, meeting and exceeding customers' expectations day in and day out.

Industry-leading Fabrication

Ferguson has the most ISO 9001:2015 certified fabrication facilities, making the company the largest certified sprinkler fabricator in the country. Ferguson meets the most rigorous international quality standards in the fire protection industry. From training to skill validation, raw material procurement to sales and delivery, the company adheres to the standards and procedures that lead to top quality performance. ISO 9001:2015 certification is a continuous process that underscores Ferguson Fire & Fabrication's commitment to setting the industry-leading standard for quality in fire sprinkler fabrication.

continued on page 30

continued from page 29

Digital Capabilities

Ferguson Fire uses a few different digital technologies to meet the customer right where they are and save them time by making it easier to get the information and products they need to keep their jobs rolling. FireList is our industry-unique program that allows our customers to send CAD files from many popular programs in the industry, and get quotes back faster on both loose material and lists of fabricated work (spool pieces) that FireList outputs.

Ferguson.com provides our customers with a view into their account with us for purchasing and accounting, as well as share all kinds of relevant information with just a click or two.

Order History & Order Tracking
Quotes & My Lists
Pricing & Availability
Price Alerts
Interactive Line Card
Spec Sheets & Install Guides
Accounting Information & Electronic Bill Pay
… and so much more!

We also have a mobile Ferguson app that provides access to a lot of the same information as our website, in addition to offering barcode scanning for both easy order entry and help with basic inventory management.

Our new service, Text-2-Counter allows our customers to use their phones and text their inquiries, pictures, orders and more –directly to our sales teams in the branches, and our branches can respond with the same ease right back to mobile phones.

Everything we do on the digital front is an effort to help our customers win more jobs, complete them faster, and have more information at their fingertips than ever before – allowing them to focus on their business and know that Ferguson Fire has their loose material and fabrication needs taken care of. •

Lessons in Buy "American" and Buy "America"

by Mike Taylor, Pat Togni, and Mercedes Morno, King & Spalding LLC
With an introduction by James Golinveaux

Introduction from James Golinveaux, President & CEO, Viking Group, Inc.

With infrastructure and domestic investments soon to be released into the United States, we are frequently asked for compliance with "Buy American" specification in the Fire Suppression market. I, like many others, have an "understanding" of the term yet when pressed, I quickly refer to others, specifically lawyers or staff with close connections to the lawyers. So, when does a product comply with "Buy American" or "Buy America"? Simply stated and like all great responses – it depends. The reason for the importance to get it right is that there are legal implications involved for getting it wrong, and specifically you can land in disgorgement or false claims act litigation.

The time to verify compliance is during the bid process, not after installation. We commissioned the following article to help better explain the complexities and risks related to these laws and regulations. There will be more to come – stay tuned.

> *"We are simply saying that when we take the taxpayers' money to expend upon a work of the Government itself, then … we shall expend it for what the taxpayers have manufactured, and in behalf of our own people."*
>
> –Senator Hiram Johnson, February 2, 1933

California Senator Hiram Johnson said these words nearly one hundred years ago during floor debate on his amendment to add what is now known as the Buy American Act of 1933 ("BAA") to a must-pass spending bill. In the nearly 90 years since Senator Johnson made his argument for requiring that the Federal Government buy U.S.-origin goods, the complexities of the Buy American laws have increased significantly. This article, therefore, outlines the confusing web of Buy American laws – and the accompanying certification landscape – in which companies must operate today.

Congress clearly has dictated that the U.S. government apply domestic preference requirements when constructing or funding the construction of public projects. The penalties that companies face for failing to comply with domestic preference requirements are severe and can include a government order to rip out and replace non-conforming material, contract termination for default, and substantial monetary penalties under the False Claims Act.

To be clear, like any consumer, the government has the ability to exercise discretion in how it spends its money, and so Congress has attached strings to purchasing by the federal government. These strings commonly are thought of as creating a "Buy American" requirement, but the reality is that there are many "Buy American" strings, and context matters in determining what strings apply to an individual sale. The agency making the purchase, the legislative basis for the spending, and the country of origin of the end-product all affect the business case and compliance risks of doing business with the government.

Buy "American" Act

Any discussion about domestic preference laws must start with the BAA. Two conditions must be present for the BAA to apply: (1) the procurement must be intended for public use within the United States; and (2) the items to be procured or the materials from which they are manufactured must be present in the United States in sufficient and reasonably available commercial quantities of a satisfactory quality. The current BAA statute applies to all U.S. federal government agency purchases of goods (articles, materials, or supplies) valued over the U.S. micro-purchase threshold (currently set at $10,000), and restricts federal procurement of items that are not "domestic end products."

As of the writing of this article, for a good to be considered a "domestic end product" or "domestic construction material," it must be manufactured in the United States and at least 55 percent of the cost of its components must come from the United States – and if the construction material consists wholly or predominantly of iron and/or steel, the cost of the foreign iron and steel must be less than five percent of the cost of all the components. This domestic content requirement is poised to increase from 55 to 75 percent (in phases), however, as part of an ongoing proposed rulemaking that was just announced by the Biden Administration a policy push to reshore manufacturing and to maximize opportunities for domestic producers.

In any event, determining the country of origin is not as simple as it sounds. To the contrary, there are complex issues of interpretation of cost and origins of inputs that apply on a case-by-case basis, as ultimately determined by U.S. Customs and Border Protection (Customs). Moreover, BAA requirements

continued on page 32

continued from page 31

may be waived if (1) in the public interest to do so; (2) the cost of U.S.-made products is unreasonable; or (3) the products are not available in sufficient quality or quantity from U.S. producers.

BAA As Modified by Trade Agreements Act

Notably, however, the landscape for BAA requirements changes when the contract is large enough to trigger the applicability of the Trade Agreements Act. For large-scale contracts, BAA obligations may be satisfied by products originating from "designated" countries, which most commonly have been approved as originating sources because they agreed to provide reciprocal access for the sale of U.S. items into their own domestic procurement markets. But seller beware -- many key manufacturing countries are not designated for this privilege. The consequences of your supply chain including vendors in "non-designated countries" (e.g., China, India, Brazil) can be significant, because such an item will not qualify (and should not be certified as complying) unless (1) the underlying contract is sufficiently large to trigger an international purchasing exception and (2) the item has been further manufactured such that it is "substantially transformed" into a new and different article of commerce in the United States or a designated country.

Buy "America" Laws

Another regime with which you may be familiar in this context – "Buy America" (note, no "n" in "America") – generally refers to the various domestic content restrictions included in U.S. Department of Transportation "grants" of federal money to state and local government entities for the construction of transportation projects. Notably, Buy America requirements are not uniform, because the various federal transportation agencies each are subject to their own Buy America statutes and regulations. Generally, Buy America requirements apply to third party procurements by grant recipients and prevent the agency from obligating an amount for a project unless a particular good (i.e., steel, iron, and manufactured products) used in the project are produced in the United States. Under limited circumstances, the agency may waive Buy America requirements (e.g., for public interest reasons; where the items are not available domestically; or where the use of domestic materials would increase the project cost by more than 25 percent).

And... The Complexity Continues

Yet, this is not the end of the story. In addition to the BAA, the Trade Agreements Act amendments to the BAA, and the Buy America laws, additional domestic preference requirements are implemented routinely by Congress, State, and local authorities. For example, a relatively new Environmental Protection Agency ("EPA") program known as the American Iron & Steel ("AIS") requirement came into force during the Obama Administration. This program requires the use of specific AIS products in clean water- and drinking water-related and other water infrastructure projects. In laymen's terms, EPA funding for projects involving pipe and fittings comes with additional origin thresholds. As in other procurement situations, the key takeaway is that interested parties must understand the specific requirements/contractual provisions that apply to a particular project.

Conclusion

There is no "one-size-fits-all" certification that can be provided to customers. The first response to a request from a customer for a Buy America/Buy American certification should be: "Please show me the government's bid documents so that we can validate our ability to provide a certification that is tailored to the specific statute giving rise to your certification request." Not doing so ultimately can land you in disgorgement or false claims act litigation.

The Buy American obligations have become significantly complex since Senator Johnson's floor speech in 1933, and the landscape continues to evolve. As alluded to above, the Biden Administration is taking steps to leverage the various "Made in America Laws" to increase the use of domestically-produced articles in government projects. The Biden Administration also has strengthened the oversight of requests for waivers of the "Made in America" laws by subjecting covered federal agencies to an additional layer of review before any waiver is granted.

Confused yet? You should be, because the rules (including the exceptions and potential waivers) are complicated and highly fact-specific. Like many other areas of doing business with the government, "we just had no idea what the rules were" is not a defense to a potential regulatory enforcement action, or for use as an answer to a complaint filed by one of your competitors. In sum, almost one-hundred years after Senator Johnson's statement that government funds should be spent on "what the taxpayers have manufactured," figuring out whether your goods actually meet the requirements is anything but simple.•

41 U.S.C. § 8301, et seq.; see also 48 C.F.R. § 25.001(a)(1).

Federal Acquisition Regulation: Increased Micro-Purchase and Simplified Acquisition Thresholds, 85 Fed. Reg. 40064 (July 2, 2020).

48 C.F.R. §§ 25.001, 25.0003, and 25.101(a)(1).

See Federal Acquisition Regulation: Amendments To The FAR Buy American Act Requirements, 86 Fed. Reg. 40980 (July 30, 2021).

48 C.F.R. § 25.103(b).

48 C.F.R. § 25.400. The designated countries are composed of: (1) World Trade Organization Government Procurement Agreement Countries; (2) Free Trade American Countries; (3) Least Developed Countries; and (4) Caribbean Basin Countries.

48 C.F.R. § 25.001(c). If the acquisition by the U.S. government is large enough to trigger a trade agreement threshold, the BAA's country-of-origin requirements and other provisions applicable to non-U.S.-origin goods are waived and the Trade Agreements Act's country-of-origin requirements control.

49 U.S.C. § 5323(j).

Covered iron and steel products include lined or unlined pipes or fittings; manhole covers; municipal castings; hydrants; tanks; flanges; pipe clamps and restraints; valves; structural steel; reinforced precast concrete; and construction materials. If any of these covered products are made of greater than 50 % iron or steel, measured by cost, then they are subject to the EPA AIS Requirement.

Options for Calculating the Seismic Coefficient That Could Save Time and Money

by Greg Shaughnessy, ASC-Engineered Solutions

When performing Zone of Influence (ZOI) calculations for the seismic bracing of sprinkler systems there are many factors that must be considered and many variables that can have an effect on the products to be selected for use, the spacing between braces and the type of brace material employed. Each of these variables can have an effect on the overall cost of installing a sprinkler system.

One critical calculation that has a huge effect is the calculation of the seismic coefficient. For those readers not familiar with bracing calculations, think of the seismic coefficient as a multiplier. The value of this variable is multiplied by the total weight of the pipe, water, and other items to generate the seismic design load (Fpw) that the brace will need to support.

$$F_{pw} = C_p W_p$$

The most common way that this Cp value is determined is by using the table in NFPA 13 (NFPA 13, 2019 table 18.5.9.3) that gives a value for Cp based on the given value of Ss, where Ss represents the expected level of ground shaking due to earthquakes. This Ss value is determined by geographic location and is typically provided by the structural engineer of record on any project and can usually be found on page one of the structural drawings.

Most people performing these calculations rely upon this table in NFPA 13 to get this multiplier, one that has a huge effect on the brace spacing, brace material and components needed. The issue with this method is that it relies upon worst case conditions and provides a very conservative value.

Imagine assuming that your brace is at the very top of the building and it is built on quicksand (I'm exaggerating to make a point here). That translates to a larger seismic design load than necessary, which will require shorter spacing or more braces and heavy-duty material and components when they may not actually be necessary.

For example, using table 9.3.5.9.3 in NFPA 13 with an Ss value of 1.1 gives us a value of Cp of 0.54. Using this in our formula above, if we calculate a total weight of our zone of influence of 1000 lbs. then our seismic design load is 540 lbs. This could be a problem, especially if the maximum seismic load of our anchor is only 360 lbs.

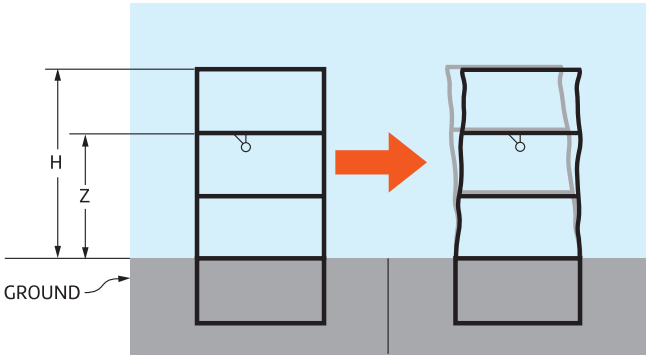
What if we could fine-tune this calculation to our specific project? What if, when we did that, we could lower our seismic design load below 360 lbs. Is this possible? The answer is Yes. (NFPA 13, 2019 sec. 18.5.9.4)

The formula that NFPA 13 uses to calculate the values in their table mentioned above makes some assumptions about a few things that have a big effect on the value of Cp. If we can address just three things, that are simple to find, we can fine tune the Cp value. Those three things are; 1) the site classification. This value is also typically provided by the structural engineer of record and found on page one of the structural drawings. These are shown below:

ASCE/SEI 7–10: Table 20.3–1 Site Classification

Site Class	Ground Structure
A	Hard Rock
B	Rock
C	Very Dense Soil and Soft Rock
D	Stiff Soil
E	Soft Clay Soil
E	Soils Requiring site Response Analysis

2) The height of the seismic brace from the ground (Z shown below) and 3) the height of the building from the ground (H shown below).



BEFORE A SEISMIC EVENT **DURING A SEISMIC EVENT (Exaggerated)**

continued on page 34

continued from page 33

Let's assume that, from our example that we previously calculated using the table in NFPA 13, we know a little bit more information. We know that the site classification is C - Very Dense Soil and Soft Rock; and we also know that the brace is being installed on the second floor of a four-story building. So, the value of Z is 20 feet above the ground and the value of H is 40 feet from the ground. If we plug these values into the formula and leave all the other assumptions in place, we get a Cp value of .343 and a seismic design load of 350 lbs. Now that anchor with a 360 lb. maximum seismic load will work just fine.

This alternate method of calculating Cp, using the same formula as was used by NFPA 13 2016 9.3.5.9.4 to populate their table but with more accurate jobsite specific information, can be very effective in allowing the designer to tailor the seismic calculations to the specific project. It can help to make the bracing system more efficient by allowing maximum spacing, thereby reducing the number of braces installed, thus allowing the use of smaller diameter concrete anchors, lower load seismic components and lower cost brace material. Try it the next time you perform your ZOI calculations and compare where your load is using this method versus the NFPA 13 table. You will be surprised at what a difference you will find and how much you could potentially save.

For more information about this subject, seismic bracing in general, or if would like to see a demonstration of seismic calculation software that allows this approach to calculating the seismic coefficient, please contact your local ASC-ES sales representative.•

Greg Shaughnessy is Marketing Manager for the Pipe Hanger product line for ASC-Engineered Solutions. An expert in the field of pipe hangers and seismic bracing for fire sprinkler systems, he has over 23 years of experience in the industry.

GET THE JOB DONE RIGHT THE FIRST TIME.

ACCESS THE TOOLS TO HELP ENSURE FIRE ALARMS AND WATER-BASED SUPPRESSION SYSTEMS ARE PROPERLY DESIGNED, INSTALLED, TESTED, AND MAINTAINED.

NFPA® Fire Protection Systems Solutions offer a complete range of resources for helping skilled workers develop professionally and reduce the loss of life and property from fire. From job tools such as reference guides, tip sheets, and checklists to codes, standards, and handbooks, we are your trusted source for the latest requirements on and expert insights into design, installation, inspection, testing, and maintenance for fire protection systems. Our high-impact online and live virtual training courses offer a cost-effective and convenient way of increasing the knowledge and experience of your team, while NFPA certifications help confirm employees are proficient in the roles they play in building and occupant safety.

It's not just about being code compliant but learning how to get the job done the best way for quality and efficiency. Explore our flexible and affordable Fire Protection Systems Solutions today.

NFPA®

FIRE PROTECTION SYSTEMS SOLUTIONS

Explore now at nfpa.org/fpssolutions-nfps

A Faster Way to Layout Sprinklers?

by Joe Meyer, PE

After writing on and off for about five years now, I may finally have something that might be a new contribution to the industry.

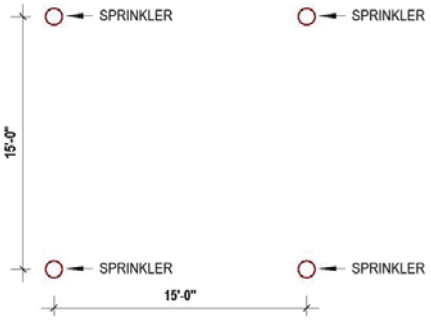
I say might, because it is quite possible that someone published these concepts years ago, but I never found my way to it. If that's the case, I'm terribly sorry for trying to act original here.

What I *(think I may have)* discovered is a better way to visually check for sprinkler spacing. And yes, I came up with the concept on a slow day at the office

Sprinkler spacing is dictated by a few rules; a maximum sprinkler-to-sprinkler distance, and an area of coverage.

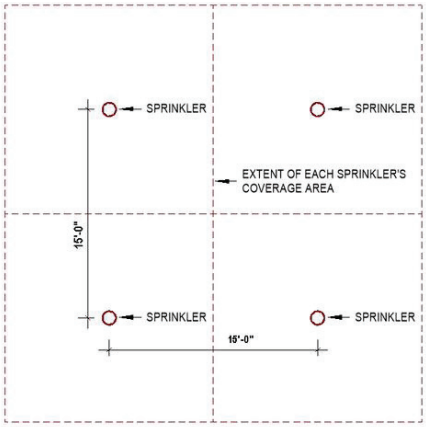
For Light Hazard layouts with standard spray sprinklers, this is very simple. The maximum spacing is 15-ft, and the maximum area is 225 sq ft (which is conveniently 15-ft x 15-ft).

[FIGURE 1: 15X15 SPACING]



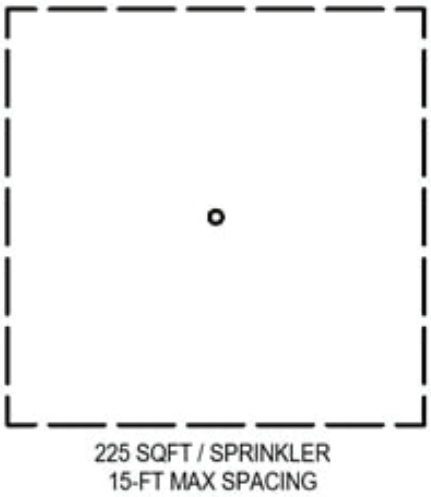
If we were to space four sprinklers at 15-ft x 15-ft and draw a separation line between them, we would have this:

[FIGURE 2: 15X15 4-SPRINKLER LAYOUT]



For Light Hazard, this "box" that represents the maximum coverage for each sprinkler is just a square. This concept is straightforward and has been used since Henry Parmelee himself was hand drawing on drafting tables.

[FIGURE 3: 15X15 SPACING BOX]

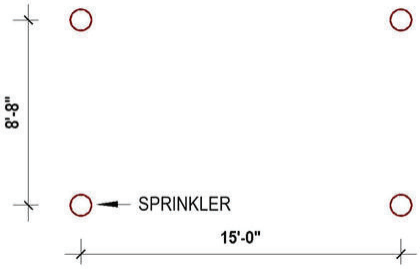


Using a similar approach for Ordinary Hazard (say 15-ft and 130 sq ft maximum), start with a single sprinkler and space a second sprinkler at 15-ft from the first:

[FIGURE 4: TWO SPRINKLERS 15-FT APART]

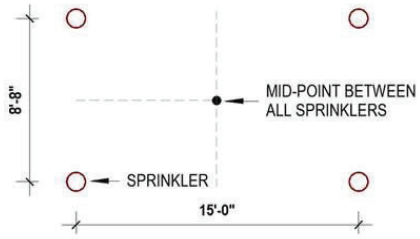
Now, to not exceed 130 square feet per sprinkler, what is the maximum these two sprinklers can be spaced in the opposite direction? That would be 130 sq ft / 15-feet, or 8.8-feet to the north:

[FIGURE 5: 4-SPRINKLERS SPACED AT 15-FT X 8'-8"]



For the sake of trying to attribute a "coverage box" to each sprinkler, let us identify the exact intersection of coverage between these four sprinklers. It would be the midpoint of all four sprinklers, here:

[FIGURE 6: 4-SPRINKLERS SPACED AT 15-FT X 8'-8" WITH "MID-POINT" NOTED]

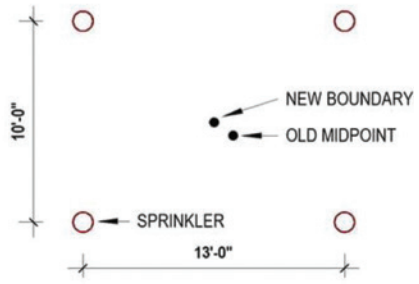


Note that if the north-to-south distance was less than 8'-8", we would still have compliant coverage. This is the maximum spacing between these sprinklers to still

accommodate 130 sq ft per sprinkler.

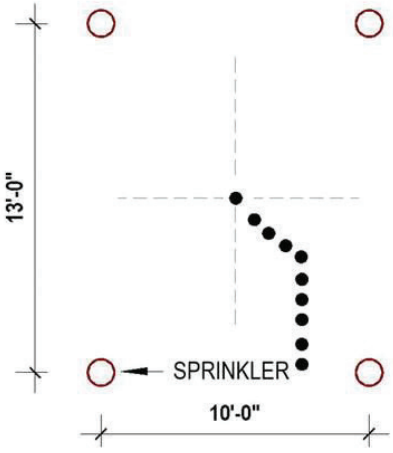
But what if our spacing in the east-west direction was less than 15-feet? When the east-west spacing is 13-feet, the maximum new distance in the north-south direction becomes 10-ft. Here is where that new midpoint lands:

[FIGURE 7: OLD AND NEW MIDPOINTS]



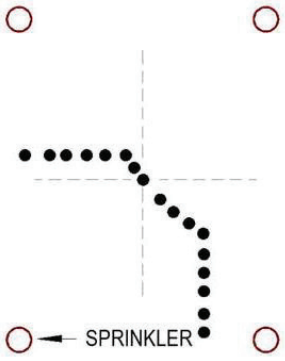
This repeats for slightly smaller dimensions in the east-west direction, and slightly larger (matching) dimensions in the north-south direction. When the east-west direction is 10-ft, for instance, the north-south direction is 13-ft. The midpoint in this scenario looks like this:

[FIGURE 8: MIDPOINT PATTERN DEVELOPS]



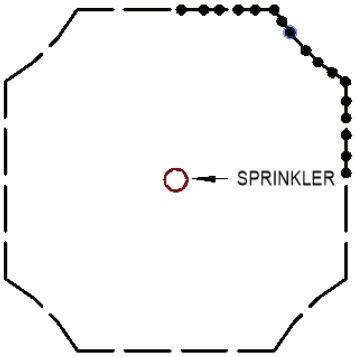
This process is repeated for east-west dimensions of 9.5-ft, 9-ft, 8.5-ft, and so on with north-south dimensions of 13'-8", 14'-5", 15'-0", respectively.

[FIGURE 9: CONTINUED PATTERN DEVELOPMENT]

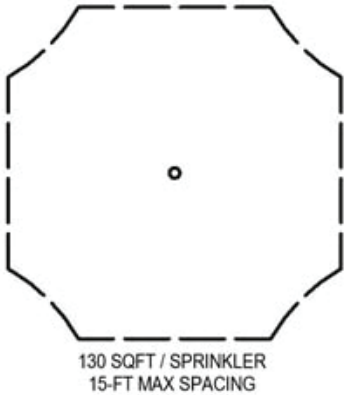


Around each sprinkler, there is a natural boundary line, where if every sprinkler's "box" covers the floor area, then the 130 sq ft-per-sprinkler coverage area is met. Here is the box that emerges when we connect every midpoint created earlier.

[FIGURE 10: SPRINKLER BOUNDARY]

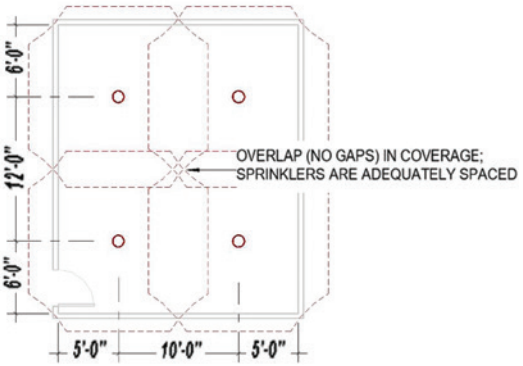


[FIGURE 11: 130 SQFT SPRINKLER BOX]



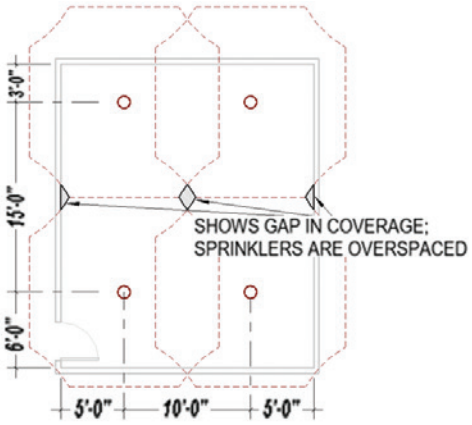
This new box around the original sprinkler is what can be powerful for layouts. We assign one of these "boxes" to each sprinkler. If all the floor area is covered within any sprinkler's box, then both the maximum spacing and maximum coverage rules are met. Look at what this does practically when laying out sprinklers:

[FIGURE 12]



The boxes can overlap, but there cannot be any gaps in-between. The above example has sprinklers adequately spaced 10-ft east-west by 12-ft north-south (120 sqft each). Here is what happens when this is incorrectly laid out at 10-ft x 15-ft per sprinkler:

[FIGURE 13]



So why would this be helpful?

First, we can now instantly see whether a layout adequately covers all floor areas. This means less dimensioning and hand-checking to see if sprinklers are over spaced.

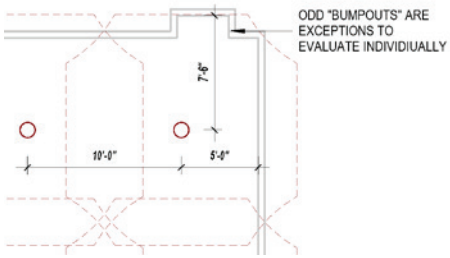
Second, as we lay out a system in CAD or BIM, it is easy to snap to the box to get the maximum opposite dimension. No math, no dimensions, just copy point to point.

continued on page 38

continued from page 37

The 10-ft x 12-ft layout above is a code-compliant layout. If there are no gaps in coverage from the boxes, coverage area is code compliant. There are exceptions to watch, though. Irregular boundaries might be inside a sprinkler's box but would exceed the maximum spacing or 130 sq ft for the sprinkler. Here is an example of non-compliant coverage:

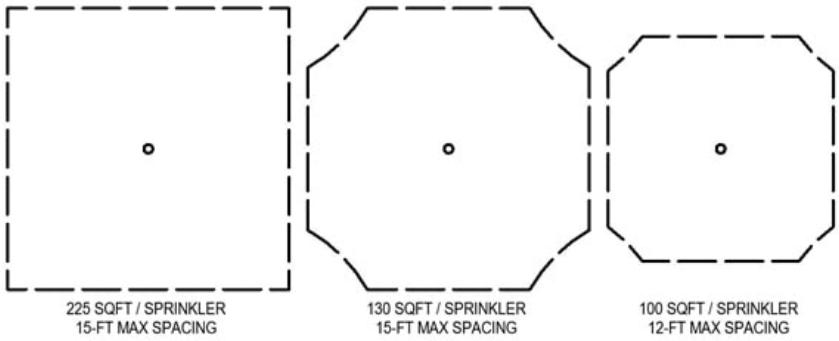
[FIGURE 14]



These are exceptions though, and do not come up often. When they crop up, they can be addressed individually.

Could the same shape be performed for a 100 sq ft limitation? Yes, it can. Here is what a 100 sq ft limit with 12-ft max spacing would look like alongside 225 sq ft and 130 sq ft boxes:

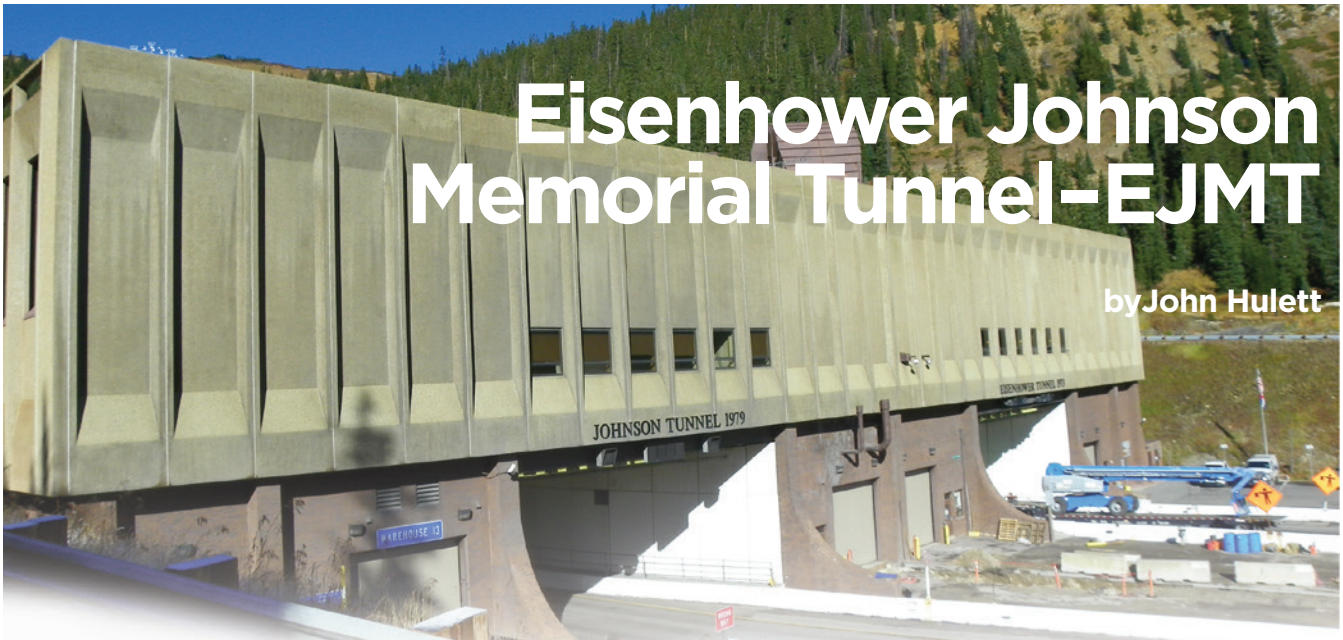
[FIGURE 15]



Mathematically, we can prove that the curves shown meet the coverage areas, but we can save that geometric proof for a slower day at the office.

Having coverage boxes that represent maximum sprinkler spacing and coverage area can be a huge time saver if used appropriately. Model these in CAD blocks or Revit families and the time saved on sprinkler layouts and review alone could be major boost to productivity.•

Joe Meyer, PE is a Fire Protection Engineer in St. Louis, Missouri who writes and develops tools for fire protection professionals. See more about articles and resources at www.meyerfire.com.



Eisenhower Johnson Memorial Tunnel–EJMT

by John Hulett

In 2015, Western States Fire Protection Company designed and installed a fixed fire suppression system for the **Eisenhower Johnson Memorial Tunnel (EJMT)**. It has been over five years since this unique project was completed. Unique site conditions required the team to provide something special that had never been done anywhere in the world.

The Eisenhower Johnson Memorial Tunnel (EJMT) is a dual-bore, four-lane vehicular tunnel approximately 50 miles west of Denver, Colorado. The EJMT tunnels allow Interstate 70 to pass under the Continental Divide in the Rocky Mountains. With an elevation of 11,158 ft above sea level, it is one of the highest vehicular tunnels in the world. Each tunnel is almost 9,000' long. The Eisenhower tunnel was completed in 1973. It took six more years to complete the Johnson tunnel.

On average, more than 30,000 vehicles pass through the EJMT each day. The tunnels have experienced fires since their opening. More than 40 years after opening, the Colorado Department of Transportation (CDOT) installed a fixed fire suppression system (FFSS). A severe fire in the tunnel could be a danger to motorist with potential for long-term closures costing Colorado billions of dollars and impacting tourism and commerce.

A simple description of how it works is as follows: A linear heat detector (LHD) installed throughout the length of the tunnels monitors the ceiling temperature. Heat from a fire will trigger alarm notification to the control room. Two cameras will automatically turn and focus on the area of the event. The operators within the facility control room can open and close any of the 183 deluge systems remotely. Any two systems can be flowed for one hour. When a deluge system is actuated the heat circulation pumps turn off as the fire pump turns on. Storm drain valves divert the water to a holding tank to prevent FFSS water from entering Clear Creek. Any remotely closed system will automatically drain.

At the tunnel entrance on both sides of the continental divide is support and ventilation buildings that are above and on both sides of approximately 300' of the highway. The ventilation buildings have several enormous fans that push and pull air from the plenums above the roadway. The supply plenum has been exposed to thin but clean, rocky mountain above 11,000'. At the same time, back in the day, the exhaust plenums were exposed to vehicle emissions containing lead. We installed our supply piping within the supply plenum. For the exhaust plenum, we acquired Tyvek suits with gloves and booting along with respirators for personal protective equipment (PPE). It's hard to work in the thin air above 11,000 feet, and even harder with a respirator.

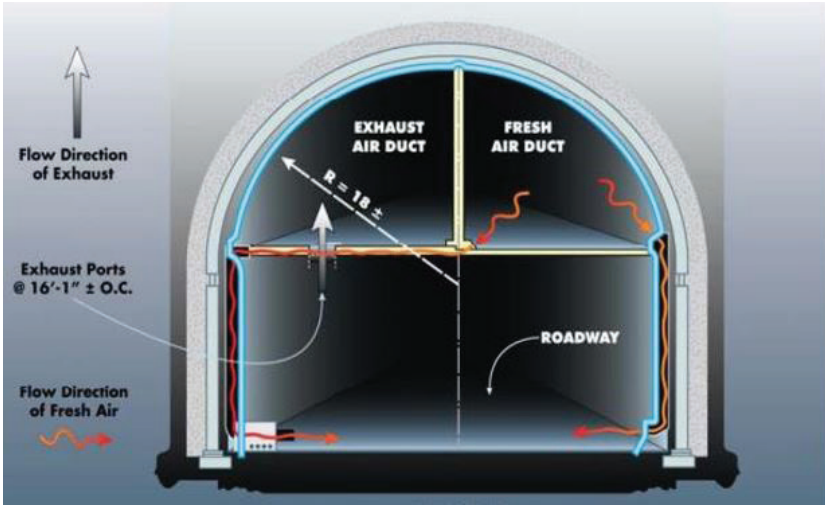
Much of our work was within the plenums and above the roadway. Because of the mid-plenum wall located halfway between the ventilation buildings, we had four plenums per tunnel. That makes eight access points for the plenums. Because the fans could be turned up to create winds exceeding 130 mph, we had a lockout procedure before entering any of the plenums. A similar system is used on underground mines to ensure everyone gets out.

The floor of the plenum is made up of aging precast panels. Our material handling equipment required axle weight less than 1,000lbs. Each cart axle was weighed and documented for each material delivery to within the plenum. To avoid x-ray or ground probing radar (GPR) of the existing precast panels, we chose to utilize the existing vents. The vent openings increase in size as they get further from the fans to balance the air to the roadway below. We mocked up a tunnel in Boulder Colorado with same width and height as our project to ensure the intended nozzles met the performance criteria. The Eisenhour tunnel nozzles are 2" and cover approximately 1200sf when NFPA-13 restricts to 400sf. We chose non listed spray nozzles similar to a pig's tail to be the most compatible with the tunnel washing equipment. Traditional sprinkler deflectors would not be compatible with spinning rollers for tunnel washing within the roadway below. It was alternative means that allowed the FFSS installation.

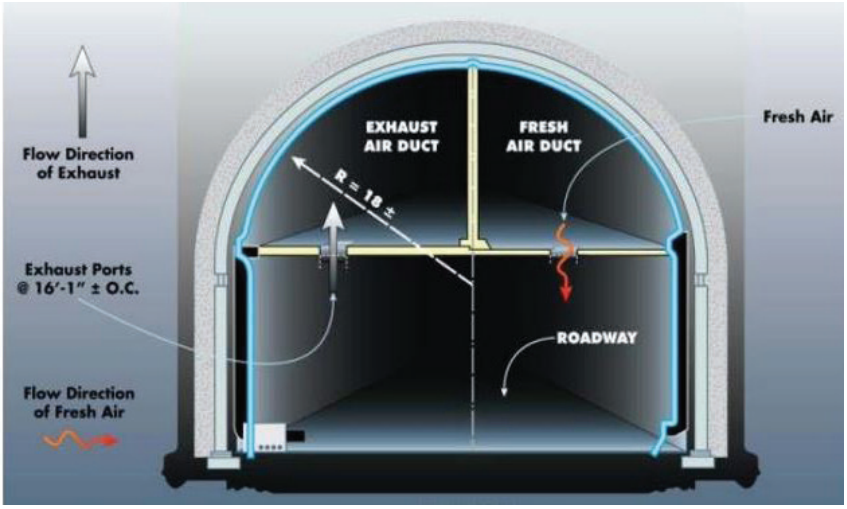
continued on page 40

PPE for Exhaust Plenum

Mid Plenum Wall



Eisenhour Tunnel Section



Johnson Tunnel Section

continued from page 40

Johnson Tunnel Flow

When we were testing in Boulder Colorado, we set up three flow control valves from three manufacturers to test. We were looking for a pressure regulating deluge valve that could open and close from a remote signal. We wanted a valve that closed slowly and none of them closed as slow as we wanted. We wanted simplicity in repair and maintenance and a respectable price, as we needed a lot of them. We had engineers and fitters available while we flow tested each of the valves. We unanimously all picked the same valve.

The west side of the tunnels is higher but closer. The east side is 150' lower and further. We discovered the hydraulically remote systems to be approximately two-thirds the tunnel down away from the supply. With the remote pressure determined, we used factory set flow control valves so the system with higher pressures flowed the same as the hydraulically remote system.

One of our preferred vendors advised of another tunnel that was having issues with hanger and bracing failures. The failures were a result of pipe expanding and contracting from temperature changes. To avoid potential problems, we did the math based on the potential temperature differences and realized we should be very concerned. Our 6" pipe had the potential to expand and contract as much as ten feet along the length of either tunnel. To minimize any hanger support issues we provided pipe supports on the intake plenum walls that allowed some give. Because the pipe was super insulated, we had insulated pipe supports at every bracket. The insulated pipe supports are of a rigid foam that has minimal give when the pipe lays on it. We needed over 1700 insulated pipe supports for our installation.

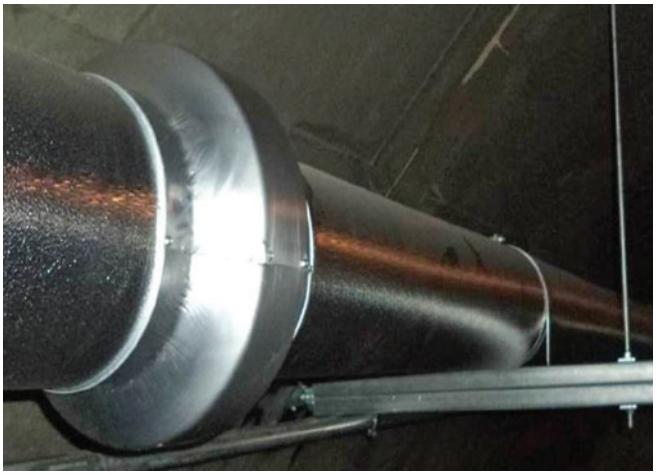
Rather than occasionally addressing the expansion we chose to continuously address it by providing a longitudinal brace every 100' at our insulated valve enclosures (IVE). A wider cut groove was installed on a 6" nipple located in between each stick of pipe. The wider groove provided great separation at the flexible coupling. Where the tunnel curved, we installed back to back nipples to allow for both separation and deflection. We utilized computer aided design (CAD) to determine deflection in degrees, minutes, and seconds.

The installation temperature was addressed by mocking up some nipples in the shop and measuring the separation. During this process we found the groove tolerance from the fabricator needed to be tighter. For the actual installation we used air to expand the pipe separation with five couplings and then installed no gap for three more couplings before the longitudinal brace.

The water supply for the FFSS is from an existing perforated pipe buried deep under a stream bed. The stream pipe supplies the 120,000-gallon underground water tank 150' above the tunnels on the west side. In Denver we bury our pipe 5' to prevent freezing. At just over 11,000' we provided 10' bury. The soil at the continental divide was minimal. It was mostly rock, and blasting would have been fun but not allowed. 10" pipe supplied the building and 8" pipe supplied the fire pump. The 8" pipe supplied the super insulated 6" loop. Any two deluge systems can be operated for one hour with hose allowance.

With limited laydown area on each side of the continental divide, we installed from the mid-plenum wall back out. Although gas and diesel vehicles moved quickly in the roadway below, we were limited to electric tow vehicles. The tow vehicle was short allowing the vehicle to turn around to exit the plenum. Our eight pipe and material carts, along with our mobile fabrication units, were fire engine red and built specifically for the project. They were 16' long with big wheels to go over the bridges we installed without getting high centered. The front axle that turned became the fixed rear axle on the journey out because we could not turn our carts around within the plenum. Everyone had to have a partner whenever in the plenum. Two fitters brought in materials while two installed the hanger brackets. Following them were two more installing the pipe with two more ensuring correct pipe separation for the installation temperature. After that came the valve assembly crew, followed by the IVE installation team. The IVEs were a clam shell design allowing installation following the valve assembly. With 183 deluge systems, each crew became efficient within their scope.

The initial insulated valve enclosure (IVE) we designed was not



Insulated Pipe

long enough. The heat expert advised we need more exposed pipe within for our conditioned space, so we made it longer. We had three HVAC fabricators make an insulated valve enclosure and picked the best one. The best one was then modified to make it even better. We then mocked up the IVE with supports and valve assembly including all devices so everyone could examine it and comment. We wanted everyone on the team to look at it so we could make it better before committing to fabricate a bunch of

continued on page 42

continued from page 41

them. "We" is smarter than "I".

The 3" rigid insulation within each IVE was laser cut in South Dakota and sent to the fabricator in Wisconsin for faster and cheaper assembly. We super insulated all the heated pipe before wrapping, then taping, with caulking to follow. The IVE's clam-shell design was mirrored for the other tunnel. When fabricating this one-off item, we suggest making extras and it proved to be beneficial.

Fire protection systems rarely require insulation. Our insulation criteria were not defined by a specification, but the need of the project. The tunnel systems required a 30-year design intent along with a five-year warranty period. Insulation is rarely required for life-safety systems. We learned a lot.

Eisenhower Tunnel - Supply Plenum Looking East

Sprinkler Saves

Since the EJMT system was placed into serviced, it has been responsible for at least two documented sprinkler saves. The first occurred on January 28, 2019, involving a passenger vehicle that was returning through the east-bound bore after a weekend of skiing. The vehicle was fully involved but was fully extinguished by the system, which was credited with saving the occupants and preventing significant damage to the tunnel.

The second fire, occurring later that year on September 5th, involved a commercial box truck. The fire occurred under the vehicle. While the system did not extinguish the fire, it was contained until the fire department could finish extinguishment. The tunnel suffered minimal damage and was fully operational within just a few hours.

In summary, projects like this require a team approach. Beginning with estimates and sales and then project managers, designers, engineers, accountants, superintendents, forepeople, fitters, apprentices, fabricators, subcontractors, suppliers, manufacturers, and many others. Everyone must work together as a team. I was grateful to be surrounded by so many professionals that enjoy overcoming challenges. The entire team should be proud of what was accomplished in Colorado, and what's next in protecting lives and property.

EJMT- Cart Story

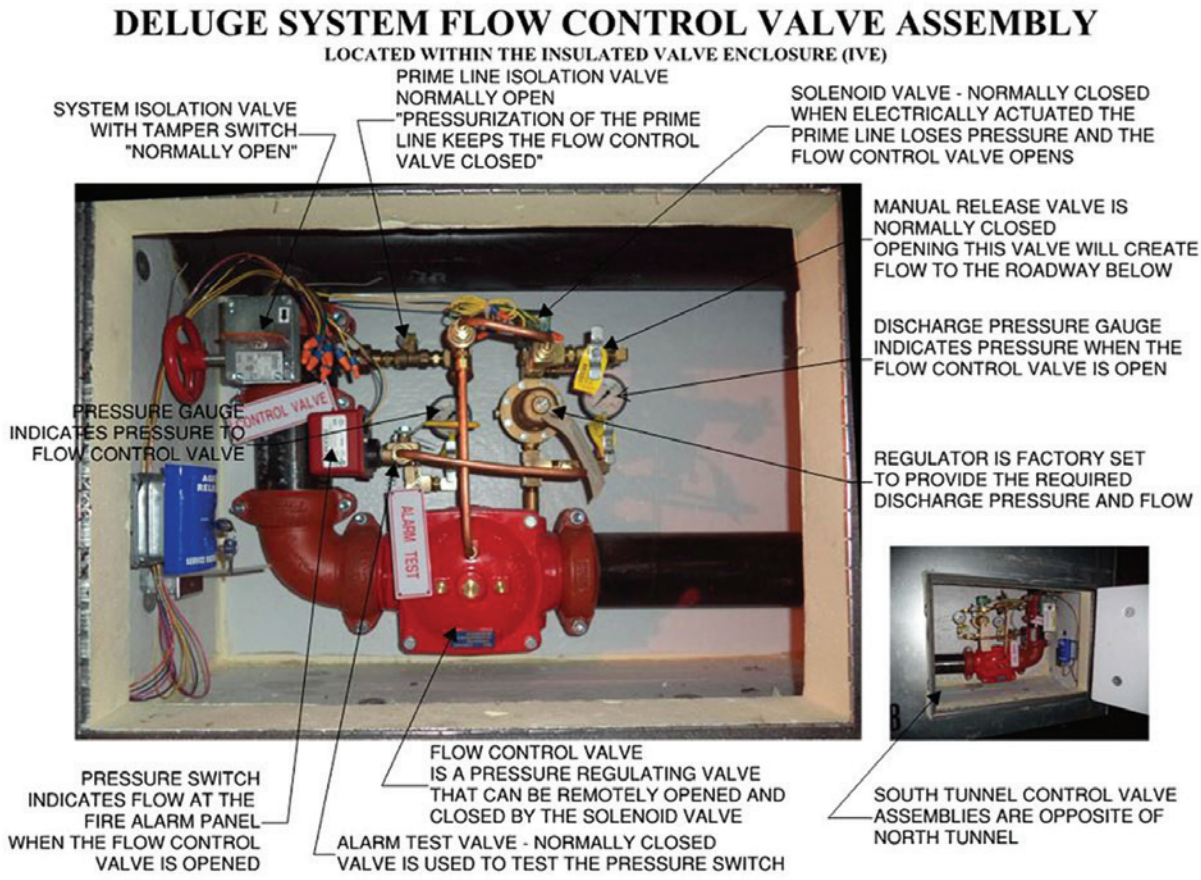
While driving in traffic on a Sunday I caught a glimpse of a cart on the side of the road. As I drove on, I wondered if that cart may be the solution for moving pipe above the interstate for our tunnel project. My wife Janice was with me and I knew she was tired and wanted to be home. About ten minutes closer to home, I decided to go back, and my wife asked. "What are you doing?" I replied, "Work stuff, I think I saw something important to check out."

The cart had a steerable axle instead of a pivoting axle that allowed the cart to retain stability while maneuvering in tight spaces. Although the cart was not optimal, I knew that it could be modified for our application. The cart was in the parking lot of a hot tub store. I wrote down the business name, address, and the next day called. On Monday, I found out Spadolly was the company that makes the cart. Spadolly manufactures carts and trailers for moving hot tubs to and from their installed location. They are in a small town in Southwest Kansas. I was able to get a hold of Alan Bultman, the gentlemen who owns the company. He is a master fabricator and inventor. He set up a GoToMeeting to review our project needs and to make something special. Alan fabricated our carts with bigger wheels, a longer bed that was raised above the axles, adjustable lengths, and pipe stays. Alan called after completing the fabrication of eight carts and asked, "What color do you want?" I responded quickly with "Fire engine red."

The next week Alan brought the special carts to Colorado, and they were perfect and project specific for our material handling needs. A smart fitter once shared that roughly 1/3 of the field time is moving materials to where they go, another 1/3 is getting the supports installed, the remaining time is the installation. Rules of thumb like this vary between projects. The carts were the key to moving materials up to one mile within the plenums above the interstate highway.

–Respectfully John Hulett – PM - API

continued from page 42



Laminated instructions like above are provided at all flow control valves

NOTE: The control valve is closed in this photo and it should be open.

Some fun facts:

- We set the world record by tripping 93 tunnel deluge systems in seven hours.
- The 6" pipe that runs the length of the plenums can expand and contract over 10'.
- We have 183 deluge systems above 11,000' that can handle temperatures to -30° Fahrenheit.
- No one got hurt despite many dangerous conditions.
- We survived an avalanche that closed the road.
- We installed a 6" loop that is over 18,100' in length with one-off supports that address expansion and seismic conditions.
- We designed unique carts for moving materials with limited spatial and load requirements.
- We installed bridges that allow materials to move and are fun on the mountain bike.
- We figured out how to provide Colorado with a needed life-safety system under budget.

Respectfully submitted by John Hulett - API National Service Group •

What is Your Story?

by Eric Morris
Chief Financial Officer, Wayne Automatic Fire Sprinklers

On that crisp November morning over 20 years ago, when I had been in a new job only ten months, I was wondering if I had made an unintentionally career-limiting mistake. The owner of the company, Wayne Gey, had summoned me into his office as soon as I arrived at work at 7:00 a.m. He was thumbing through some papers and didn't look up for what seemed to be 15 minutes. Waiting for him to speak, I was suffering a slow meltdown, trying to figure out what I had train-wrecked in only my first year at the company.

As I patiently stewed, waited to hear my fate, Wayne asked me with an authoritative and somber tone "Have you made any mistakes lately?"

Fear gripped me as I mentally reviewed my major decisions over the past ten months. The company was growing fast, so I was instituting major upgrades to the systems and financial reporting. These were all necessary upgrades (I hoped). Sure, there were some obstacles, but I didn't remember any major grumbles or hiccups with the upgrades.

Since he had asked me a direct question, it was time to face the music. My response was short. "Wayne, I don't know what you're referring to, but I'm sure I have made some mistakes as I pushed forward." Wayne smiled and roared, "That's a good thing, because if you aren't making mistakes; you're not learning fast enough." We both had a huge laugh out of it. I scrambled out of his office, greatly relieved that I wasn't getting fired for some imaginary transgression I couldn't remember.

In an uncanny way, however, Wayne was sending me a distinct message. It's ok to have some failures along the way if you're driving hard in the right direction. Wayne was imparting the Company's culture to me. He believes people must be given the opportunity to fail…if they are to advance. Time after time, Wayne has demonstrated his belief in his message, when we have promoted new managers. They know that promotion is a growth experience, and that they don't have to get everything right on the first day.

Some managers say that the company's culture is embodied by the stories told to others when their managers aren't around. I believe that is true. I know that I have told my November morning story many times. This one little snippet tells a tremendous tale about who we are as a company and what we expect.

What stories are you telling? What are the stories heard in the hallways and on the job sites? For good or bad, these stories shape and mold your culture. The stories being told have a much greater influence on your team than any plaques on the wall or slogans on a coffee cup. All companies have stories. Be sure to share the tales that embody and promote your culture. Encourage your team to tell tales about the individuals whose lives were changed by the Company. After all, who doesn't like to hear an intriguing success story?•

These Incentives Improve Community Safety and Provide Developer Savings

In exchange for installing home fire sprinklers in entire developments, authorities having jurisdiction can offer locally negotiated trade-ups as incentives to developers. These incentives may include:

- Street-Width Reduction
- Longer Dead-End Streets
- Tee Turnarounds Permitted
- Increased Street Grades and Building Setbacks
- Additional Units Permitted
- Expansion of Existing Water Supply May Not Be Needed
- Increased Hydrant Spacing
- Subdivision Single Access Point
- Gated Communities

HOME FIRE SPRINKLERS PROTECT THE ENVIRONMENT*

Reduce greenhouse gas emissions by 98%

Reduce fire damage by up to 97%

Reduce water usage to fight a home fire by as much as 91%

Reduce water pollution

* *Environmental Impact of Automatic Fire Sprinklers*, FM Global, 2010

Home Fire Sprinkler® COALITION
Protect What You Value Most™
HomeFireSprinkler.org

For more information about home fire sprinker incentives, including case studies, video testimonials, fact sheets and NFPA 13D information, visit our website at HomeFireSprinkler.org/crr.

Home Fire Sprinklers: A Win-Win for Your Entire Community

Home fire sprinkler incentives can reduce construction costs, while protecting residents and firefighters, and help to protect the environment.

Partnerships

by Fire Chief Michael O'Brian
Brighton Area Fire Authority, International Director, Fire and Life Safety Section of International Association of Fire Chiefs

The path to leadership in the fire service is diverse, and there is no straight line. Fire Chiefs from across the world have diverse backgrounds in EMS, Code Administration, Operations, Wildland, Technical Rescue, and so much more. Knowing how diverse the fire service is, it's difficult to have expert skill sets in all arenas of fire service responsibility. To lead our community and organizations, Fire Chiefs need open, clear communication which develops sound relationships that aid in meeting our community fire safety goals.

As the sprinkler industry has NFSA, the fire service leadership is served by the International Association of Fire Chiefs (IAFC). Within the IAFC there are specific sections that meet functional items of the fire service and divisions which break the IAFC down geographically. These divisions are very similar to the regions of the NFSA. One of the largest sections of the IAFC is the Fire and Life Safety Section (FLSS), which serves its direct members, as well as the IAFC membership, in code development, community risk reduction, fire prevention, and leadership in working to reduce the impact of fire on our communities.

The FLSS constantly working to provide resources to our membership that serve them back home has truly been at our core for many years. This has been developed through long-term relationships with many organizations, both inside and outside the fire service. This ideology has been carried from the core of a fire chief who truly realizes that we cannot serve our communities by ourselves. This importance has been routed for many years, recently highlighted through changes in Community Risk Reduction (CRR).

CRR is a process to identify and prioritize local risks, followed by the integrated and strategic investment of resources to reduce their occurrence and impact. It is a process to help communities find out what their risks are and develop a plan to reduce the risks viewed as high priority. Realizing what is needed is one thing, getting the momentum to attack these priorities is key, and can only be completed with strong community relationships in areas typically outside the Fire Service.

For many years, the IAFC and the FLSS have had a strong relationship with the National Fire Sprinkler Association. The partnership has grown over the years from providing content to membership on fire sprinklers, to working side-by-side in the Home Fire Sprinkler Coalition, as well as working on many code proposals for the ICC or NFPA code development process.

Our membership and leadership find that we have many common goals with NFSA and its membership. Developing our partnership has led to many things that affect our communities and shape resources that both organizations provide. There is no doubt that the sum of our work provides a broad prospective that is needed in so many areas.

The Next Partnership

In the fall of 2020, as the FLSS planned our virtual CRR conference, there became a strong desire to meet in-person later in 2021. The virtual CRR conference was highly successful, and we wanted to continue that momentum.

This fall as part of the NFSA annual conference in Las Vegas, the FLSS will hold a board meeting as well as an entire track of courses for code officials. The programs are the relevant information that fire chiefs, fire marshals, building officials, and inspectors need for their communities. We are tackling some of the most critical issues including CRR, energy storage systems, and plan review.

When I think back on my career and what conferences can do to help solve problems, build relationships, and develop personnel, they are truly invaluable resource. Therefore, I am so looking forward to the North American Fire Sprinkler Expo in October. I know that the relationships that are made there will last throughout my career.

The true value of meeting in-person, as well as the general exposure to the sprinkler industry will provide an opportunity that our members have not had before. We all know that education is key at a seminar, but the relationships built over a national conference can have a profound impact on membership.

The position of Fire Chief is critical for our communities. Understanding that each fire chief travels a different route to that office, building strong partnerships with like agencies can truly aid in the success of our goals in our communities, as well as the associations that support them.•

Michael O'Brian is the Fire Chief of the Brighton Area Fire Authority located in Brighton MI. The combination department services the City of Brighton, Brighton Township and Genoa Township. Fire Chief O'Brian serves on the Board of Directors of the International Association of Fire Chiefs and the Fire and Life Safety Section. He is active in code development across NFPA and ICC.

We hope you'll choose to support our Advocates' Coalition as we work to create Fire Safe Homes

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

Common VOICES

An Advocate's Coalition Determined to Create a Fire Safe America

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

FOX & friends

GOOD MORNING AMERICA

CommonVoices1

CommonVoices1

fireadvocates.org

Fire Sprinklers Save Lives

Sisterhood for the Next Generation

by Elizabeth Lafond Coppez

In 1984, my parents gave me a sibling. Thirty-seven years later, my beloved sister has enriched my life in more ways than she knows.

Thanks to Leslie, I always had a playmate. Riding bicycles, playing with Barbie dolls, and having picnics with neighborhood friends were always more enjoyable because she was there.

We learned how to share, and to push each other's boundaries. We learned about forgiveness, and the importance of kindness. I especially learned the meaning of loyalty. Leslie embodies steadfastness in all that she does.

During our teen years the only time we argued was over clothes – how lucky were we?

Thanks to Leslie, I met my future husband – at her wedding.

On New Year's Day two years ago, Leslie gave birth to her first child, Ava Madeleine. I will forever remember Ava's birthday – her anticipated arrival was one of the most anxiety-provoking moments of my life.

Yes, I am no stranger to pregnancy and childbirth, but when your sister is about to have a baby, very little words can express how it feels.

We learned Leslie and her husband, Josh, were off to Baystate Medical Center at 4 a.m. on January 1, 2019. I was ready to leave for the hospital at that very moment. My childbirth experiences were quick – will hers be the same?

I fell asleep briefly and woke up to the same questions that swirled in my mind for hours. Is she OK? Is the baby OK?

My stomach was tied in an unforgiving knot. Josh gave me text updates all day, but I just had to see my sister. At last, the baby was born around 2:30 p.m., and we joined my parents and Leslie's in-laws at Baystate.

When I finally saw Leslie, the world literally came to a halt. She had that new mom glow – filled with new love and emotion. Everyone and everything disappeared from my sight. I only saw Leslie and we embraced and shared tears.

"Are you okay?" is all I could manage. "Yes," she said, and that merciless knot in my stomach unraveled as I laid eyes on my beautiful niece, Ava. She was wrapped tenderly in a blanket, and her perfect little face captured my heart.

But what took hold of my heart the most was when I brought baby Ava to meet my then five-year-old daughter, Grace. "Can I hold her, mommy?" At only two-in-a-half, Joseph smiled and observed from afar.

I placed Ava in Grace's arms and I realized then how Leslie gave Grace the biggest gift of her life –the "sister" she always hoped for.

Thanks to Leslie, Grace gets to grow up with Ava, and hopefully experience some of the best memories that come from sisterhood as first cousins. And someday, a long way from today, I hope they get to hold each other's babies and fill their hearts with this very special happiness.•

First cousins Grace R. Coppez, 7, and Ava M. Helems, 2, share a sweet moment in early spring. Photo by Nora LaFond.

by Joanne Genadio,
NFSM Editor
with Takeover by Bo Coffman

Gast Manufacturing, Using Social Media and Virtual Tools for Training and Brand Awareness

This Member Takeover issue, I'm proud to hand the Social Scene reins to Gast Mfg.'s Bo Coffman. As a relatively new SAM member, Bo has embraced NFSA social media accounts, often commenting and reposting our threads, as well as keeping Gast's accounts lively and informative. Cheers to Bo for helping us spread the #fastestwater message in such an effective and innovative way! –Joanne Genadio

To point out that 2020 was a challenging year for us all goes without saying. As we look ahead with recovery and optimism there is undoubtedly a lot to be thankful for. 2021 has certainly seen the resilience of the American workforce and as I look back on how we dealt with those challenges at work last year I can share some comments about using Social and Digital tools that our team will now benefit from for years to come. Some of that includes better use of social media and virtual training to reach so many in the fire sprinkler industry. It can be effective to create awareness, educate, train, and provide useful product information that's easy to get to and user friendly.

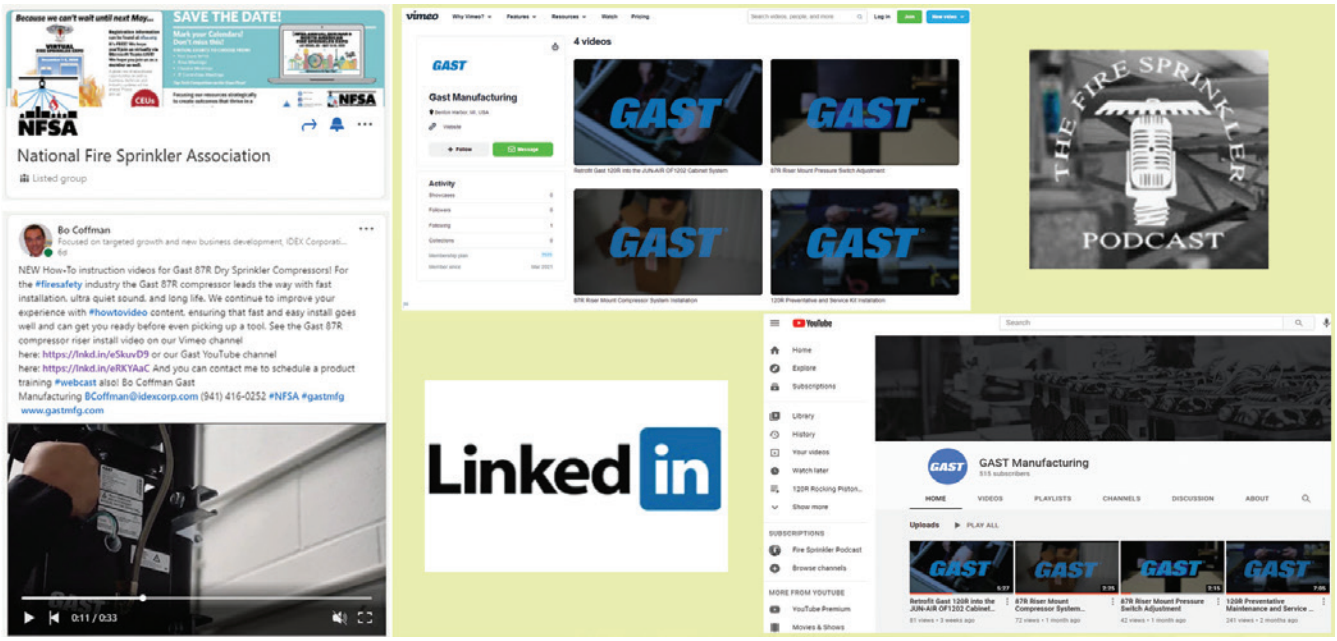
Our dry sprinkler compressor team at Gast has used social and digital platforms like **LinkedIn, YouTube**, and **Vimeo** much more these last two years. Joining NFSA's own LinkedIn Group helps us reach hundreds of people in a targeted way. The **Microsoft Teams** platform used at Gast has been a great tool for hosting live online training sessions. It won't ever replace in-person interaction but adapting to digital training accomplished avoiding any interruption to getting important information out there while still being able to see each other, ask questions live and have a personal experience. There are Gast sessions with Chris Logan and **The Fire Sprinkler Podcast** in both audio and video formats now. The Gast YouTube and Vimeo channels (and our website) host **how-to instruction videos** like compressor installation and pressure switch setting, along with technical information and product feature videos. With Gast being a compressor equipment supplier to the fire sprinkler industry, these inbound marketing tools really help us include the companies we ship products to, and go beyond as well. It takes consistency – and it not only reaches architects, contractor installers, fire-fighting personnel, end users and others, but when the content is done right it can give them useful information to make their jobs easier.

Here are some observations and tips we've learned at Gast in this process.

✔ **Consistency.** Posting on social media platforms should have a regular frequency and include good content. Posting once or twice a week is a good guideline and being careful to avoid redundancy has worked for our team. Your frequency may be more or less – the key is checking for **increasing followers** as you go, and look to see if those followers support the audience you're after. Those analytics will be available on the major platforms.

✔ **Video content.** Research shows that short video content on regular social media posting is effective for attracting and holding attention. Keep this type of video within 60 seconds

continued on page 50



continued from page 49

or less. Include an invitation to contact you for more information. You don't need to be a video expert! Today the smart phones most of us have even come with high quality video recording and editing capability. If you're new to trying this, don't be intimidated. You can experiment and try things.

✔ **Active Drawing.** With our online virtual training, we were taught that actively drawing and interacting with the materials you have on the screen enhances the content and holds attention. Digital drawing pens are compatible with most laptops and presentation software like Microsoft PowerPoint. We've found this to be really effective.

✔ **Keep looking at what tools are out there.** This technology is always changing and there are lots of options. While Gast was putting content on our YouTube channel, we learned more about Vimeo and its growing popularity as well. And we then set up our Vimeo channel to reach even more people. There are pros and cons with each platform with respect to cost, editing, privacy and targeting specific groups. A diversified approach to being on a few platforms can be a benefit. If your customer list is growing, a good CRM tool (Customer Relationship Management) can help organize communications and link marketing activities to individuals who are interested.

✔ **Recognize we are always learning.** Let's share best practices with each other.

We are well into 2021 now and as we all continue to move forward from the challenges of 2020, as our economy recovers, and as we're back to more personal interaction, I can say that it also feels great to have adapted and learned some new skills with these social and digital tools. Our reach to the fire sprinkler industry and our ability to put useful information into your hands faster and more effectively is now accomplished in more ways than ever before. Check out some of our digital platforms, and don't hesitate to reach out to me with any comments or questions!

Gast LinkedIn page:
www.linkedin.com/company/gast-manufacturing-inc

Gast Vimeo Channel:
www.vimeo.com/gastmanufacturing

Gast YouTube Channel:
www.youtube.com/c/GASTManufacturing

Gast website: www.gastmfg.com

Fire Sprinkler Podcast, video session with Chris Logan on Gast 87R Sound Shield:

https://www.firesprinklerpodcast.com/video/2021/2/6/ft-bo-coffman-from-gast-manufacturing-installing-the-sound-shield-long-version

Bo Coffman has been with Gast Manufacturing for 28 years. Contact him through the NFSA member directory or directly at BCoffman@idexcorp.com (941) 416-0252 to learn more about Gast compressors and training.•

NFSA Reps Fire Sprinkler Industry at School Counselor Expo

With more than 4,000 attendees, NFSA made a big splash as a platinum sponsor at the American School Counselor Association Expo in Las Vegas in July! In an effort to educate school counselors regarding the outstanding employment opportunities for students in the fire sprinkler industry, NFSA's Vickie Pritchett and Joanne Genadio spent three days at the Expo, meeting school counselors from around the country and disseminating information pertinent to students who may have an interest in a career in our industry.

With the taglines *"Find Your Fire in the Fire Sprinkler Industry"* and *"Set the World on Fire by Helping to Put Them Out"*, our outreach was well-received and activity at the booth confirmed our belief that school counselors were unaware of fire sprinkler career opportunities, and very excited to learn about them!

Vickie presented a well-attended 30-minute session on the industry, including motivational slides and a segment on Common Voices advocates, which resonated very well with the audience. Counselors from elementary, middle and high schools all had an interest in fire sprinklers. Some wanting more info on careers, others wanting side-by-side burn demos during the school year. We were happy to realize that we have something to offer to all grade levels and are eager to continue our outreach, both for those seeking careers and for the homeowners of tomorrow!

Counselors were drawn to our booth with a simple question; *"Does your school have fire sprinklers?"* Not one could answer "yes". Answers were either "I don't know" or "I think so". Thus began some great conversations that benefitted both our industry and the school counselors.•

On July 20th, NFSA's Vickie Pritchett received the 2021 Distinguished Service Award from the Tennessee Fire Chiefs at their annual conference.

CHAPTERS IN ACTION

New Jersey

New Jersey Chapter Offers Firefighter Training Statewide

Since July, the New Jersey Chapter has been providing fire sprinkler training to fire departments throughout the state. This training consists of two PowerPoint presentations, a basic introduction to fire sprinklers and NFPA 13E (Recommended Practice for Fire Department Operations in Properties Protected by Sprinkler and Standpipe Systems). Between the classroom presentations, the firefighters are invited to meet outside at the fire sprinkler demonstration trailer to witness a live fire sprinkler demonstration. The training has been very well received by the participating departments and has been a great way to introduce NFSA to the fire departments and highlight the resources that NFSA has to offer.

PerJerDel

PenJerDel Chapter Rolls Out Burn Trailer Across the Delaware Valley!

With the Commonwealth opening back up, the PenJerDel chapter is proud to be rolling out its burn demonstration trailer! From Chester County to South Jersey, the Chapter has events on both sides of the Delaware Valley. COVID prevented the grand roll-out of the new burn trailer in 2020, but the staff is more than happy to make up for the lost time this year. With over 20 events booked and more on the way, the new burn trailer is all set to appear at fire department open houses, community days, youth camps and more! Additionally, the PenJerDel Chapter is hosting a side-by-side burn in Fort Washington, Pennsylvania this October. The Chapter also has a side-by-side burn scheduled with the National Association of Women in Construction in Philadelphia.

Florida

Let's Build Together: FFSA Joined the SEBC Conference!

The Florida Fire Sprinkler Association (FFSA), a chapter of NFSA, attended the Southeast Building Conference (SEBC) held at Gaylord Palms Resort and Convention Center July 15-16, 2021. The SEBC is one of the largest conferences of home builders in the southeast, with over 2,000 registered attendees.

FFSA set up a booth in the expo hall but also was invited to speak on the education track. NFSA's Manager of Codes and Standards Roland Asp presented the class "Development Incentives for Housing in the FBC". The course was designed to share ways to take advantage of key development strategies in residential neighborhoods that combine the Florida Building Code and the cost savings for builders while building a safer home/neighborhood.

The booth provided an opportunity to engage with participants, answer questions, provide incentive and trade off information, but most importantly, to form relationships with the builders. FFSA's

main goal was simply to educate and make friends. The conference was an overwhelming success!

The success of the event would not have been possible without the FFSA SEBC Committee, which included contractors, suppliers and manufactures, and AHJs. We are already looking forward to SEBC 2022!

Wounded Warrior Home has Sprinklers!

The Florida Fire Sprinkler Association and Wayne Automatic Fire Sprinklers, Inc. along with trade partner West Coast WinSupply and other contractor members, had the great opportunity to provide a cost free 13D residential fire sprinkler system for a true

continued from page 52

American Patriot and his family, Army Ranger Staff Sergeant Travis Dunn, his wife Kelley and young daughter Sadie Lee.

Staff SGT Dunn was presented with the Bronze Star Medal for Valor and the Purple Heart after being wounded in combat on December 2, 2014, in Afghanistan.

In September 2020, Executive Director Alex Karalexis of Jared Allen's Homes for Wounded Warriors, who teamed up with WW Gay Mechanical Contractor – Construction Division to build the Dunn's a mortgage-free home, reached out to Dave LaFond, recently retired from NFSA and Lorrell Bush, Executive Director of FFSA to request assistance from the fire sprinkler industry to help protect this special young family.

Lorrell reached out to Justin Gey, Executive Vice President of Wayne Automatic Fire Sprinklers, Inc. and NFSA Director at Large, along with the FFSA Future Leadership Committee who eagerly agreed to meet this request.

Wayne Automatic Designer Shawn Popieski designed the system and Forepersons Dean Fitzgibbon, Kody Pechatsko and Johnny Sizemore installed the system. West Coast WinnSupply donated all the materials for the underground and overhead fire sprinkler system.

When asked what installing the fire sprinkler system meant to him, Fitzgibbon said "Being a veteran myself and being able to help a fellow patron is absolutely amazing and means more than words can describe. This man gave all for his county and deserves everything he is getting and more."

The Dunn's were very grateful for all of the trades that worked on their new home, and it gives us great joy to know that the Dunn's will be sleeping safely in a home protected with fire sprinklers.

Please visit https://homesforwoundedwarriors.com/travis-dunn/ to see more of Mr. Dunn's and his family's story and pictures of his new beautiful fire protected home.

Wisconsin

The Wisconsin Chapter of NFSA ran its first in-person training in over a year in Madison.

The Sprinkler System Installation Requirements class was presented as a hybrid class with 16 in-person member attendees (14 AHJs, 1 contractor and 1 professional) and 17 virtual attendees. The class was taught by Jeff Feutz and well received by both sets of attendees. We look forward to future classes taught throughout Wisconsin.

The first post-COVID convention exhibition was held June 23 – 26, 2021 in Green Bay by the Wisconsin State Fire Chiefs Association. There were over 300 attendees and a full vendor compliment for the two days the exhibit hall was open. The Wisconsin Chapter was a platinum sponsor for the event and had a booth that was very busy. They look forward to future events and to promote fire sprinkler advocacy and partnerships.

Great Lakes

NFSA President Shane Ray Visits Indiana

NFSA President Shane Ray arrived one day prior to the national board meeting held in Indianapolis to spend time with and thank some of our NFSA Indiana Chapter members at Eagle Creek Golf Resort. Director of Member Services Caleb Armbrust accompanied President Ray, along with NFSA Area Director Jon Ackley.

Jon Ackley welcomed and hosted our first in-person national board meeting the last week of June at the JW Marriott hotel in downtown Indianapolis. Great Lakes Regional Manager Ron Ritchey attended several of the meetings and events and came away even more impressed with the members who support our association!

(L-R) NFSA Field Service Coordinator Ron Ritchey, NFSA Area Director Jon Ackley, NFSA President Shane Ray, NFSA Indiana Chapter Treasurer Brian Roberts (Plumbers Supply), FE Moran Indy Branch Manager Scott Schiesser, NFSA Director of Member Services Caleb Armbrust
Attending (and not Pictured) District Sales Manager Pete Murphy – Core & Main and Senior Manager of Field Operations Jerry Moore- Johnson Controls.

Asurio General Manager Jack Coffelt Appointed to the NFPA 72 Standards Committee

Asurio, Inc. (www.asurio.com) announced that Asurio General Manager **Jack Coffelt** has been appointed to the National Fire Protection Association (NFPA) 72 Testing and Maintenance of Fire Alarm and Signaling Systems Committee (SIG-TMS). NFPA 72 provides the latest safety provisions to meet society's changing fire detection, signaling, and emergency communications demands. In addition to the core focus on fire alarm systems, the NFPA 72 committee also addresses requirements for mass notification systems used for weather emergencies; terrorist events; biological, chemical, and nuclear emergencies; and other threats.

With more than 30 years of experience in the Fire Life Safety industry, Jack Coffelt brings extensive, practical knowledge across all the different Fire Life Safety Inspection disciplines – Fire Alarm, Fire Sprinkler & Fire Suppression Systems, Fire Pumps, and more – to his role as General Manager for Asurio, Inc.

Mr. Coffelt serves as a technical committee member for NFPA 72 (fire alarm standards). He also is participating in the NICET Fire Protection Advisory Committee (National Institute for Certifying Engineering Trades). Mr. Coffelt earned a NICET Level IV certification in Fire Alarm Systems; a NICET Level II in Water Based Fire Protection Testing and Inspection; and he holds a Texas Alarm Planning Superintendent (APS) license. He is a member of the National Fire Protection Association (NFPA), National Fire Sprinkler Association (NFSA), and holds a Texas Fire Alarm Planning Superintendent License.•

IN MEMORIAM

Stewart Winston Young
February 1, 1957 — July 17, 2021 (age 64)

Stewart Young passed away Saturday, July 17th, after a courageous battle with cancer.

Stew was born February 1, 1957, in Chicago Heights, IL to the late Theodore Jr. (T.A.) and Sally (McGehee) Young. He was highly respected in the fire protection industry and made an indelible mark, both nationally and in Wisconsin. With close to 40 years of service, Stew was a sales force to be reckoned with. He loved learning from and sharing his knowledge with others. From his beginning days at Aeroquip and Allied Tube to starting his own company--Service Sprinkler Supply, to then working for Central Sprinkler (later acquired by Tyco Fire Protection), Globe, and Victaulic, Stew was valued and admired. Customers and colleagues alike formed lasting friendships with Stew, many spanning decades and offering countless memories.

In lieu of flowers, kindly consider making a charitable donation in Stew's memory to Ascension Columbia St. Mary's Regional Burn Center or to the Professional Fire Fighters of Wisconsin's charitable foundation program, Summer Camp for Burn Injured Youth. Stew would be honored by your support of burn-injury care, awareness, and prevention. Alas, you may also consider supporting the American Cancer Society in its mission to free the world from cancer.•

NFSA 2020/2021 Award Recipients

Join us at the North American Fire Sprinkler Expo Oct. 5-7 at The Cosmopolitan in Las Vegas as we honor our 2020/2021 award recipients!

2020 Golden Sprinkler Award:	**Larry Thau**
2021 Golden Sprinkler Award:	**Ray Fremont, Sr.**
2020 Russell P. Fleming Technical Service Award:	**Pete Schwab**
2021 Russell P. Fleming Technical Service Award:	**Jeff Shapiro**
2020 Leadership in Public Safety Award:	**Jim Ford**
2021 Leadership in Public Safety Award:	**Kevin Reinertson**
2020 Hall of Fame Inductees:	**Kevin Ortyl, Norm MacDonald, Top Myers, Harold Nothhaft**
2021 Hall of Fame Inductees:	**Dick Oliver, Tom Deegan, Tom Multer**

Viking SupplyNet Announces New Branch with Fabrication near Austin, TX

Viking SupplyNet announced a new location opened on July 1, 2021. The new distribution branch, which features full service fabrication, is Viking SupplyNet's fourth location in Texas and will service the greater Austin area and a broader geographical region throughout Texas including Amarillo, Waco, and Giddings.

The new location offers a fully-staffed fabrication and supply network branch in a 72,000 square foot facility. Operation equipment includes a brand new fleet of Viking SupplyNet delivery trucks with four-way forklifts and much more.

Located in Kyle, Texas' Plum Creek Logistics facility, the new branch can be reached by phone at 512.888.9850 or email at austin@supplynet.com or vfsaustin@supplynet.com for fabrication requests.

Visit www.supplynet.com to browse and order products right from your seat.

Bull Moose Tube Announces Plans To Construct New HSS And Sprinkler Pipe Mill In Sinton, Texas

Bull Moose Tube Company ("BMT") announced plans to build a 350,000 ton per year HSS and Sprinkler pipe mill. The mill will be built on Steel Dynamics' new Sinton, Texas flat-rolled campus.

Tom Modrowski, President and CEO of BMT stated: "BMT is excited to build in Sinton, Texas and partner with Steel Dynamics. The new mill will be transformational ranging in size from 4" to 14" square, 5" to 18" round, up to 80 feet in length, and thicknesses ranging from .187" to .750". It will expand our geographic footprint and allow us to better serve customers not only in the Southwest, West Coast and Mexico markets, but across the entire business." Modrowski continued: "Expanding our capacity, capabilities, and flexibility will increase BMT's market share in large HSS sizes and ensure our continued and expanded leadership position in the sprinkler pipe market."

Commenting on the investment in the new mill, Rt. Hon. The Lord Swraj Paul, Caparo Chairman, stated: "The construction of this new plant is an excellent project for BMT, and is a tribute to my late son Angad who was born on this day. His energy and enthusiasm will never be forgotten in taking forward Caparo's business in North America. It also marks the start of what I am sure will be a long association with Steel Dynamics, where CEO Mark Millett and his team have done a tremendous job in establishing their stateof-the-art facility. I look forward to the future growth and success of BMT at our new Texas location." BMT is partnering with SMS Group for the innovative design, automation, and implementation of the state-of-the-art mill. Company officials said they anticipate an early 2023 mill start-up.

For more information visit: www.bullmoosetube.com .

Johnson Controls releases new SprinkCAD for Revit® Fabrication Tool to simplify sprinkler system design

Johnson Controls announces the immediate release of the new SprinkCAD for Revit® Fabrication Tool. In addition to providing 3D layout and calculation capabilities, the newly expanded suite of tools enables users to deliver a fabrication-ready design and stock list.

With this new fabrication tool, fire protection professionals can take a valid, comprehensive design in Revit® directly into the SprinkCAD strategy-based fabrication environment. Designers can map valves, sprinklers, pipes and pumps to known components within their parts database and get a full material list and fabrication report that can be saved, printed or exported to industry standard file formats.

The new SprinkCAD for Revit® Fabrication Tool lets users:

- Deliver fabrication-ready design and stock list
- Generate required Revit® families and insert them into the design model automatically
- Eliminate need for transition of design into the complex fabrication parts environment
- Map any Revit® sprinkler system design to desired pipes, sprinklers, valves, and other items for material summary and fabrication reports
- Produce a material summary for the piping system directly from SprinkCAD for Revit®
- Create fabrication reports and manage stock-listing by running SprinkSLIC from SprinkCAD

Visit www.sprinkcad.com/revit to for more information.

Johnson Controls Unveils New Large Color Touch Screen Displays For ES Series Fire Control Units

Johnson Controls unveils new 8-inch (20-cm) color touchscreen displays for the company's Autocall 4100ES and 4010ES fire alarm control units. The new color ES Touch Screen Display (ES TSD) improves fire panel performance by giving users more informa-

continued on page 56

continued from page 55

tion, more intuitive functionality, easier multi-language accessibility, and improved aesthetics.

Each ES TSD can display eight color-coded events simultaneously so users and first responders can gather critical information quickly and easily while vastly reducing the need to scroll through data. The resistive touch screens and buttons are compatible with gloves, so first responders can fully operate the control unit without the need to remove any personal protective equipment.

The system's multi-language functionality makes it easy for a diverse group of operators to run the ES fire control panels. Users can quickly switch between two programmed languages (with six currently available language options), allowing for faster response times during fire events. The intuitive functionality also reduces user training time and helps make general operations more efficient.

Equipped with the new large color touch screen displays, the 4100ES and 4010ES control units with the ES remote annunciators sport a modern look and feel, making them suitable for placement in public spaces. Users can display custom logos and contact information to increase branding and facility aesthetics. A key lock prevents unauthorized access to the system for added security. The 4100ES and 4010ES control units with touch screen displays are code compliant for North American usage, including ULC for Canada.

To learn more about the Johnson Controls ES Touch Screen Displays for Autocall ES fire control panels, visit: https://www.johnsoncontrols.com/fire-detection.

New SafeLINC cloud internet interface from Johnson Controls

Johnson Controls announces the release of SafeLINC, a cloud-based data-hosting infrastructure that gives users the power to remotely access and gather actionable data from their entire suite of fire alarm control units. SafeLINC provides users with a cloud-connected gateway and a cloud application platform accessible via web browsers and native iOS and Android mobile apps. Together, these components provide facility managers and technicians with real-time life safety infrastructure for faster, more effective emergency response, management capabilities and ongoing maintenance planning.

At the heart of the SafeLINC infrastructure is the SafeLINC gateway device that is easily installed into Simplex 4007ES, 4010ES and 4100ES fire alarm control units by simply adding a card. Once connected to the internet via LAN or cellular connection, the gateway sends data from that specific control unit to the Johnson Controls Fire Detection Cloud Platform. SafeLINC is part of the Johnson Controls OpenBlue family of connected solutions that supports healthy people, healthy places and a healthy planet.

SafeLINC Web UI

The SafeLINC web UI connects users to the cloud platform where they can access and gather information from all the control units connected to their account, as if they were standing in front of the control units themselves. Facility managers can use this interface to remotely view control unit status, access reports, manage user accounts and devices, connect with technical support, and communicate with mobile app users.

SafeLINC Mobile App

The mobile app offers numerous features to allow on-the-go access to control unit information. Users can check for current active events, examine status readouts from multiple locations, and view and search historical events. Push notifications through the app will also alert users about the most current readings. The app is available on iOS or Android platforms.

SafeLINC is hosted on the Microsoft Azure platform, managed by the Johnson Controls Global Infrastructure Group, and has passed Johnson Controls cybersecurity testing. New features, enhancements and analysis tools will be periodically released and available to be updated remotely for added convenience. To learn more about SafeLINC for real-time cloud-based fire alarm control unit management, go to simplex-fire.com.

BSIU graphics interface makes new Johnson Controls TrueSite Workstation more accessible

Johnson Controls announces the release of the new TrueSite Workstation (TSW) Building System Information Unit (BSIU). This unit allows for easier control of facility fire and life safety networks from a single location while improving site safety and reactivity. Johnson Controls is one of the first companies in the fire protection industry to offer a BSIU that eliminates the need for costly UL864-listed computers while providing a vastly improved graphic interface.

The new TrueSite Workstation BSIU offers significant cost savings for end users compared to previous systems that had to be UL864-Listed. Updates to the 2019 edition of NFPA-72 now permit fire alarm systems to be monitored and controlled using the BSIU when it is in the same room as the fire alarm control unit. While the BSIU replicates the functions of the fire alarm control

continued on page 57

continued from page 56

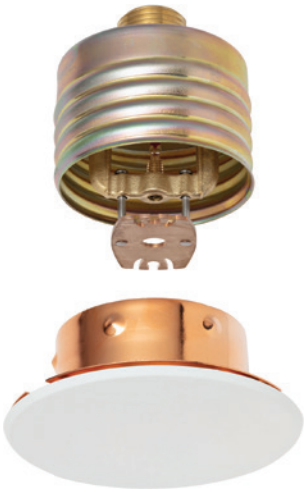
unit, it makes controlling the system simpler, provides easier to understand information and overall, better instructs operators on proper alert responses.

The TSW BSIU effectively reduces operating costs while offering an equal or better interface for everyday operators. Even at a lower cost, the integrity of lifesaving functionality remains as strong as ever. It now offers redundant yet far more intuitive operations to the systems already in the control room. For example, if an alarm comes in from a school chemistry lab, a local system operator will see and hear the alarm and understand the location based on a digital floorplan.

The new TSW BSIU is an ideal, cost-effective option for architects and engineers who specify fire and life safety solutions for their projects, contractors who build structures with fire and life safety needs, and current building operators and their staff who want a user-friendly alternative to manage their system.

To learn more about the new TrueSite Workstation BSIU, visit www.johnsoncontrols.com/fire-detection.

New TYCO® corridor sprinkler family protects narrow spaces at lower costs



Johnson Controls announces the expansion of its Tyco corridor sprinkler family with the launch of the Series RFII-C Royal Flush II Quick Response Concealed Pendent sprinkler. Along with the recently released EC-8C Light Hazard Quick Response sprinkler, the corridor sprinkler family offers the cost-saving benefits of needing fewer sprinklers at lower design pressure compared to standard coverage sprinklers.

These UL Listed sprinklers are specially designed for long, narrow spaces and offer a maximum coverage area of 28-feet by 10-feet (8.5 meters by 3.1 meters). Cost-effective and designed for quick, easy installation, these sprinklers are intended for use in NFPA-13 compliant automatic sprinkler systems. The corridor sprinkler family helps serve the Johnson Controls OpenBlue mission of supporting healthy people, healthy places and a healthy planet.

Series RFII-C Royal Flush II sprinkler

The Series RFII-C 5.6 K-factor Royal Flush II Quick Response Concealed Pendent sprinkler features a concealed design, allowing for uninterrupted aesthetics in hallways and corridors. To achieve this decorative look, the 3-mm bulb-type sprinkler features a flat cover plate which hides the unit. Aesthetics can be further enhanced with a variety of colors and finishes for the cover plates.

Each sprinkler is compatible with a cover plate and retainer assembly and a sprinkler and support cup assembly to allow easier system testing and servicing. The RFII-C also allows for a ½-inch (12.7 mm) of vertical adjustment to provide flexibility in the length of fixed piping for the sprinkler drops.

Series EC-8C sprinkler

Ideal for areas with a finished ceiling, the EC-8C 8.0 K-factor Light Hazard, Quick Response Recessed Pendent sprinkler offers an orifice optimized for a 0.1 gal/min/ft2 commercial light-hazard design density at pressures as low as 8.3 psi (0.6 bar). There are two options for the EC-8C: the two-piece Style 30 recessed escutcheon, which provides up to ½-inch (12.7 mm) of total adjustment from the flush pendent position, or the Style 40, which provides ¾-inch (19.05 mm) of vertical adjustment. This sprinkler also features corrosion-resistant coatings.

To learn more about these corridor sprinklers, visit https://www.tycofpp.com/corridor.

ASC Engineered Solutions Acquires Trenton Pipe Nipple Company, LLC

ASC Engineered Solutions has acquired Trenton Pipe Nipple Company, LLC of Federalsburg, Maryland.

Trenton Pipe Nipple Company produces and supplies brass and stainless nipples, fittings, and pipe to industrial pipe, valve and fittings markets. In addition, the company's custom fabrication capabilities will enable ASC Engineered Solutions to handle special customer requests for certain pipe nipples.

ASC Engineered Solutions' CEO Jason Hild noted, "We expect that the addition of Trenton Pipe Nipple will strengthen our organization's ability to provide differentiated solutions to our customers."

"We are excited to have the additional product breadth, knowledgeable team members, and distribution partners that Trenton Pipe Nipple brings to us," said Dean Taylor, Executive Vice President. He added, "I would personally like to thank Steve Holloway, past owner of Trenton, for his dedication to our industry and wish him well as he transitions into retirement. Steve will provide consultative support through the integration."

Visit www.asc-es.com •

"WE MAY NOT BE AS FAST AS WE ONCE WERE, BUT FIRE IS FASTER THAN EVER."

According to the U.S. Fire Administration, people over the age of 65 face the greatest risk of dying in a fire – more than 2 ½ times that of the general population. Ages 85 and over were 3.6 times more likely to die in a fire than the general population.

Certain modern construction methods and synthetic home furnishings have ***reduced the time a family has to escape a home fire to about three minutes.***

FIRE IS FAST, FIRE SPRINKLERS ARE FASTER!

Like this ad?
Contact Joanne Genadio
genadio@nfsa.org and
we can customize it with
your company logo

NFSA
NATIONAL FIRE SPRINKLER ASSOCIATION
The Voice of the Fire Sprinkler Industry

For more information,
visit www.nfsa.org

#fastestwater

REGIONAL NEWS

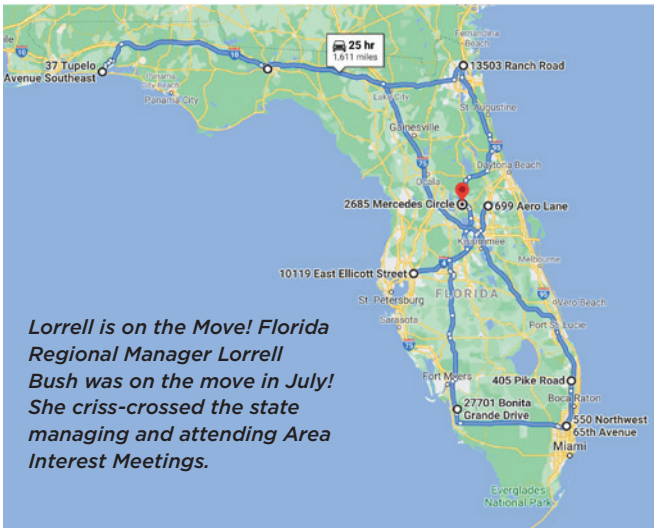
From Maine to California, and every place in between, NFSA Regional Managers bring the best of the Association right to your doorstep.

Helping our members is Job #1.

FLORIDA

On the Road Again.... 1,600 miles of member networking!

FFSA was back on the road for Area Interest Meetings in July! The topic, *"What Underground Pipe are you using? I Hope it's not DR-14"* was presented by 2020 Russell P Fleming Technical Service Award winner Pete Schwab from Wayne Automatic Fire Sprinklers. Nine meetings were scheduled over the course of three weeks throughout the state of Florida, covering over 1,600 miles! The meetings were attended by over 350 industry professionals, including contractors, manufacturers, and our local fire officials. Following the presentation, a 2021 Legislative Update was given by members of the Florida Board of Directors to keep members up to date with what is happening in Tallahassee.



Lorrell is on the Move! Florida Regional Manager Lorrell Bush was on the move in July! She criss-crossed the state managing and attending Area Interest Meetings.

An Area Interest Meeting is a lunch and learn that is free both to members and non-members. The Florida Fire Sprinkler Association offers these meetings free as a direct result of proceeds from the Buddy Dewar Golf Classic. The meeting always includes an industry-related presentation, approved for CEUs. It is a great learning opportunity, a chance to show non-members who we are and a chance to network with members and AHJs. Vendors are welcome to present at these meetings, all presenters must be NFSA members.

If you are interested in presenting or attending the next round of AIMs, contact Lorrell Bush, Executive Director at bush@nfsa.org.

continued on page 60

continued from page 59

GREAT LAKES

NFSA's Ron Ritchey and Northern Illinois Fire Sprinkler Board Executive Director Erik Hoffer provided fire sprinkler valve training to members of the Valparasio, Indiana Fire Department and surrounding departments at the MAAC Training Center in Valparasio.

Residential Fire Sprinkler "Incentive" Training in Valparaiso, Indiana

The Fire Inspectors Association of Indiana (FIAI), in partnership with the NFSA Indiana Chapter (NFSA-IN) co-hosted an "incentive based" residential fire sprinkler educational program and side-by-side burn demonstration at the Multi Agency Academic Cooperative (MAAC) Foundation Emergency Services Training Center in Valparaiso, Indiana, on June 24th.

Valparaiso Indiana Fire Marshal Tim Stites helped organized this event and Erik Hoffer, Executive Director of Northern Illinois Fire Sprinkler Advisory Board (NIFSAB) out of Orland Park, Illinois, who transported their side-by-side burn trailer for this event. MAAC Foundation Founder Stewart McMillian attended the event and shared important information on the benefits of his personal in-home residential sprinkler system with those in attendance. NFSA long-time member Ryan Fire Protection attended the event and provided lunch for the attendees.

SOUTH CENTRAL

Texas 87th Regular Legislative Session 2021 Wrap Up (As of June 30, 2021)

Governor Greg Abbott will convene a special session of the Legislature starting July 8, 2021, and a Fall Special Session to focus on voting re-districting. Governor Abbott will release agenda items prior to the special session. Below is the "wrap up" list of the Texas 2021 Regular Session—Legislative bills that NFSA South Central Regional Manager and the NFSA National Legislative Team monitored, testified, and provided stakeholder alerts.

Fire Protection Bills Signed by Governor Abbott

SB 504 County Fire Marshal Inspection of Group Homes
S.B. 504 amends current law relating to authority of certain county fire marshals to inspect group homes, authorizes a fee, and creates a criminal offense.

HB 636 Texas Plumbing License Continuation
H.B. 636 provides for the annual renewal of an endorsement or registration under the Plumbing License Law. However, a medical gas piping installation endorsement, a multipurpose residential fire protection sprinkler specialist endorsement, and a water supply protection specialist endorsement expire on the date the master plumber or journeyman plumber license of the endorsement holder expires. The bill requires the TSBPE to adopt rules to provide for such a license holder to renew the applicable endorsement in the same transaction as the license, under certain circumstances. Repealed from the Multipurpose Fire Sprinkler Law - An endorsement issued under this section is valid until the third anniversary of the date of issuance and may be renewed on compliance with any requirements prescribed by board rule.

HB 738 Residential and Commercial Building Code Requirements
H.B. 738 adopts the 2012 International Residential Code and International Building Code. H.B. 738 allows municipalities to adopt local amendments to the code, but with the added provisions that amendments must be adopted in a public meeting. In the midnight hours of the Senate Hearings; HB 738 also added the "Fire Sprinkler Protection Systems legislative language" to the Texas Local Government Code. The language was under the Occupations and Health & Safety Code prior to HB 738. This was done so that Home Fire Sprinkler exemption could not be sunset as was accidentally done when the Plumbing License Law was sunset in 2019.

HB 877 Inspection of Municipal Buildings During Disasters
S.B. 877 requires cities to accept independent third-party inspections by qualified professionals during a declared disaster to help tackle the backlogs experienced in disaster areas. Using this tool will reduce project wait times and keep the residential construction industry operating as efficiently as possible during declared disasters.

Texas Construction Association and Construction Industry Bills Passed and Signed by Governor Abbott:

SB 219 Design Defect Liability Reform
S.B. 219 amends current law relating to civil liability and responsibility for the consequences of defects in the plans, specifications, or related documents for the construction or repair of an improvement to real property or of a road or highway. S.B. 219 provides that a builder is not responsible for the consequences of defects in design or bid documents provided to the builder by the person with whom the builder has entered a construction contract. It also prevents an owner from requiring a builder to waive this protection by contract.

continued on page 61

continued from page 60

HB 2237 Lien Law Update
H.B. 2237 seeks to streamline the current Texas lien statutes, remove redundant provisions, address various ambiguities, and provide for specific statutory forms for notice. The changes in H.B. 2237 apply to lien claims under PRIME CONTRACTS entered on or after January 1, 2022.

H.B. 1476 Public Project Prompt Pay/Disputed Funds
Vendors remedies for nonpayment of a contract with a government entity.

H.B. 692 Updates to Retainage Laws for Public Works
Retainage requirements for certain public works construction projects.

Bills That Did Not Pass the 2021 Texas Legislature

HB 2885 CEUs for Fire Protection
The Texas Burglar and Fire Alarm Association and Representative Travis Clardy have proposed Texas HB 2885 - CEUs for Fire Protection. Texas HB 2885 will help to strengthen the fire protection industry by allowing the Texas Department of Insurance to require some minimum training CEUs of its licensees. HB 2285 was engrossed and pass the Texas House as of April 30, 2021. HB 2885 did not proceed through the Senate. The Alarm and Sprinkler industry would like to discuss a joint proposal of this bill in 2023.

HB 1877 & 1878 County and Municipal Regulation of Repairs to Vacant Buildings
These two Texas legislative bills relating to county and municipal regulation of repairs to vacant residential buildings would have prohibited local governments from adopting retrofit ordinances to any vacant commercial or residential building.

Texas State Fire Marshal Fire Sprinkler & Alarm Rules Affected by Legislation

The Texas Department of Insurance adopted two new rules that affect fire sprinklers and alarms:

1) On June 18, 2021; the Texas Department of Insurance adopted a Rule Change for all fire protection licensees. The new rule allows licensees to provide proof of license digitally on a mobile device rather than carrying a pocket license while engaged in activities of a responsible managing employee.

2) On May 3, 2021; The Texas Department of Insurance adopted a rule that requires all those licensees regulated by TDI to designate an email address for official communications from TDI. All the following industries must add or update an email address:

- Insurance companies and HMOs
- TPAs and premium finance companies
- Agents, adjusters, and agencies
- URAs and IROs
- Workers' compensation networks
- Fire-industry licensees

This new rule also allows electronic submissions to TDI in most cases where a paper method was previously required.

GREAT PLAINS

Regional Home Fire Sprinkler Coalitions

After being dormant for about three years, the Wyoming Home Sprinkler Coalition returned on July 22nd. Regional NFPA and NFSA staff have been working closely with the Wyoming State Fire Marshal's Office and local AHJs interested in re-energizing the Coalition. With this meeting, Wyoming joins Colorado and Utah in having active Coalitions within Area 9.

The National Home Fire Sprinkler Coalition was formed in 1996 and is dedicated to educating the public about the benefits of residential fire sprinklers. Statewide coalitions are open to anyone with an interest in furthering residential fire sprinklers. Members include state fire marshal's offices, local fire and building officials, home builders, sprinkler contractors, water purveyors and concerned citizens. Reach out to your Regional Field Service Coordinator if you would like more information or are interested in participating in these efforts.

New Side-by-Side Trailer
The new NFSA side-by-side trailer was delivered just in time for Elizabash, on June 5th. This marked the first time that NFSA has demonstrated in Elizabeth, CO. About 500 people witnessed the demonstration with another 500 interacting with NFSA staff before or after the burn.

Since arriving in Colorado, the trailer has already been seen by crowds at three events in Colorado and Wyoming. The new trailer has several improvements over the previous trailer. These include better protection of piping and sprinkler appurtenances and an electronic ignition system that has proved more reliable than the previous manual system. Going forward, the Fire Marshals Association of Colorado has agreed to provide a large-format electronic timer which should provide a significant visual to demonstrate the speed with which modern furnishings burn.

WISCONSIN

Side-by-Side Demonstration at Golf Outing

The NFSA Wisconsin Chapter, along with the Wisconsin Fire Sprinkler Coalition and Menomonee Falls Fire Department, provided a side-by-side demonstration at the Metropolitan Builders Association's annual golf outing. The event was attended by over 60 MBA members with some great testimonials. They continue their work with this group to educate builders on the advantages of fire sprinklers,

continued on page 62

continued from page 61

NORTHWEST

Side-by-Side Burn Demo in Nampa, ID

Nampa, Idaho Deputy Fire Marshal Mark Strom and Fire Marshal Ron Johnson prepare the burn cells for the Idaho Fire Protection Forum's annual side by side burn demo in June. The event draws a crowd of community members, fire protection companies, fire and building officials. NFSA's Northwest Regional Manager gave a presentation on "Conversations About Fire Sprinklers," and Chief Johnson talked about ways several Idaho communities are utilizing incentives in the building codes to encourage residential fire sprinkler installation in specific new developments.•

FUTURE DATES FOR NFSA ANNUAL SEMINARS AND BUSINESS AND LEADERSHIP CONFERENCES

October 5-7, 2021
Cosmopolitan, Las Vegas, NV

May 3-6, 2022
Sheraton Sand Key, , Clearwater Beach, FL

May 3-6, 2023
JW Marriott, Austin TX

May 7-10, 2024
Wailea Beach Resort, Maui, HI

National Fire Sprinkler Magazine

The Flagship Publication of The National Fire Sprinkler Association

NFSM Article Submission Guidelines

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

Query

Send an e-mail or letter briefly describing your article proposal, why the topic is important, and how it is relevant to our audience. Say something about the sources of your information *(personal involvement? interviews?)* and about your present position and background. Tell us what types of photographs and graphics are available to illustrate your story. Be sure to include an email address and a daytime phone number.
NFSM runs full-length feature articles of approximately 800-1200 words.

Feature Articles

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

Writing Guidelines

NFSM tries to maintain a straightforward style. Accuracy is vital. All facts should be double-checked before a manuscript is submitted. All manuscripts must be submitted as Word docs, single-spacing between sentences. *Images must be sent as attachments to emails or through a file transfer site. We cannot use images embedded within a document.* Charts and tables must be submitted as *separate* pdfs.

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

Illustrations

NFSM uses a variety of photographs, line art, charts, and maps. We prefer to receive artwork electronically, and all illustrations should include credit and caption information. Please submit high resolution images or vector formats.

Copyrights

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

Payment

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

NFSM EDITOR:
Joanne Genadio
genadio@nfsa.org
443.863.4399

NFSA REGIONAL MANAGERS CONTACT INFORMATION

GARY L. WEST
Director of Field Operations/Kansas
EMAIL: WEST@NFSA.ORG
MOBILE: 443.202.3621

DAVE KURASZ
Executive Director, NJFSAB
EMAIL: KURASZ@NFSA.ORG
MOBILE: 732.492.0707

TERIN HOPKINS
Field Service Coordinator/Capital Region
CAPITAL REGION/MARYLAND
EMAIL: THOPKINS@NFSA.ORG
MOBILE: 443.745.4142
OFFICE: 443.7433858

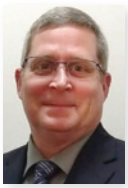
BRIAN BIGGS
Southeast Regional Manager
ALABAMA, GEORGIA, MISSISSIPPI, NORTH CAROLINA, SOUTH CAROLINA, TENNESSEE
EMAIL: BIGGS@NFSA.ORG
PHONE: 615.642.9717

LORRELL BUSH
Florida & Puerto Rico Regional Manager
FLORIDA, PUERTO RICO
EMAIL: BUSH@NFSA.ORG
PHONE: 352.589.8402
MOBILE: 954.275.8487

RON RITCHEY
Great Lakes Regional Manager
INDIANA, MICHIGAN, OHIO, WEST VIRGINIA, KENTUCKY
EMAIL: RITCHEY@NFSA.ORG
PHONE: 765.412.6707

ERIK HOFFER
Executive Director NIFSAB
ILLINOIS
EMAIL: HOFFER@NFSA.ORG.
PHONE: 708.749.5460

PAUL RICHARD
Missouri Area Manager
MISSOURI
EMAIL: RICHARD@NFSA.ORG
PHONE: 443.312.2207



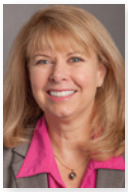
TIM BUTLER
North Central Regional Manager
IOWA, MINNESOTA & WISCONSIN
EMAIL: BUTLER@NFSA.ORG
OFFICE: 443.844.3674
MOBILE: 507.403.2264

MARTY KING
Wisconsin State Coordinator
EMAIL: KING@NFSA.ORG
PHONE: 414.531.9542

TOM BRACE
Minnesota State Coordinator
EMAIL: BRACE@NFSA.ORG
PHONE: 651.644.7800

CYNTHIA GIEDRAITIS
South Central Regional Manager
Arkansas, Louisiana, Oklahoma, Texas,
EMAIL: CINDYG@NFSA.ORG
PHONE: 979.324.89341

ROBERT GEISLINGER
Field Service Coordinator/Great Plains
COLORADO, NEBRASKA, NORTH DAKOTA, SOUTH DAKOTA, UTAH, WYOMING
EMAIL: GEISLINGER@NFSA.ORG
DIRECT: 443.312.2206
MOBILE: 720.457.9292



SUZANNE MAYR
Northwest Regional Manager
ALASKA, IDAHO, MONTANA, OREGON, WASHINGTON
EMAIL: MAYR@NFSA.ORG
PHONE: 253.208.8467

tyco®

Now you see it...now you don't.

Introducing our Corridor Sprinkler Family, featuring Recessed and Concealed Models

In sight or unseen, our Recessed and Concealed Sprinklers set a new benchmark for the market. Get more with less, as fewer sprinklers and a lower system pressure are required. This translates into cost savings as well as quick, easy installation. These sprinklers excel in both function and form, with the flat-plate design of our concealed units providing a seamless aesthetic in corridors and hallways.

Visit **www.tyco-fire.com/corridor-nfsa** to learn more.

Johnson Controls

The power behind **your mission**

ONLINE
ON-THE-GO

Ferguson Fire & Fabrication offers a variety of digital tools and services for fire protection professionals. From easy online ordering through the Ferguson app to virtual assistance with Text-2-Counter, or Firelist—our very own software that allows us to schedule and quote fabrication work with unrivaled precision—you'll benefit from all our technology when you partner with us.

FERGUSON
FIRE & FABRICATION

VISIT US ONLINE AT
FERGUSON.COM/FIRE