

2014 NFSA  
Annual Seminar  
Registration Materials

page 25

ATLANTIS  
PARADISE ISLAND, BAHAMAS

**INSIDE THIS ISSUE:**

- Demystifying Hydraulic Calculations
- Calculating Residential Sprinklers in Dwelling Units
- ITM: The Role of the Contractor
- Field Ops Interviews



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ON THE COVER

Idealized as an advanced utopian society holding wisdom that could bring world peace, the legend of a lost city lives on as modern day architects have added splendor to wonder in the place Poseidon called, Atlantis. This year's NFSA Annual Seminar is being held May 8 - 10 at the Bahamian landmark. Registration information begins on page 25.



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EDITOR

DAVID J. VANDEYAR

ADVERTISING COORDINATOR

JOANNE GENADIO

DESIGNER

JOHN L. SULLIVAN/SULLIVANDesign

SQ (ISSN 1050-4958) (USPS 524-010) is published six times a year (February - April - June - August - October - December) by the National Fire Sprinkler Association, Inc., 40 Jon Barrett Road, Patterson, NY 12563.

Telephone: (845) 878-4200. Subscription free to all NFSA members and member companies.

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Second-Class postage paid at Mahopac, NY.

POSTMASTER: Send address changes to:  
NFSA, 40 Jon Barrett Road, Patterson, NY 12563



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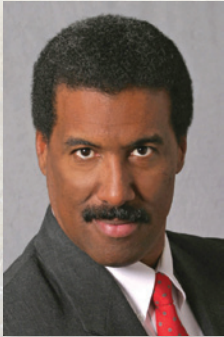
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# LETTER FROM THE EDITOR



It's funny how fast time flies. Just a few days ago, NFSA President Russ Fleming and I were talking about this year's Annual Seminar and how it will be his 40th consecutive NFSA Annual Seminar. While I was thinking how impressive that was, it made me think about how long I have been with the Association. Having started with NFSA in August of 1990, this year's Annual Seminar in the Bahamas will be my 24th. But just like your first love, though, you never forget your first NFSA Annual Seminar. It's really something special.

The first NFSA Annual Seminar I ever attended was in the spring of 1991. It was held at the Stouffers Esmeralda in Indian Wells, California, not far from the famous desert resorts in Palm Springs. It was one of my first travel assignments with NFSA and my first trip to the west coast. I remember Russ telling me what day I had to arrive at the hotel, leaving the "how to" up to me.

It was a Friday and my travel plans called for an afternoon arrival at LAX. I know exactly what you are thinking; LAX on a Friday. Have you lost your mind! Good [expletive deleted] luck! Remember, though, I did mention this was my first time to the west coast, and besides, I am from New York. How bad could it be? Rings of famous last words, doesn't it?

In all my years to that point and ever since, I have never seen traffic like that. Having survived the experience, I am here to tell you, I don't know how anyone can endure jammed traffic day in and day out, but apparently the indigenous have gotten used to it because I had plenty of company that day. "The 10," as it's called there, is an interstate that's six lanes wide in places heading east toward Palm Springs and inconceivably to me at the time, that afternoon it was bumper to bumper for the better part of 80 of the near 140 miles to Indian Wells. Strange, but apparently legal, motorcycles were passing between stopped traffic at what I estimated to be over 60 mph. Clearly they were not aware that a first-timer from New York was in their midst who could have flung the car door open without notice just to see what was holding up traffic. Four and half hours later for what is usually a two and half hour ride, or so I was told, I arrived at the hotel.

One of the many highlights I remember from that, my first NFSA Annual Seminar, was having the privilege of being seated with and getting to know that year's Golden Sprinkler Award recipient Harold Eidson and his charming wife. I'll never forget that experience. And as I close, I would like to invite you to attend this year's Annual Seminar. If you have never been to an NFSA Annual Seminar before, make this one your first and forge memories you and your family will not soon forget. I look forward to seeing you there. 🕒

A handwritten signature in black ink that reads "David J. Vandeyar". The signature is fluid and cursive.

David J. Vandeyar, Editor



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# Back to the Bahamas



**Russell P. Fleming, P.E.**

This issue of **SQ** is a seminar preview issue, and contains registration and program information for our May 8 - 10, 2014 Annual Seminar at the Atlantis resort in the Bahamas. We hope you will take a look and consider joining us, especially this year, and especially if you have never been to an NFSA Annual Seminar. You will find it well worth the effort.

This will be my 40th consecutive NFSA Annual Seminar, and it is the first time the NFSA has ever repeated a venue during all those years. You couldn't ask for a stronger statement of how much our members enjoyed being at the Atlantis back in 2008.

As in the past, the Association staff has worked with the Board's Seminar and Exhibition Committee to come up with a program that mixes just the right amount of educational and social events. Part of Thursday morning's program is the "Association Business Meeting," a concept introduced last year in Las Vegas, which allows the departments and committees of NFSA to report directly to the membership on their activities over the past year. This year, in recognition of our new focus on chapters, at least ten of the chapters have already agreed to provide highlights of their recent activities. It is this type of sharing of information that makes attendance worthwhile, since what worked in one

part of the country to benefit the industry may well work in your area as well.

Along these same lines we will again feature our popular "Contractor's Forum," enhanced this year with a luncheon while a separate luncheon and program is hosted for spouses.

Another 2014 highlight will be the presentation of the Golden Sprinkler Award to Gregg Huennekens, who has been a mainstay of NFSA leadership for many years. And this year's Technical Service Award will go to Stephen Meyer, who many of us have not seen for many years, in recognition of his creative contributions to fire sprinkler technology.

From the welcoming address on Thursday to the closing party Saturday night, we believe that you will find many opportunities for learning, and for sharing concerns and new ideas with your colleagues from around the country. Please make the effort to be there. ①

A handwritten signature in black ink, appearing to read "Russell P. Fleming". The signature is fluid and cursive.

Russell P. Fleming, *President*

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# calendar

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March 4, 2014	Pumps for Fire Protection	Riverside, Missouri
March 4, 2014	Hydraulic Calculations with Fire Pumps	ONLINE
March 5, 2014	Understanding, Applying and Enforcing NFPA 25	Republic, Missouri
March 5-April 30, 2014	Hydraulic Calculations Distance Learning	ONLINE
March 11, 2014	Sprinkler System Installation Requirements	Pataskala, Ohio
March 12, 2014	Acceptance Testing & Hydraulics for Plan Reviewers	Pataskala, Ohio
March 13, 2014	Fire Service Mains & Their Appurtenances	Pataskala, Ohio
March 18, 2014	Discharge Piping and Appurtenances	ONLINE
March 19, 2014	Understanding, Applying and Enforcing NFPA 25	Patterson, New York
March 24-April 4, 2014	Two Week Layout Tech Training	Fife, Washington
March 25-27, 2014	Inspection & Testing for the Fire Sprinkler Industry	Centennial, Colorado
March 27, 2014	Understanding, Applying and Enforcing NFPA 25	Menomonee Falls, Wisconsin
March 28, 2014	Pumps for Fire Protection	Menomonee Falls, Wisconsin
April 8, 2014	Pumps for Fire Protection	Salt Lake City, Utah
April 8, 2014	Diesel Engine Drivers for Fire Pumps	ONLINE
April 8-10, 2014	Inspection & Testing for the Fire Sprinkler Industry	Westbury, New York
April 9, 2014	Understanding, Applying and Enforcing NFPA 25	Salt Lake City, Utah
April 15, 2014	Fire Sprinkler Design Options in the IBC	Willoughby, Ohio
April 15, 2014	Understanding, Applying and Enforcing NFPA 25	Addison, Illinois
April 15, 2014	Understanding, Applying and Enforcing NFPA 25	Phoenix, Arizona
April 16, 2014	Pumps for Fire Protection	Phoenix, Arizona
April 16, 2014	Understanding, Applying and Enforcing NFPA 25	Willoughby, Ohio
April 17, 2014	Acceptance Testing & Hydraulics for Plan Reviewers	Willoughby, Ohio
April 22, 2014	Electric Motors for Fire Pumps	ONLINE
April 23, 2014	NFPA 13, 13R & 13D Update 2010	Hayward, California
April 24, 2014	Basic & Advanced Seismic	Hayward, California
April 29-May 1, 2014	Inspection & Testing for the Fire Sprinkler Industry	Westbury, New York
May 6, 2014	Fire Pump Controllers	ONLINE
May 20, 2014	International Building Code and Fire Pumps	ONLINE
May 20-21, 2014	ITM: Navigating Through the Liability Minefield	Oak Brook, Illinois
June 3, 2014	Sprinkler System Installation Requirements	Madison, Wisconsin
June 3, 2014	Acceptance Testing of Fire Pumps	ONLINE
June 4, 2014	Acceptance Testing & Hydraulics for Plan Reviewers	Madison, Wisconsin
June 17, 2014	Inspection, Testing and Maintenance of Fire Pumps	ONLINE
June 24, 2014	ITM: Navigating Through the Liability Minefield	Dallas, Texas
July 15-17, 2014	Inspection & Testing for the Fire Sprinkler Industry	Woodland, California
August 4-15, 2014	Two Week Layout Tech Training	Patterson, New York

These seminars qualify for continuing education as required by NICET. Meet mandatory Continuing Education Requirements for Businesses and Authorities Having Jurisdiction. To register or for more information, contact: Michael Repko at (845) 878-4207, E-Mail: seminars@nfsa.org. Or register ONLINE at www.nfsa.org.



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New York	New York	<b>Dominick G. Kasmauskas, NFSA</b> 1436 Altamont Ave. Suite 147 Rotterdam, New York 12303 (518) 937-6589 FAX (518) 836-0210	
Mid Atlantic	Delaware, Maryland, New Jersey, Pennsylvania, Virginia, Washington, D.C.	<b>Raymond W. Lonabaugh, NFSA</b> P.O. Box 126 Ridley Park, Pennsylvania 19078 (610) 521-4768 FAX (610) 521-2030	<b>Kent Mezaros</b> Quick Response Fire Protection 77 Pension Road, Suite 5 Manalapan, New Jersey 07726 (732) 786-9440 FAX (732) 786-9443
Southeast	Alabama, Georgia, Mississippi North Carolina, South Carolina	<b>Associate Director of Regional Operations - East</b> <b>Wayne Waggoner, NFSA</b> PO Box 9 Andersonville, Tennessee 37705 (865) 755-2956 FAX (865) 381-0597	<b>Ken Brinkley</b> Music City Fire Sprinkler 238 Molly Walton Drive Hendersonville, TN 37075 (615) 826-7450 FAX (615) 826-9680
Tennessee	Tennessee		
Florida	Florida, Puerto Rico	<b>Lorrell Bush, NFSA</b> 2025 Droylsden Lane, Eustis, Florida 32726 (352) 589-8402 FAX (561) 327-6366 Cell: (954) 275-8487	<b>Alan Wiginton</b> Wiginton Fire Systems 699 Aero Lane Sanford, FL 32771 (407) 585-3205 FAX (407) 585-3282
Great Lakes	Indiana, Michigan, Ohio, West Virginia, Kentucky	<b>Ron Brown, NFSA</b> 1615 Cypress Spring Drive Fort Wayne, Indiana 46814 (845) 661-6534 FAX (260) 625-4478	<b>Richard A. Ackley</b> Dalmatian Fire, Inc. P.O. Box 78068 Indianapolis, Indiana 46278 (317) 299-3889 FAX (317) 299-4078
North Central	Minnesota	<b>Tom Brace, NFSA</b> 1433 Idaho Ave West St. Paul, Minnesota 55108 (651) 644-7800 FAX (651) 603-8827	<b>Gregg Huennekens</b> United States Alliance Fire Protection 28427 North Ballard – Unit H Lake Forest, Illinois 60045 (847) 247-4755 FAX (847) 816-0098
	Wisconsin	<b>Dan Gengler, NFSA</b> P.O. Box 286 Waupaca, Wisconsin 54981 (262) 325-1958	
Illinois	Illinois	<b>Robert Tinucci, NFSA</b> 6401 Richmond Ave Willowbrook, Illinois 60527 (630) 655-1875 FAX: (630) 655-1875	
Central	Iowa, Kansas, Missouri	<b>Chris Gaut, NFSA</b> 207 Van Buren Rd. Branson, MO 65616 (636) 692-8206 FAX (636) 410-7700	<b>Dennis C. Coleman - Chair</b> Engineered Fire Protection, Inc. 1615 South Kings Highway St. Louis, Missouri 63110 (314) 771-0033 FAX (314) 664-1619 <b>Jim Lewis – Alternate to Chair</b> American Fire Sprinkler Corporation 6750 West 47th Terrace Shawnee, KS 66203 (913) 722-6900 FAX (913) 722-6969
South Central	Arkansas, Louisiana, Oklahoma, Texas	<b>Cynthia Giedraitis NFSA</b> 2013 Oakwood Trail College Station, Texas 77845 (979) 324-8934	<b>John Kauffman III</b> Kauffman Company 13225 FM529 – Suite A Houston, Texas 77041 (713) 937-4144 FAX (713) 937-4149
Great Plains	Colorado, Nebraska, North Dakota, South Dakota, Utah, Wyoming	<b>Eric Gleason, NFSA</b> P.O. Box 62157 Littleton, Colorado 80162 (720) 470-4894	<b>Harry Nothhaft II</b> L.Nothhaft & Son 2520 West 62nd Court Denver, Colorado 80221 (303) 433-3329 FAX (303) 433-2432
Southwest	Arizona, Nevada, New Mexico,	<b>Associate Director of Regional Operations - West</b> <b>Bruce Lecair, NFSA</b> 25417 West Hyacinth Street Corona, California 92883 (951) 277-3517 FAX (951) 277-3199	<b>Aaron Bennett</b> RCI Systems, Inc. 1220 West Geneva Drive Tempe, Arizona 85282 (480) 894-8711 FAX (480) 894-8740
West	California, Hawaii		<b>Jack Thacker</b> Allan Automatic Sprinkler Corporation 3233 Enterprise St Brea, California 92821 (714) 993-9500 FAX (714) 993-5708
Northwest	Alaska, Idaho, Montana, Oregon, Washington	<b>Suzanne Mayr, NFSA</b> P.O. Box 7328 Tacoma, WA 98417 (253) 208-8467	<b>James Boulanger</b> Patriot Fire Protection, Inc. 2707 70th Avenue East Tacoma, Washington 98424 (253) 926-2290 FAX (253) 922-6150
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## Contract, Contract, Know Your Contract

by **Stuart Zisholtz**

*Editor's note:*

*Stuart Zisholtz comments on New York State Law*

Construction projects can be long and tedious. Numerous delays and changes can extend a project for months and sometimes years.

A delay claim is recoverable in certain circumstances. Many contracts contain a "no damage for delay" clause which could prevent a 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 damages for delays.

In order to recover for such a claim, the contractor must prove specific damages. You must show the additional costs asso-

ciated with the delay, that the contractor did not cause the delay, that the damages are real and that the parties could have expected 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 for damages sustained by the delay.

The other question 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 Courts have held that an owner must demonstrate that at the time the construction contract was executed, the parties contemplated an 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 should also have a clause setting forth the expected

damages in the event the contract is not completed by the specified date. 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.

In addition, 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.

*Never let your lien time run out!*

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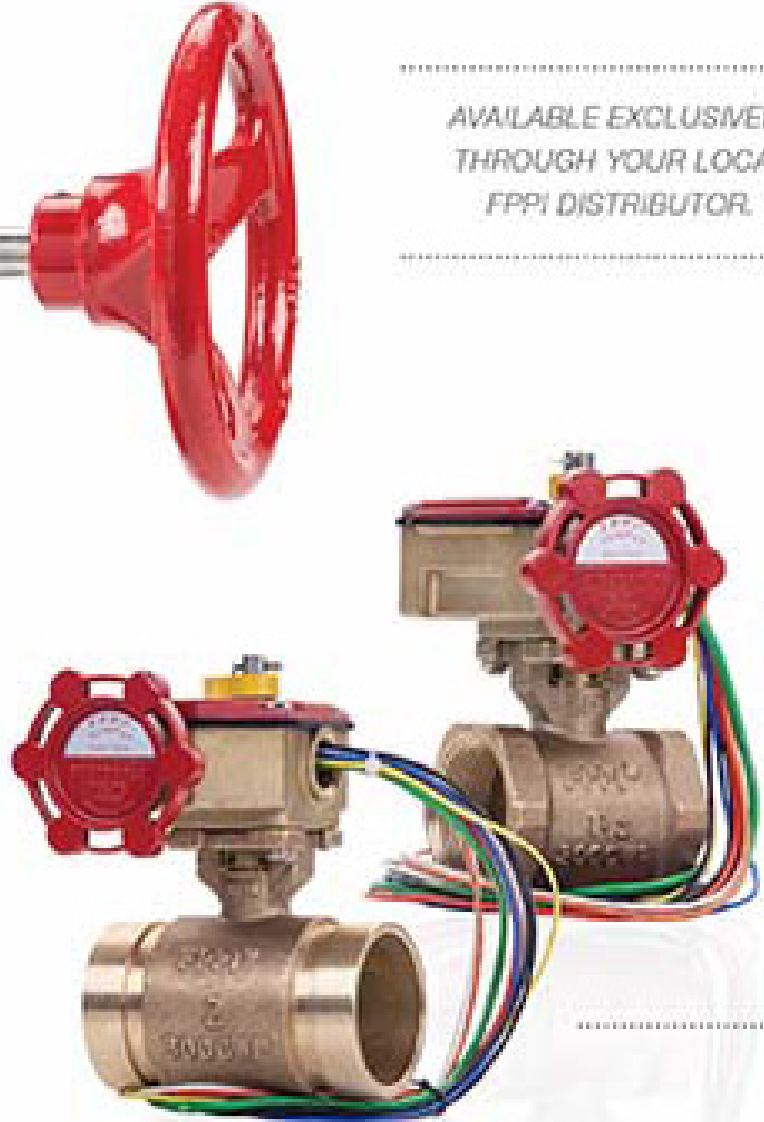
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By Don Pamplin

I saw a sign that said

# Do Not Enter.. This House is Protected by Pit Bulls with Aids

Actually, there were many of these small sticker signs on that house at every door and window. This was a house in a U.S. neighborhood that had a very high incident rate of home break-ins and theft. The name of the owners, city and neighborhood shall remain anonymous. But in spite of the high crime rate in that surrounding community, this house had never been broken into!

The owners actually do own two very large, muscular and cranky looking pit bulls and when they bark inside the house, no one seems to have the courage to enter. In fact, most people don't even want to walk onto their fenced property. Do the dogs really have aids? Probably not and the owners just smile when asked about it. The aids part is an added level of warning that makes you more subconsciously focus on the potentially fatal danger of entering this house. When they walk the dogs one at a time, they are on thick, strong leashes and are securely muzzled which seems to significantly contribute to the owners' crime-prevention neighborhood awareness program.

The sign was designed to give a chilling message that entry into this house was very dangerous and extreme caution should be considered before you enter, especially if the dogs don't know you and the owners are not home.

As expected, the sign immediately made me think about other dangers in residential homes where extreme caution should be considered before you enter when a fire is happening or even worse

still, for those people who sleep within those very dangerous structures. These residential buildings are "killer homes" and the reason why is not hard to understand. For the past 20 plus years, home builders have been using new, lightweight residential construction methods and materials that are significantly more cost-effective but they allow fires to spread more rapidly which reduces the time families have to escape and the time that firefighters have to put the fire out and/or rescue those occupants trapped inside the burning home. Instead of using solid wood floor joists, these engineered wood I-joists are much lighter in weight and its thin pieces of wood are most times held together with glue. They are extremely strong as long as they are not being attacked by an uncontrolled fire.

The U.S. National Institute of Safety has carefully tested the burning rates of both engineered I-joists and traditional solid wood floor joists. It took 19 minutes for the traditional solid wood floor joists to burn through to a point where they lost their structural strength leading to a total collapse of the floor assembly. With the same level of fire impingement, it only took 6 minutes for the engineered wood I-joist to burn through, causing floor collapse and rapidly extending fire growth. Not only is this a major problem for home residents desperately trying to escape from this fast spreading fire, it is a major problem for firefighting personnel who nationally are facing an average "Total Intervention Time" (TIT) of approximately 10 minutes

(NFPA national averages). That means 10 minutes will elapse from the time of fire ignition to the time the firefighters start applying water on the fire. In far less than 10 minutes, family occupants will be dead!

And now the home builders are putting in lightweight staircase construction to further reduce construction costs. Instead of 2" x 12" stair stringers for structural strength with solid wood risers and treads, these new lightweight prefab stair assemblies have just made basement fires extremely dangerous for firefighter interior operations and safety and for home occupant escape.

And then to make matters worse, two other factors are also at work making it more difficult for families to safely escape and for firefighters to successfully rescue home occupants and extinguish these fast spreading fires:

- 1) Back in the 1950s and 1960s, the average single family home had approximately 1,200 square feet of interior space, excluding a basement area. Today, homes are much bigger with 3,000

>> CONTINUED ON PAGE 12



Don Pamplin

As an NFSA Leadership in Public Safety Award recipient, Don is recognized throughout North America as a fire sprinkler advocate.

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>> CONTINUED FROM PAGE 11

to 4,000 square feet being the norm with “designer open floor” plans that actually significantly allows fire, flash-over heat and deadly smoke to develop and spread much quicker.

2) Today, homes are filled with furniture and other furnishings that have a plastic or a hydrocarbon base that burns faster with more intensity and energy, causing a room to reach 1,100 degrees of flashover, which is the point of temperature where everything in the room reaches its ignition point and burns in a fast spreading, uncontrolled fire. Underwriters Laboratories built two identical fire test homes. One home had a room full of “legacy furniture” from the 1950s to the 1970s, and the other home had a room filled with modern furniture. The legacy furniture room reached flashover in 29.25 minutes. The room with modern furnishings reached flashover in 3.25 minutes!

The fire dynamics of the above two factors means that people are trying to escape this fire in conditions where it is absolutely impossible for them to survive. Can you imagine what 1,100 degrees of fire smoke does to an occupant’s lungs while they are struggling to find a way out of the home? And that is happening in most circumstances while the local fire department has not even yet been notified of that fire in progress! And when the fire crews do arrive, they are significantly past the pivotal point of killer flashover, the occupants are dead and the firefighters are operating in that same killer environment that is now complicated by an impending collapse of the building structure that will also make them a tragic statistic.

Homes with these fire-survival problems need to have appropriate signage to tell responding firefighters that they may be entering structures that are not safe and are vulnerable to collapse and further fire spread. The 2009 edition of NFPA 1 Fire Code introduces such a standardized “placarding” system called

the “Firefighter Safety Building Marking System.” If adopted by a specific jurisdiction, it requires that a decal be prominently displayed showing the building’s construction type, the hazards of the contents, the presence of fire sprinklers or standpipes, occupancy life safety issues and special hazards.

There are other systems that can also be used and having this vital information available to responding fire crews through their central dispatching system (*in addition to state or municipal placarding requirements*) makes fire ground operations more effective and certainly much safer. Florida was one of the first U.S. jurisdictions to introduce changes to its regulations in 2008 requiring the placarding of structures with lightweight structural components.

Placarding requirements are not unified across all 50 states. Is that any surprise? In a future editorial, I will present a detailed overview of who is doing what and is it effectively helping to stop the unacceptable deaths and injuries of responding fire personnel who don’t have a beggar’s chance of survival when they enter these deadly residential structures. While the intent of such warning systems is more than justified given the inherent dangers caused by lightweight wood assemblies, the real solution is to have residential fire sprinkler systems installed while these homes are being built and that will not only prevent the unnecessary deaths and injuries of firefighters, it will keep Mom, Dad, Grandparents, babysitters and all the kids alive.

And while these warnings have been said over and over and over and over by concerned and knowledgeable Fire Chiefs, Fire Marshals, Building Officials and fire-victim organizations who know the truth and want homeowners to know what is being imposed upon them, national, state and local Homebuilder Associations across America are still saying that “new homes are fire-safer than old homes!”

And guess what...“*they object to their homes being placarded!*”<sup>①</sup>

# ITM: Navigating Through the Liability Minefield Taps into a Contractor Need

By James D. Lake

I am an avid sailor and one of the many sayings that go with sailing is that there are only two types of sailors; those that have run aground and those that will run aground. Similarly there are only two types of contractors that conduct ITM... those that have been named in a liability lawsuit and those that will be named. The question is; how well are you and your staff prepared when that subpoena arrives?

Back in October of 2013 I was approached by a contractor member in Florida with an interesting request for training with a very unique focus on ITM. Our conversation centered on the importance of the inspection technician in the process of protecting the company from exposure to liability lawsuits. The contractor said to me, "I need them to know how important they are in the process." As we talked it also became apparent to me that not only are the technicians important, but so is everyone else involved in the process, including sales staff, engineering staff, service staff and management. Furthermore, it is not just the capabilities of these people that is important, but also the communication between them.

My answer to this request was, of course, yes...we can develop a seminar that addresses that need and set out to build a seminar with a set of learning objectives related to ITM and a contractor's liability exposure.

The very first thing in the process of building a seminar is to establish the learning outcomes.

For this seminar those outcomes are:

1. Identify who is responsible for what

functions in the inspection, testing and maintenance process according to NFPA 25 and state laws.

2. Discuss the barriers to communicating the results of an inspection, test or maintenance procedure.
3. Identify the benefits of consistency in reporting inspection, testing and maintenance findings.
4. Describe the potential liability exposure as a result of inconsistent or incomplete reporting of inspection, testing and maintenance findings.
5. Develop and apply a best practices approach to communicating inspection, testing and maintenance findings both internally and to the building owner.

As you can see the learning objectives, while related to NFPA 25, have very little to do with the process of doing an inspection, test or maintenance task. Instead, this seminar focuses on the nebulous subjects that circle around NFPA 25 and ITM. Subjects like, knowing the contract, knowing the specifications, knowing your limits, knowing the stakeholders and how all of these things interact and can actually result in either exposure or protection **when** the liability lawsuit is filed.

The seminar is designed to create an atmosphere that facilitates open discussion of issues and challenges that are specific to contractors. It is for that reason that it is only open to contractors. AHJs, owners, insurers are not invited. Participants are presented with numerous case studies and activities that focus on developing an ITM process that can increase a company's protection in a liability lawsuit.

The seminar is receiving a considerable amount of interest. Each of the four seminars that we have delivered in Florida and all of the next three have been sold out and there has been considerable interest conducting more from individual contractors and contractor groups around the country.

As we hoped, the seminars have been filled with inspection technicians, service technicians, engineers, sales staff and management all the way up to company presidents and owners. Each one brings a different perspective to the discussion and each one has provided invaluable information to the group. Each one has also walked away with some new ideas as to how to improve their process to provide better protection.

There have been many reactions to this, most of them along the theme realizing that there is so much more to protecting against liability than simply knowing how the system works and how often it needs to be inspected, tested or maintained. To put it succinctly, Clark Gey, President of Wayne Automatic Sprinkler, simply stated that this seminar is a "must have" for any company serious about ITM.

It is always good to know when we have served our members well. 📞



James D. Lake

Vice President  
of Training and  
Communications

## FIRE PUMPS

Whether systems are fed from a public water connection or a tank, they often rely on fire pumps to provide the pressure for the fire protection system. This series will review the rules for planning, sizing and installing fire pumps.

**APRIL 8, 2014**

### Diesel Engine Drivers for Fire Pumps

BASIC/INTERMEDIATE

*Roland Asp, C.E.T.*

Diesel Engines are extremely dependable drivers for fire pumps, as long as the fuel supply is adequate and the equipment is properly designed, installed and maintained. A number of factors must be considered when choosing a diesel engine to drive a fire pump. Some of the important factors to consider include: the starting method, cooling the engine, ventilation of the pump room, fuel supply and noise isolation. From the starting of the engine to the discharge of the exhaust, the parts necessary for the proper operation of the diesel engine will be discussed. Also, this seminar will address the design and performance requirements for diesel engine drivers.

**APRIL 22, 2014**

### Electric Motors for Fire Pumps

BASIC

*Bob Upson*

NFPA 20 provides specific requirements for electric drivers for fire pumps. This includes the types of electric motors acceptable for fire pumps, acceptable voltage drop and current limits, along with the normal and stand-by electrical power sources. This seminar will review the relevant parts of the standard and explain some of the practical considerations for meeting them.

**MAY 6, 2014**

### Fire Pump Controllers

BASIC

*Kenneth E. Isman, P.E.*

Each fire pump and each pressure maintenance (jockey) pump needs its own controller. The controller is the "brains" of the fire pump system, monitoring a number of conditions and deciding when to start the fire pump, and in some conditions, when to stop the fire pump. This seminar will cover the parts, functions, and requirements of controllers for electric motor driven and diesel engine driven fire pumps including the types of signals monitored at the controller and the installation of sensing lines.

**MAY 20, 2014**

### International Building Code and Fire Pumps

INTERMEDIATE

*Jeffery M. Hugo, CBO*

The IBC has specific requirements for fire pumps, including high rise applications and other details for all types of buildings. The fire pump room will be discussed in detail as there are IBC requirements for access, room size, room separation, as well as fire department communications. This course will also address the standby and emergency power loads that impact electric fire pump installations. Where the IBC and NFPA 20 conflict, the differences will be explained in detail.

**JUNE 3, 2014**

### Acceptance Testing of Fire Pumps

INTERMEDIATE

*Bob Upson*

NFPA 20 provides specific requirements for acceptance testing of fire pumps including initial system flushing, hydrostatic testing, and flow testing. This seminar will review the relevant parts of the standard and explain some of the practical considerations for compliance. It will also discuss some important safety considerations for acceptance and periodic testing procedures.

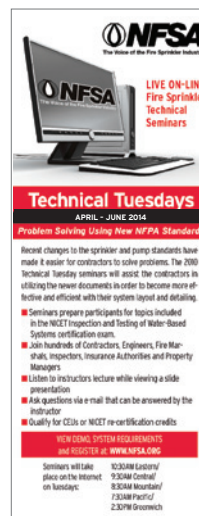
**JUNE 17, 2014**

### Inspection, Testing and Maintenance of Fire Pumps

BASIC

*Jason Webb*

The inspection and testing of fire pumps plays a major role in the overall fire protection strategy for a building. Although NFPA 25 provides guidance on the frequencies of the inspections and tests, the process can get confusing. The type of driver used for the pump, the pump components and even the occupancy all impact fire pump inspection and testing. In this presentation, participants will learn what NFPA 25 requires and how to apply those requirements to their situation. The program will be based on the 2014 edition of NFPA 25 with references to changes from the recent editions.



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# Fire Following Earthquakes

By Victoria B. Valentine, P.E.

**O**ne major incident is enough for any building owner to have to handle, but when a fire occurs immediately following an earthquake, it can be two times the trouble. In the last few years there have been new studies on the performance of mechanical systems, including fire sprinkler systems, subjected to seismic loading. In January 2014, a workshop on "Multi-Hazard Response of Structures: Fire and Earthquake" was held at the National Institute of Standards and Technology (NIST) in Gaithersburg, MD.

This conference brought together experts from seismic engineering and fire protection engineering disciplines. The project is being run through CUREE, the Consortium of Universities for Research in Earthquake Engineering. CUREE was created in 1988 as a non-profit organization with the purpose of advancing earthquake engineering. This group carries out many projects for the federal government. Projects have been conducted both in the United States and abroad. For more information about CUREE, visit their website at [www.curee.org](http://www.curee.org).

The participants in this workshop represented Lehigh University, Princeton University, University of Buffalo, University of California San Diego, and Worcester Polytechnic Institute along with NIST, FM Global, SFPE and many other stakeholders. The goal of the workshop was to create an open exchange on full-scale multi-hazard research needs

along with a strategic direction. This article covers a quick review of recent projects that have been conducted on the earthquake and fire forefronts, many with at least a partial focus on nonstructural systems. In addition, the initial concepts from the Steering Committee were presented and discussed in relation to multi-tiered experimental testing and simulation. Finally, discussion was had on stakeholders of the research and funding sources.

One of the recent projects was completed at the University of Buffalo, State University of New York in April 2013. The research is titled "Experimental Seismic Study of Pressurized Fire Sprinkler Piping Subsystems." The research involved both simulation as well as a full-scale model that was tested on a shake table. This program used an array of materials including black steel pipe with both threaded and grooved fittings and CPVC piping with cement joints. The sprinkler system piping was installed with seismic protection in accordance with NFPA 13 within the testing constraints. Analysis of the data and report are still being done in order to determine if any alterations to current field practices are necessary. However, the research has shown good seismic fragility data which can be used down the road for simulating the performance of piping systems in earthquake modeling.

Another recent research project was completed at the University of California San Diego during 2013. The reports are

still in draft form, but information is being shared. The draft report is titled "BNCS Report #1: Full-Scale Structural and Nonstructural Building System Performance during Earthquakes and Post-Earthquake Fire - Specimen Design, Construction, and Test Protocol." The research itself involved full-scale earthquake testing and post-earthquake fire testing. A 5-story building was constructed on a shake table. Each floor of the building represented a different occupancy, such as a surgical suite, a mechanical room, an office area, etc. The shake table was operated at levels to represent design level earthquakes. Following the seismic testing, fire testing was conducted.

The fire testing was limited due to the conditions of the building as well as local regulations for the University with exposure of fire. The sprinkler system was charged with water but not connected to a continuous water supply. It showed proper operation during the testing, but without a water supply fire control was not expected or analyzed. However, there

>> CONTINUED ON PAGE 17



NFSA's Director of  
Product Standards

**Victoria B. Valentine, P.E.**



The Voice of the Fire Sprinkler Industry



## **Inspection and Testing for the Fire Sprinkler Industry**

This comprehensive text will cover the basic inspection and testing requirements for fire sprinkler and standpipe systems including fire pumps and water tanks that serve as water supplies for these systems. Beginning with a history and development of the rules of inspecting and testing systems and continuing with an explanation of the common terms and basic components, the book includes a complete discussion of the inspection and testing requirements of these fire protection systems. This is an excellent study guide for NICET Level I and Level II certification in the Inspection and Testing of Water-Based Fire Protection Systems.



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were concerns with some of the passive fire protection following the seismic tests. One example is the elevator doors on two of the levels. The exterior doors of the elevator shaft were askew after the seismic testing. This, obviously, allowed smoke and hot gases into the elevator shaft during fire testing conducted on one of the floors.

Reports with the results of recent testing, such as the couple briefly mentioned here, have started a discussion about scenarios that should be examined in the future. Three items discussed in the path of future testing were product validation, improving regulatory requirements, and new applications. Depending on the specific project, one of these items may be a stronger goal and can also change the stakeholders.


Delving into regulatory requirements, it was noted that model building codes along with standards assume a "reasonable" worst case scenario. Typically, this involves only considering one event at a time. For example, engineers would not consider both fire and earthquake hazards to a single building simultaneously. Each event would be considered in the design of the building, but separately. However, nonstructural systems, such as fire sprinklers, often consider the forces throughout the lifespan of the system. In areas subject to earthquakes, seismic protection is installed on the fire sprinkler system so that it can still operate post-earthquake. In general, fire is considered following the earthquake, making it a cascade event instead of simultaneous. This concept is one that has been adopted into the prescriptive requirements for fire sprinkler installation some time ago.

A couple of topics ranking high amongst workshop participants were to be able to characterize nonstructural component damage as well as developing a protocol for gathering nonstructural information post-earthquakes. Characterizing the movement and the possible impact forces of nonstructural systems could lead to better restraining and bracing systems for many mechanical systems. It could also produce less subjectivity in the protection schemes used when

nonstructural systems are near others in the building. One of the many challenges is that each nonstructural system has rules for earthquake protection, but rarely does someone look at the total package of the multiple systems in the same compartment of the building. With more information on how the systems behave together in the space, it will be easier to predict the conditions of the systems after the earthquake. This knowledge could be used to better evaluate the fire protection of a building following an earthquake.

The protocol development would not truly involve "research." However, the stakeholders can benefit from information gathered post-earthquake. There has never been a true focus on data collection following earthquakes for the nonstructural components of a building. This is not to say that no information has been gathered, but the consistency of details does not always allow for the complete picture or comparison with other data. For example, to review the interaction of a suspended ceiling and a sprinkler system, it is important for the conditions to be reviewed by an expert for suspended ceilings and an expert for sprinkler systems. This way the installed conditions can be adequately evaluated and documented. A protocol that could be followed for this would increase the ability to learn from field events improving the knowledge of what is working and what could use improvement.

The workshop was the beginning for coordinating stakeholders and research for fire following an earthquake. The Steering Committee is in the process of compiling the workshop information and the needs of this multi-hazard response program. This CUREE project is bringing industry and research together.

Impactful earthquakes are not an everyday occurrence. Due to the historical records of performance of buildings including their fire protection systems, fire following an earthquake has not been the source of tremendous fatalities in recent years. This, however, does not mean the subject should not be further researched to provide the best possible built environment. 



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## The Fire Sprinkler Guide - 2012 Codes Edition

Produced by NFSA, this second edition of The Fire Sprinkler Guide defines those sections of the three model building codes, the Life Safety Code (NFPA 101) and International Building Code where fire sprinkler systems are required, including partial requirements and construction incentives. The guide includes comparison tables to clarify many of the code requirements. The guide is a valuable tool for architects and engineers, plan reviewers, fire and building inspectors, as well as sprinkler contractors, and serves well as a workbook for students at the NFSA's Design Advantage Seminar. This book is a "must have" for anybody that performs hydraulic calculations of fire sprinkler systems or performs plan review and approval of hydraulic calculations.

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# The Difference of a Generation: A Comparison of Fire Sprinklers in the 1993 BOCA Code to 2012 IBC

By Jeff Hugo, CBO

**T**o know where you are, you must know where you've been. There are many CEOs and presidents of companies who have put long hours in the field or entry positions. Looking back, one can appreciate the hard work and many hours that separates them from yesterday to today. This article will compare the fire sprinkler requirements from the 1993 BOCA Building Code to today's 2012 International Building Code (IBC) and chart the progress of the fire sprinkler industry in the building code arena.

## Trade-Ups

Trade-ups, trade-offs, design advantages, etc. all have the same meaning; they are exceptions to the rules for a fully sprinklered building. These exceptions are typically called trade-offs, but we like to refer to these as "trade-ups." An increase in property protection, life safety and saving money is definitely an "up"...not an "off." The trade-up concept certainly isn't new in the 1993 BOCA, but is actually forming a base of healthy reliance on fully sprinklered buildings. Fire modeling, experience with fire in sprinklered buildings, fire sprinkler performance are all valid reasons why fire sprinklers get trade-ups in the building codes. These trade-ups have a positive effect on the building industry and this becomes clear when the 2012 IBC edition is published. Trade-ups are highly sought after by the architect for design flexibility or to the building

owner for savings and business continuity. The table below shows the number of trade-ups available for each use group in each edition of the code.

	1993 BOCA	2012 IBC
School (E)	25	79
Office (B)	26	82

## Terminology

In time, the use of definitions and specific terminology has improved. The 1993 BOCA lumps the automatic fire sprinkler system in with other suppression agent systems, such as wet or dry chemical, carbon dioxide, or other similar systems to be used when the building area exceeded the minimum square footage threshold. For example, an E use (K-12 school) that exceeded 20,000 sq. ft. could have used a wet chemical system throughout instead of a fire sprinkler system. A ridiculous idea, in cost and concept, but permitted by this code. The typical "suppression" system, such as a wet chemical system, is typically a "one-shot" deal, meaning, all the agent is expelled when activated. There is no other agent available for a fire that rekindles, nor is there an interconnection with the responding fire department to provide additional agent or pressure. The 2012 IBC specifically requires an automatic sprinkler system when the fire area exceeds a set amount. The case by

sprinkler opponents was often made that these suppression or active systems are too expensive and one could easily use passive measures to control fire. Archi-

itects and school boards to this day are still under the mindset that fire sprinklers are too costly, however, great strides have been made through NFSA's training and education department in providing training to architects to eliminate this way of thinking and designing.

## Building Area

The allowable area per floor is a big change. The 2012 IBC permits a much larger building foot print, and in some use groups, it nearly doubles the area that was permitted by the 1993 BOCA. The fire sprinkler area increase is where this is really noticeable. The fire sprinkler

» CONTINUED ON PAGE 21



NFSA's Manager  
of Codes

Jeff Hugo, CBO

## NFSA's Hydraulics Handbook

The National Fire Sprinkler Association is proud to announce the release of The Hydraulics Handbook, an overhaul and update of a publication originally put out in the early 1990's. This new updated edition is a comprehensive discussion of everything having to do with the hydraulic calculation of sprinkler systems. There are three distinct parts to the new Handbook:

1. Excerpts from the NFSA textbook Layout, Detail, and Calculation of Fire Sprinkler Systems that deal with hydraulics. These comprehensive chapters cover the methods and concepts involved with calculating a fire sprinkler system by hand or with a computer program. Each chapter ends with a series of questions to make sure that the user understood the concepts in the chapter.
2. A brief discussion of conducting hydraulic calculations from the perspective of a code enforcement official. This discussion is helpful for the plan review of calculations that have been submitted. A sprinkler technician can also use this information in spot checking the output from a computer program.
3. Friction loss tables. There are many different types of pipe and tube used in sprinkler systems. For each type of pipe, this book has a page with the friction loss per foot of pipe at a variety of different flows. Each page also contains the equivalent length of the fittings (tees, elbows, control valves, and check valves). These pages substitute for performing the Hazen-Williams friction loss calculation on a calculator and save time for people performing hydraulic calculations by hand or for people wanting to spot check calculations performed by a computer.

With almost 400 pages of text, this book is a "must have" for anybody that performs hydraulic calculations of fire sprinkler systems or performs plan review and approval of hydraulic calculations. **Order your copy at [www.nfsa.org](http://www.nfsa.org) at the Resource Center or fill out and return the order form below.**

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TABLE 1A	Non-combustible Construction (2C)1993 BOCA	Non-combustible Construction (IIB) 2012 IBC	Combustible Construction (5A)1993 BOCA	Combustible Construction (VA) 2012 IBC
1-story school (E)				
Non-sprinklered	14,400 sq. ft.	14,500 sq. ft.	15,300 sq. ft.	18,500 sq. ft.
Sprinklered	43,200 sq. ft.	58,000 sq. ft.	45,900 sq. ft.	74,000 sq. ft.
3-story office (B)				
Non-sprinklered	11,520 sq. ft.	23,000 sq. ft.	12,240 sq. ft.	18,000 sq. ft.
Sprinklered	25,920 sq. ft.	69,000 sq. ft.	27,540 sq. ft.	54,000 sq. ft.

TABLE 2 When Sprinklers are Required		
	1993 BOCA	2012 IBC
A-1, A-3, A-4: Theaters, churches, arenas	When fire area exceeds 12,000 sq. ft.	When fire area exceeds 12,000 sq. ft. or 300 or more occupants
A-2: Nightclubs	When fire area exceeds 5,000 sq. ft.	When fire area exceeds 5,000 sq. ft. or 100 or more occupants
B - Ambulatory care facilities	Not in 1993 BOCA	Exceeds four patients rendered incapable
E: K-12 school	When fire area exceeds 20,000 sq. ft.	When fire area exceeds 12,000 sq. ft.
I: Institutional	Sprinklered throughout	Sprinklered throughout
M: Mercantile	When fire area exceeds 12,000 sq. ft., combined fire area exceeds 24,000 sq. ft. or over 3 stories	When fire area exceeds 12,000 sq. ft., combined fire area exceeds 24,000 sq. ft. or over 3 stories. Display and sale of upholstered furniture exceeds 5,000 sq. ft.
High-piled Storage	Not in 1993 BOCA	Sprinklered throughout
S-1: Storage	When fire area exceeds 12,000 sq. ft., combined fire area exceeds 24,000 sq. ft. or over 3 stories	When fire area exceeds 12,000 sq. ft., combined fire area exceeds 24,000 sq. ft. or over 3 stories. Display and sale of upholstered furniture exceeds 2,500 sq. ft.
Bulk storage of tires	Not in 1993 BOCA	When storage exceeds 20,000 cu.ft.


>> CONTINUED FROM PAGE 19

area increases the maximum area in Table 503 by 200 percent for one and two story buildings and 100 percent for buildings three stories and over in the 1993 BOCA. These increases differ in the 2012 IBC, as the area increases are 300 percent for one story buildings and 200 percent for multi-story buildings. For an example of the differences between the two code editions, see Table 1.

### Where Sprinklers are Required

The use of sprinklers has evolved with the progression of codes. It is very clear by comparing the two codes in Table 1b, that each specific use group has increased the use of sprinklers. In the approximately 20 years between the two editions, many tragic events have occurred to shape where fire sprinklers are required in the 2012 IBC. These include: One Meridian Plaza fire (1991), World Trade Center bombings (1993), September 11 attacks on World Trade Center and the Pentagon (2001), The Station nightclub fire (2003), and the Charleston Sofa Super Store fire (2007), to name a few.

### NFSA's Involvement in Building Codes

NFSA has had a dedicated position specifically to advocate for fire sprinklers in the building code arena for several decades. It is clear that this advocacy and representation pays off in the increased use of fire sprinklers in the building industry. We hope that when 2033 IBC is published, its comparison to the 2012 IBC can be shortened and summarized by two words for all occupancies: SPRINKLERED THROUGHOUT! 

## NEW MEMBERS

### CONTRACTOR

**AAA FIRE SPRINKLERS, INC.**  
Miguel Landestoy  
Hollywood, Florida

**AMERICAN FIRE SPRINKLER SERVICES, INC.**  
Anisa Oweis, *President*  
Miami Gardens, Florida

**BROTHERS FIRE PROTECTION, INC**  
Rick Sheffield  
Pompano Beach, Florida

**CARPENTER FIRE PROTECTION, INC.**  
Marion Carpenter III  
Geneva, Florida

**FYR-FYTER, INC.**  
Jeff Back  
Oneonta, New York

**OCALA BACKFLOW & FIRE SPRINKLERS, LLC.**  
Michael Hodge  
Ocala, Florida

**PRIORITY 1 FIRE INC.**  
H. Louis Sauls  
Polk City, Florida

**SIEMENS INDUSTRY, INC.**  
Daniel Finnegan  
Buffalo Grove, Illinois

**THE AEGIS LIFE AND FIRE SAFETY COMPANY**  
Linda Logsdon  
Lakewood, Colorado

### SUPPLIER & MANUFACTURER

**LONG ISLAND PIPE SUPPLY, INC.**  
Robert Moss  
Garden City, New York

### PROFESSIONAL

**ACCORD SOLUTIONS GROUP, LLC**  
Brandon Folse  
Lees Summit, Missouri

**EXPONENT, INC.**  
Richard Thomas Long, Jr.  
Bowie, Maryland

**FIRE DYNAMICS – HENDERSON ENGINEERS INC.**  
Mike Phillips  
Lenexa, Kansas

**KOFFEL ASSOCIATES, INC.**  
Myron Draper III  
Columbia, Maryland

### SUBSCRIBER

**LAS POSITAS COLLEGE**  
Bryan Pokorny  
Livermore, California

**MONTGOMERY COUNTY PERMITTING SERVICES**  
Joseph Felton  
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**RISK CONTROL SERVICES**  
Guillermo MacCarthy  
Homestead, Florida







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# GET HOOKED ON NFSA MEMBERSHIP

BRING A MEMBER ONBOARD-WIN GREAT PRIZES!



The National Fire Sprinkler Association is sponsoring a “**Get Hooked on NFSA Membership**” campaign. Here’s how it works. If you are an NFSA member in any category and “*lure*” a fire sprinkler contractor or supplier manufacturer (SAM) to *join NFSA between now and March 31, 2014*, you and the new member will each get “*hooked up*” with a \$100 gift card from Atlantis, site of this year’s Annual Seminar. You’ll both also be entered into a drawing to “*snag*” two spots on a 6-person deep sea fishing boat where you’ll have an excellent opportunity to “*hook up*” with tackle-testing marlin and tuna.

If you’ve been simply sitting on the dock waiting for a “*hit*,” now is the time to make that perfect “*cast*” to “**Get Hooked on NFSA Membership**” and attend the fire sprinkler industry’s “*record-book*” Annual Seminar at Atlantis.

**JOIN NFSA TODAY! VISIT US ONLINE AT [WWW.NFSA.ORG](http://WWW.NFSA.ORG)**

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The Voice of the Fire Sprinkler Industry



2014 NFSA ANNUAL SEMINAR  
ATLANTIS | PARADISE ISLAND, BAHAMAS  
MAY 8-10, 2014

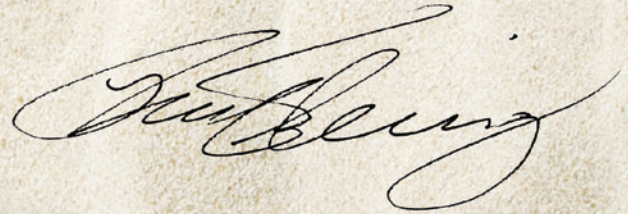
## Join Us in the Bahamas



We hope you will join us at the Atlantis on Paradise Island for the 2014 Annual Seminar of the National Fire Sprinkler Association. As someone who has attended every NFSA Annual Seminar since 1975, I can confirm that this is the first time the Association has ever gone back to the same venue. The Annual Seminar in 2008 at the Atlantis was so successful and popular that the resort warranted a return visit.

As in the past, the Association staff has worked with the Board's Seminar and Exhibition Committee to come up with a program that mixes just the right amount of educational and social events. Part of Thursday morning's program is the "Association Business Meeting," a concept introduced last year in Las Vegas, which allows the departments and committees of NFSA to report directly to the membership on their activities over the past year. Another highlight will be the presentation of the Golden Sprinkler Award to Gregg Huennekens, who has been a mainstay of NFSA leadership for many years. From the welcoming address Thursday morning to the closing banquet Saturday night, we believe that you will find many opportunities for learning, and for sharing concerns and new ideas with your colleagues from around the country.

Between the time that we were here at the Atlantis in 2008 and now, we have experienced a difficult time, a Great Recession that set back the fire sprinkler industry along with the rest of the construction industry in the United States. Let us hope that these two seminars serve as bookends for those lean years. Just as 2008 marked the end of one period of prosperity, we believe that 2014 will be the start of a new era of prosperity, as the tremendous value of fire sprinklers is recognized for all new and existing buildings.

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

**RUSSELL P. FLEMING**

*President, NFSA*

## SPEAKER PRESENTATIONS

### State of the Industry Address | *Russell Fleming*

NFSA President Russ Fleming will discuss the significant developments affecting the fire sprinkler industry over the past year, and will present an overview of some new challenges and opportunities.

### Economic Address | *Greg Coggiano*

As an expert in fire protection industry metrics, Greg is uniquely qualified to evaluate the economy's impact on contractors and suppliers actively engaged in the fire sprinkler industry. As an exclusive in the Nov/Dec 2013 issue of SQ magazine, he wrote an article entitled, "What Happened in the First Half of 2013 and What Might We Expect Moving Forward." As a primer to his presentation at this year's conference, he was interviewed by David Vandeyar for NFSA. tv. [View Interview.](#)

### Impact of the Affordable Care Act on Small Business | *Emily Adams*

Emily is an Employee Benefits Consultant with USI, the #1 employee benefit communication and enrollment services provider in the U.S. She has extensive experience with employee benefits and strives to be a practical voice amid the chaos of Health Care Reform for clients across the country.

### State of the Technology – 2014 | *Ken Isman*

The Top Ten Technical Topics facing the fire sprinkler industry for 2014 will be discussed including the fixing of mistakes in the 2013 edition of NFPA 13, the progress on the development of the 2016 editions of the NFPA fire sprinkler and fire pump standards, and an update on the antifreeze situation. What other topics will make the list? Come to this exciting and informative program to find out.

## Association Technical Meeting Presentations: "Why It's Good for Business"

### Why It's Important to Participate in the NFPA Standards Process | *Matt Klaus*

NFPA's sprinkler standards are developed through an ANSI accredited codes and standards development. This process affords everyone, technical committee members and the general public alike, the opportunity to provide their thoughts on necessary code changes. This session will look at the importance of being part of this process, as well as how one can get involved. The session will also include a walk-through on the NFPA "public input" submission process and a status update on where in the NFPA standards development process the sprinkler standards are.

### Advantages of Being Certified to Conduct Work in Health Care Facilities | *Tim Adams*

With a generation of "baby boomers" having entered or approaching retirement, long term health care facilities are in demand. This presentation will bring focus to the importance of fire sprinkler contractors understanding Life Safety Code® requirements unique to healthcare facilities. The ASHE-Health Care Construction Certificate program will also be reviewed.

### NFSA Influence on Fire Sprinkler Research | *Kerry Bell*

Several sprinkler research initiatives in recent years have had a significant impact on the fire sprinkler community. This presentation will include a discussion of some of these important research efforts and highlight the role of NFSA and its members in these activities. Opportunities for future research activities will also be discussed.

### E&S Committee Accomplishments | *Terry Victor*

The NFSA Engineering and Standards Committee (E&S) is recognized throughout the fire protection community as the "think tank" for code changes and other technical issues that impact the sprinkler industry. This presentation will reveal the makeup of the E&S Committee, explain its operating policies, and walk the attendee through a typical E&S Committee meeting. Attendees will learn how codes changes are proposed to E&S, which ones are then submitted to organizations such as the NFPA, and how the NFSA staff and representatives advocate for these changes at code meetings and hearings. A few of the more important code changes initiated by the NFSA Engineering and Standards committee over the years will be showcased.

### NFSA Influence in the Building Codes and Fire Service as Allies | *Jeff Hugo and Robert Upson*

NFSA has had a dedicated position specifically to advocate for fire sprinklers in the building code arena for several decades. It is clear that this advocacy and representation pays off in the increased use of fire sprinklers in the building industry. The fire service continues to be a valuable ally in sprinkler advocacy. Current and future editions of the building codes increase the use of fire sprinklers providing increased life safety for both building occupants and firefighters.

#### NFSA Seminar & Exhibition Committee

Kent Mezaros	co-chair, Quick Response Fire Protection
Chuck Kitts	co-chair, System Sensor
Jim Boulanger	Patriot Fire Protection
Buck Buchanan	Globe Fire Sprinkler Corporation
Randy Greenslate	Fire Protection Products, Inc.
Harve Horowitz	Exhibit Promotions Plus
John Kauffman	The Kauffman Company
Don Smith	Chicago Backflow
Dean Taylor	Anvil International

# SCHEDULE OF EVENTS

## Thursday, May 8

7:00 a.m. – 5:00 p.m.	Registration desk open
7:00 a.m. – 8:00 a.m.	Continental Breakfast
8:00 a.m. – 12:30 p.m.	General Session
8:00 a.m. – 9:00 a.m.	Welcoming address
	Awards presentations
	Hall of Fame inductions
	Leadership in Public Safety
	Technical Service
	Golden Sprinkler
9:00 a.m. – 10:30 a.m.	Association Business Meeting
	Annual Report
	Chapter reports
10:30 a.m. – 11:15 a.m.	Committee Reports (ITM, E&S, Seminar & Exhibition, others)
11:15 a.m. – 12:00 p.m.	State of the Industry (Russell Fleming)
12:00 p.m. – 12:45 p.m.	Economic Outlook (Coggiano)
1:00 p.m. – 3:00 p.m.	Impact of Affordable Care Act on Small Business (Emily Adams)
	Contractors Forum (lunch)
	Spouses program
	(lunch, 2015 Annual Seminar site preview, souvenir pottery class)
6:30 p.m. – 8:30 p.m.	Welcoming Reception – Cocktails and heavy hors d'oeuvres

## Friday, May 9

7:00 a.m. – 2:30 p.m.	Registration desk open
7:00 a.m. – 8:00 a.m.	Continental Breakfast
8:00 a.m. – 1:30 p.m.	Association Technical Meeting
8:00 a.m. – 8:45 a.m.	State of the Technology (Kenneth Isman)
8:45 a.m. – 9:30 a.m.	Why It's Important to Participate in the NFPA Standards Process (Matt Klaus)
9:30 a.m. – 9:45 a.m.	Break (Prize Drawings)
9:45 a.m. – 10:30 a.m.	Advantages of Being Certified to Conduct Work in Health Care Facilities (Tim Adams)
10:30 a.m. – 11:15 a.m.	NFSA Influence on Fire Sprinkler Research
	Why is it good for business (Kerry Bell)
11:15 a.m. – 11:30 a.m.	Break (Prize Drawings)
11:30 a.m. – 12:15 p.m.	E&S Committee Accomplishments
	How NFSA Decides (Terry Victor)
12:15 p.m. – 1:00 p.m.	NFSA Influence in the Building Codes and Fire Service as Allies Why it is good for business (Jeff Hugo & Robert Upson)
1:00 p.m.	Final Prize Drawings and Closing Remarks
2:30 p.m. – 5:30 p.m.	Volleyball Tournament w/light refreshments
	Evening open

## Saturday, May 10

7:00 a.m. – 10:00 a.m.	Registration desk open
11:30 a.m.	Busses depart hotel for golf club
12:30 p.m. – 6:30 p.m.	Golf Tournament (box lunch)
8:00 p.m. – 10:00 p.m.	Poolside/Beach Party



# NFSA 2014 ANNUAL SEMINAR REGISTRATION FORM



NFSA would like you to know that to save both natural resources and funds, no paper brochures will be distributed by NFSA for this event, full registration is available on-line. Registering on-line saves you time and money, and keeps all of your information accurate and secure! Please use this digital document as a resource to assist you in your on-line registration. If you have any questions about the process, please do not hesitate to contact NFSA. We look forward to welcoming you at Atlantis!

PRINT OR TYPE – THIS FORM MAY BE PHOTOCOPIED FOR ADDITIONAL REGISTRANTS

CHECK ONE:

- NFSA Member # \_\_\_\_\_
- Non-Member

FIRST NAME FOR BADGES:

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Registrant \_\_\_\_\_

Spouse/Guest \_\_\_\_\_

Children (over 18 fee required) \_\_\_\_\_ Age \_\_\_\_\_

\_\_\_\_\_ Age \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Telephone \_\_\_\_\_ Fax \_\_\_\_\_

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Email \_\_\_\_\_

## SEMINAR REGISTRATION FEES:

CIRCLE APPROPRIATE AMOUNTS:

<u>NFSA Members</u>		After April 11th
Registrant	\$745	\$945
Additional	\$695	\$895
Spouses	\$400	\$445

Non-Members:

Please contact NFSA Membership Department at 845-878-4200, for membership information

Registrant	\$995	\$1195
Spouses	\$645	\$745

Total Seminar Registration Fee:

Transfer Total to summary page 8:



Refund policy:

- 100% before April 8, 2014
- 50% between April 8 – April 22, 2014
- 0% after April 22, 2014

**STOP!**

In order for Saturday's Beach Party to be a success, it is imperative that the hotel have an accurate count for food. To that end, please indicate here how many people will be in your party. Be reminded this event is for full seminar registrants only. Thank you.



## GOLF REGISTRATION

### Ocean Club Golf Course

**Saturday, May 10, 2014**

Shotgun Start: 12:30 p.m.

Golf registration: **\$225** per person  
(includes lunch)

Club Rental fee: **\$70** per set  
(includes two sleeves of balls)

**Busses departing hotel at 11:30 a.m. sharp!**

Name \_\_\_\_\_

Club Rental: Lft/Rt \_\_\_\_\_ Handicap \_\_\_\_\_

Name \_\_\_\_\_

Club Rental: Lft/Rt \_\_\_\_\_ Handicap \_\_\_\_\_

Name \_\_\_\_\_

Club Rental: Lft/Rt \_\_\_\_\_ Handicap \_\_\_\_\_

Name \_\_\_\_\_

Club Rental: Lft/Rt \_\_\_\_\_ Handicap \_\_\_\_\_

**Total Golf Fee** (please include Golf Rental Fee)  
Transfer Total to summary sheet page 8



## VOLLEYBALL TOURNAMENT REGISTRATION

**Friday, May 9, 2014 - 2:30 p.m.**

Sign up as a six-person team or as an individual and we will place you with other free agents.

Preformed Teams (\$125 per team)

**Preformed Teams (\$125 per team)**

TEAM CAPTAIN \_\_\_\_\_

TEAM NAME \_\_\_\_\_

**Team Members:**

(6 people, no more than four of same gender, must be full registrants)

Man /  Woman \_\_\_\_\_

Man /  Woman \_\_\_\_\_

Man /  Woman \_\_\_\_\_

Man /  Woman \_\_\_\_\_

Man /  Woman \_\_\_\_\_

Man /  Woman \_\_\_\_\_

**Total amount for Volleyball**

Transfer Total to summary sheet page 8



CONTACT NAME: \_\_\_\_\_

COMPANY: \_\_\_\_\_

CITY/STATE/ZIP \_\_\_\_\_

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**Individuals (x \$25 per person):**

NAME \_\_\_\_\_

NAME \_\_\_\_\_

**Send forms with payments to:** NFSA Annual Seminar, 40 Jon Barrett Road, Patterson, NY 12563  
Fax credit card orders to: (845) 878-4215





## HOTEL RESERVATIONS

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**May 8-10, 2014**

Make Reservations Now

Phone: 888.877.7525

**NFSA's Group Code is GKUJJD4**

**Reservation deadline is April 10, 2014**

## ANNUAL SEMINAR CHECKLIST

### REGISTRATION DESK HOURS:

Thursday, May 8, 2014	7:00 a.m. – 5:00 p.m.
Friday, May 9, 2014	7:00 a.m. – 2:30 p.m.
Saturday, May 10, 2014	7:00 a.m. – 10:00 a.m.

- Send seminar registration form as soon as possible to take advantage of the “early-bird” discount. The deadline is **April 7, 2014**.
- Be sure to include an email address to receive a registration confirmation and all conference updates.
- The room reservation deadline at Atlantis is **April 10, 2014**.
- Be sure to indicate on the seminar registration form the number of full conference registrants attending the beach/pool party being held at the close of the conference on Saturday evening.
- If you are renting golf clubs, be sure to include the rental fee with the registration.
- Make flight reservations early. There are a limited number of flights each day into **Nassau, Bahamas**.
- Be sure to carry a passport. Passports are required on all flights into the U.S.
- For additional information, contact Michael Repko at 845.878.4200 ext. 120.
- This is a non-exhibition year Annual Seminar. The next NFSA full-dressed trade show will be held in conjunction with the 2015 Annual Seminar being held April 30 – May 2, 2015 at Hilton Bonnet Creek in Orlando, Florida. For booth space information, contact NFSA show manager Harve Horowitz at 410.997.0763 or email [exhibit@epponline.com](mailto:exhibit@epponline.com).

# NFSA 2014 ANNUAL SEMINAR

Atlantis | Paradise Island, Bahamas

May 8 – 10, 2014

This form has been included with the Seminar Registration packet to help us process your registration quickly and accurately. Please make a copy of it for your records and mail it, along with your NFSA registration forms to: NFSA Annual Seminar, 40 Jon Barrett Road, Patterson, NY 12563. Credit card orders may be faxed to (845) 878-4215.

NFSA Registrations	Date Ordered	Individual Form Totals
Annual Seminar	_____	A
Golf Registration	_____	B
Volleyball Registration	_____	C
	<b>Grand Total:</b>	

The registration forms for the activities listed above should be returned with payment to:  
 NFSA Annual Seminar  
 40 Jon Barrett Road  
 Patterson, New York 12563

Enclosed is our check (add \$50 for foreign checks) or money order, in the amount of the Grand Total for NFSA Annual Seminar and related events, made payable to National Fire Sprinkler Association, or

Charge my:

Visa  MasterCard  AMEX

Account # \_\_\_\_\_

Exp. Date \_\_\_\_\_

Address \_\_\_\_\_

Signature \_\_\_\_\_

## NFSA 2014 Annual Seminar | May 8 – 10, 2014

Company Name \_\_\_\_\_

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City/State/Zip \_\_\_\_\_

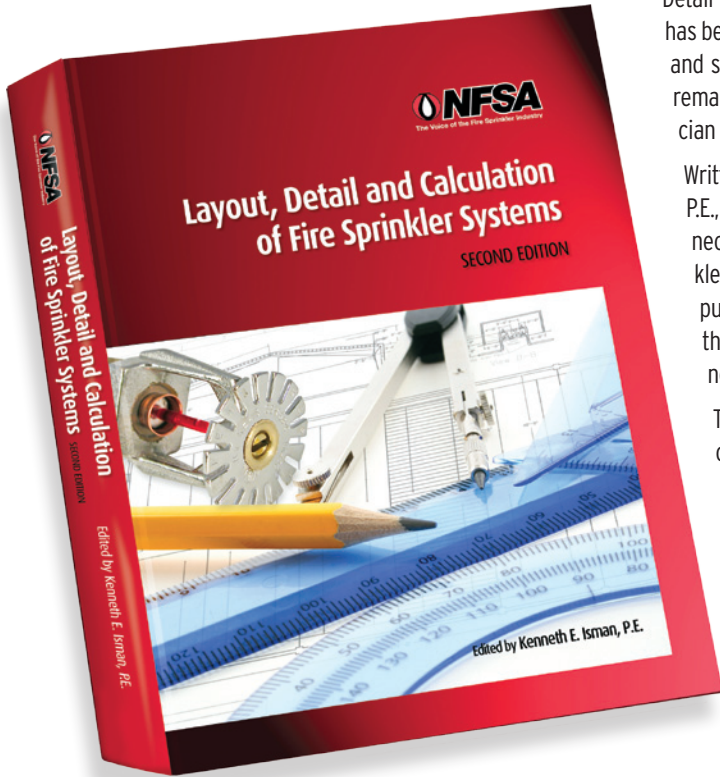
Email \_\_\_\_\_

Signature \_\_\_\_\_ Fax \_\_\_\_\_

Ordered by \_\_\_\_\_ Date \_\_\_\_\_

Print Name \_\_\_\_\_

## 2nd Edition of Layout, Detail and Calculation of Fire Sprinkler Systems



The NFSA announces the publication of the 2nd Edition of its popular textbook, *Layout, Detail and Calculation of Fire Sprinkler Systems*. This newly revised hardcover textbook has been updated to reference the 2007 and 2010 editions of NFPA 13 with more examples and student exercises and new chapters on contract issues and stocklisting. This text remains the most complete book ever written for the fire sprinkler engineering technician and it's available now!

Written by the NFSA Engineering Department staff and edited by Kenneth E. Isman, P.E., Vice President of Engineering, this text covers every aspect of determining the necessary details for a fire sprinkler system including: hazard classifications, sprinkler spacing, hanger and brace requirements, hydraulic calculations, water supplies, pumps and tanks. The text also contains a review of basic math and physical science that is helpful in understanding the scientific principles behind the requirements that need to be followed.

This text makes an excellent self-study guide for the NICET Automatic Sprinkler Layout and Detail certification program and covers all of the work elements necessary to achieve Level 2 certification and many of the elements needed to achieve Level 3 and Level 4 certification. Even if you are not studying for a NICET exam, this text makes an excellent self-study guide for anyone wanting to know more about fire sprinkler systems.

The text retails for \$95 (plus S&H) to members of the NFSA and \$145 for non-members (plus S&H). **However, as an extra added bonus, to reward the people that purchased the first edition of the book, if you clip Ken Isman's picture out of the 1st Edition back cover flap and send it back to us with your order (mail orders only, no fax orders for this offer), then you can take another \$10 off the price of a single book (\$70 + S&H for members and \$120 for non-members). To get your book, fill out the following form and return it with your payment.**

NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

STREET ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

COUNTRY \_\_\_\_\_ PHONE \_\_\_\_\_ E-MAIL \_\_\_\_\_

MEMBERS \_\_\_\_\_ x \$70 + Ken's picture = \$ \_\_\_\_\_      NON-MEMBERS \_\_\_\_\_ x \$120 + Ken's picture = \$ \_\_\_\_\_

MEMBERS \_\_\_\_\_ x \$80 = \$ \_\_\_\_\_      NON-MEMBERS \_\_\_\_\_ x \$130 = \$ \_\_\_\_\_

+S&H: (\$10 book) \_\_\_\_\_ + Sales Tax: (NY only based on destination) \_\_\_\_\_ = Total: \$ \_\_\_\_\_

Enclosed is a check or money order, or  Please charge my:  AMEX  MASTERCARD  VISA

CARD NUMBER \_\_\_\_\_ EXPIRATION DATE \_\_\_\_\_ 3-DIGIT SECURITY CODE: \_\_\_\_\_

NAME AND ADDRESS OF CARDHOLDER IF DIFFERENT FROM ABOVE \_\_\_\_\_

SIGNATURE OF CARDHOLDER \_\_\_\_\_

**Return to: NFSA Resource Center, 40 Jon Barrett Road, Patterson, NY 12563 or Fax to (845) 878-4215**



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# Demystifying Hydraulic Calculations

It's not unusual to see discussions about hydraulic sprinkler calculations here in **SQ** and throughout our NFSA educational programs. Just exactly what is it that we're doing with all those equations? We know that using the hydraulic design method provides significant cost savings over using traditional pipe schedules but we don't often stop to think about the science behind accurately modeling how a sprinkler system will perform while it's still just a design on paper.

During many industry hydraulics classes, time constraints don't allow for much discussion of the science behind the numbers and equations. We're left with "magic numbers" that we just need to remember and equations that we just need to trust to work on faith.

It's helpful, to me anyway, to take a few steps back and consider exactly what it is we're doing when we do hydraulic calculations to model a sprinkler system mathematically either by hand or using computer software. Our calculations are really an accounting process for the energy contained in the water filling our sprinkler pipes from one end to the other. When we do calculations for a remote area, we're just balancing the energy "checkbook" to make sure our energy budget is sufficient for anticipated expenses. Wherever there is an open sprinkler, we have to make an energy withdrawal and friction loss is energy we pay out in interest out along the way.

We don't usually think of sprinkler calculation in terms of energy. Typically, we

tend to think of them in terms of water flow and pressure but, in reality, they amount to the same thing. They're just energy expressed in more familiar terms. Water under pressure has potential energy even when it's just sitting there and when it's flowing it also has kinetic energy; the energy associated with motion. Pressure is literally an expression of the amount of energy contained in a given volume of water.

The theory is simple. Based on principles published by Daniel Bernoulli back in 1738, we know that that what goes in one end of a pipe comes out the other both in terms of water and energy. That may seem obvious but what Bernoulli did was provide us with simple formulas for summing up the energy in the water in terms of the pressures representing kinetic and potential energy.

$$\frac{\rho v^2}{2} + (p + \rho g z) = \text{Constant Pressure}$$

## Bernoulli's Principle in Terms of Pressure

If we add the kinetic energy of the water represented by its velocity pressure,  $(\rho v^2) / 2$ , to the potential energy of the water represented by its hydraulic pressure,  $(p + \rho g z)$ , we get a total pressure that remains constant throughout an ideal system. This is what allows us to predict the total pressure in one part of a water system by knowing what the pressure is in another.

The kinetic energy of the water is associated with its flow, which we usually quantify as "Q". So what has that got to do with velocity pressure? Velocity pressure is equal to the density of the water multiplied by its velocity squared and divided by two. We can find velocity by dividing the quantity of water flowing through a pipe and dividing it by the cross sectional area of that pipe. For ordinary round pipe with an internal radius of "r" the cross-sectional area is pi multiplied by the square of the radius giving us  $v = Q / (\pi r^2)$ . So we can see that velocity and velocity pressure are directly related to our more familiar quantities; flow and pipe size.

$$\text{velocity pressure} = \frac{\rho v^2}{2} = \frac{\rho \left( \frac{Q}{\pi r^2} \right)^2}{2}$$

## Velocity Pressure in Terms of Flow and Pipe Size

The potential energy of water is associated with its hydraulic pressure which has two parts: elevation pressure created by

>> CONTINUED ON PAGE 36



Bob Upson

NFSA's Manager  
of Installation  
Standards

the water's own weight,  $\rho g z$ , and pressure,  $p$ , created by "squeezing" the water with an outside force (i.e. a pump, a captive air pressure tank, a piston, etc.). The hydraulic pressure is what we're generally referring to whenever we think of the "pressure" at a given point in a sprinkler system.

The elevation pressure term,  $\rho g z$ , is just the density of water,  $\rho$ , multiplied by gravity,  $g$ , multiplied by the elevation above some convenient datum,  $z$ .  $\rho g$  is the same as specific weight which is the weight of a standard volume of water. For our purposes, the specific weight of water is usually given as 62.4 pounds per cubic foot. This is the source of one of the "magic numbers" we come across in sprinkler calculations; 0.433 psi /ft.

$$62.4 \frac{\text{pounds}}{\text{ft}^3} / 144 \frac{\text{in}^2}{\text{ft}^2} = 0.433 \frac{\text{pounds}}{\text{ft}^3} / \frac{\text{in}^2}{\text{ft}^2} = 0.433 \frac{\text{psi}}{\text{ft}}$$

### Elevation Pressure in psi/foot

If we want to know how much elevation pressure there is at any given point in a system relative to our datum, we need only multiply the distance in feet above the datum by 0.433 psi/ft.

We generally aren't concerned about the difference in elevation pressure between the top and bottom of a horizontal pipe unless it's a very large diameter pipe. It does become an issue when we're comparing one portion of a pipe system to another at a significantly different elevation; like when we compare the elevation pressure at the bottom of a sprinkler riser to the elevation pressure at a remote sprinkler near the ceiling. Elevation pressure is unique in that it can go up and down in a piping system from one place to another whether or not water is flowing.

So what does all this do for us? It gives us a way to compare and combine flow and pressure on an equal footing by viewing them both as expressions of energy. Consider this example:

If we imagine a large open tank with a water level 50 feet above ground level we know that the elevation pressure at ground level is 50 ft x 0.433 psi/ft or about 22 psi. What happens if we open a 3 inch diameter opening from the tank at

ground level? Bernoulli's equation is all we need to estimate the flow because we know that the kinetic energy of the flow where it leaves the tank as expressed by velocity pressure will equal the potential energy of the water inside the tank as expressed by elevation pressure.

$$0 + (\rho g z + 0) = 22 \text{ psi}$$

The tank's water pressure at ground level is entirely elevation pressure.

$$\frac{\rho v^2}{2} + (0 + 0) = 22 \text{ psi}$$

The pressure of the water jet leaving the tank at ground level is entirely velocity pressure.

That means that the velocity pressure measured where the water leaves the tank will also equal 22 psi and, as shown previously, velocity pressure is directly related to flow,  $Q$ , and the pipe radius,  $r$ .

$$22 \text{ psi} = p = \frac{\rho \left( \frac{Q}{\pi r^2} \right)^2}{2}$$

If we solve for flow,  $Q$ , we get 1260 gpm flowing from the 3 inch opening. The step-by-step solution has been omitted here because it's a bit long and ungainly when you plug in all the necessary conversions for our U.S. customary units of measurements but the last step should look familiar to anyone who's ever calculated flows based on pressure and K-factors;

$$Q = \left( \frac{\pi \sqrt{2} r^2}{\sqrt{\rho}} \right) \sqrt{p} = 1260 \text{ gpm}$$

The equation inside the parentheses is the k-factor for a round opening with radius  $r$ .

This process can be applied anywhere in a pipe system and is the core of our energy accounting process when we do hydraulic calculations for an ideal sprinkler system. But, as we know, no system is ideal. When we do hydraulic calculations for a sprinkler system there's one more factor that has to be taken into account:

Friction loss.

Bernoulli's equation holds up very well for comparing flows where friction losses are insignificant but it doesn't account for the energy lost by water flowing in a pipe. By itself, it predicts that the energy in one part of piping system is ideally the same as the energy in another part of the same system.

$$P_1 = P_2$$

Total Pressure at Location 1 = Total Pressure at Location 2

In reality, moving energy from one place to another costs energy along the way. This is where the "interest" comes into our energy accounting. And, like financial interest, calculating friction loss can be a challenge.

$$P_1 - P_{FL_{1 \rightarrow 2}} = P_2$$

Total Pressure at Location 1 minus Friction Loss = Total Pressure at Location 2

Building on the work of several other scientists around 1845, Julius Weisbach refined an equation by Henry Darcy to calculate friction loss in pipes. It might be familiar to anyone who has done sprinkler calculations for antifreeze systems or foam systems.

$$\Delta P = 0.000216 f \frac{l \rho Q^2}{d^5}$$

### Darcy-Weisbach Friction Loss Equation

The Darcy-Weisbach equation looks innocuous enough until you realize that calculating a value for the friction factor,  $f$ , requires the additional calculation of a Reynolds Number based on several relatively obscure variables and applying them to an arcane Moody diagram that involves making three subjective interpretations to read the complicated diagram to produce a value for  $f$ . It's a very powerful formula and you can do all the math with a pencil and paper, but it can be tedious to work with. Fortunately, there is a more user-friendly alternative suitable for most sprinkler calculations.

The equation we commonly use in hydraulic calculations is the Hazen-Williams friction loss equation. It resembles Darcy-Weisbach without the need for a Moody diagram and a lot of subjective interpolation. If it has a practical disadvantage it's that it can't readily be done with pencil and paper but that problem can be overcome with any calculator with a "y raised to the x power" key.

$$P_{FL} = \frac{4.52Q^{1.85}}{C^{1.85} d^{4.87}}$$

### Hazen-Williams Friction Loss Equation

In 1906, Allen Hazen and Gardner Stewart Williams introduced this much simpler formula for calculating friction loss that replaced the complicated Darcy-Weisbach friction factor, *f*, with a simple coefficient, *C*, to represent the average roughness of the pipe walls. The drawback to their formula is that it only applies to water and only within a certain range of conditions. Fortunately for the sprinkler industry, sprinkler systems operate mostly with water within that range of conditions.

Hazen and Williams didn't come up with this formula working theoretically from known physical laws. It's the result of countless painstaking experiments and careful measurements to quantify how water flow in pipes really works. To arrive at this simple formula, they had to carefully measure the velocity of water moving through pipes and channels of various configurations and roughness at varying flows; over and over again. When all the data was collected, they were able to find the mathematical equation that best predicted their observations. Keep in mind that their calculations were all done with nothing more advanced than a mechanical slide rule.

The version of the Hazen-Williams equation we're most familiar with isn't really THE Hazen-Williams Equation. The general form of the equation solves for the average velocity of water for a given pipe and flow, not for friction loss per foot of pipe as we're accustomed to using it.

$$v = kCR_H^{0.063} P_{FL}^{0.54}$$

### Hazen-Williams' General Equation

In order to solve for the rate of friction loss, we need to perform some mathematical gymnastics on the general equation to give us a more familiar format.

$$P_{FL} = \frac{v^{1.85}}{k^{1.85} C^{1.85} R_H^{1.17}}$$

Better, but still not what we're accustomed to seeing. Next we rewrite it in terms of flow instead of velocity remembering that *Q* = *v* *A*.

$$P_{FL} = \frac{Q^{1.85}}{k^{1.85} C^{1.85} R_H^{1.17} A^{1.85}}$$

More familiar still but what about the hydraulic radius, *R* sub *H*? This is where the shape of the pipe comes into play. The general formula can be applied to anything from water flowing in a pipe to water flowing in a ditch. The hydraulic radius is the ratio of a channel's cross-sectional area to its "wetted perimeter". For a round pipe filled with water with an inside diameter of *d*, that's *d* / 4. Substituting for *R* sub *H* and the area, *A* = (pi *d* squared) / 4, we get a still more familiar equation.

$$P_{FL} = \frac{4^{1.17}}{d^{1.17}} \frac{4^{1.85}}{\pi^{1.85} d^{1.85}} \frac{Q^{1.85}}{k^{1.85} C^{1.85}} \approx \frac{7.916}{k^{1.85}} \frac{Q^{1.85}}{C^{1.85} d^{4.87}}$$

That leaves only *k* which is not our familiar sprinkler *K*-factor, but a constant to adjust for whatever units we happen to be using. For U.S. customary units, *k* = 1.318 -- which finally brings us back to our familiar version of the Hazen-Williams equation:

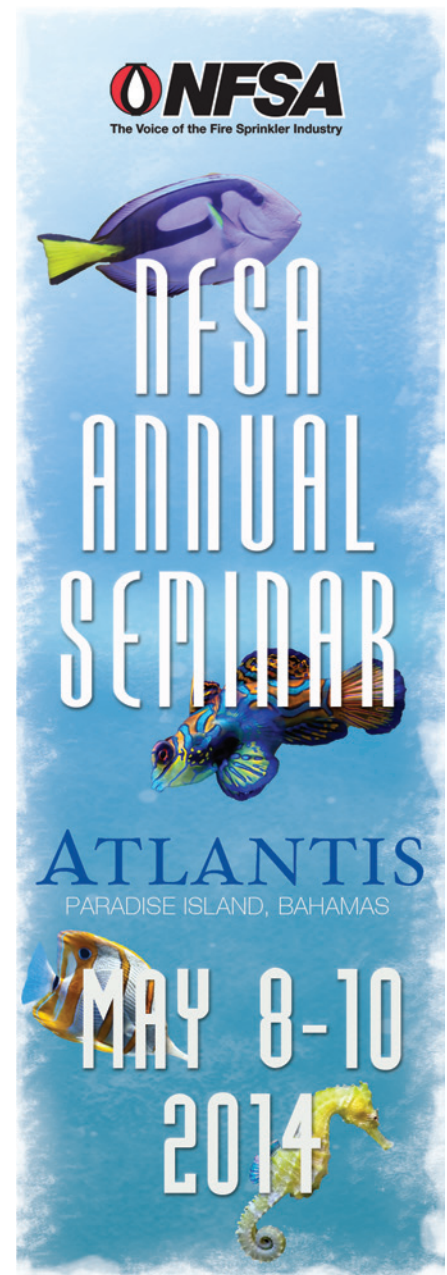
$$P_{FL} = \frac{4.52Q^{1.85}}{C^{1.85} d^{4.87}}$$

Or, as we now know it to be, the "Hazen-Williams equation specifically for round pipes completely filled with water where *Q* is measured in gpm, and *d* is measured in inches".

So what does all this get us? For starters, Bernoulli, Hazen, and Williams have made our work a lot easier and deserve a tip of the hat by way of thanks. Consider how much easier it is for us to be able to model a sprinkler system that only exists on paper to accurately predict how much

water it will deliver from any given water supply. It certainly beats building the whole system and physically measuring sprinkler output with buckets - that would be our alternative if we couldn't perform the kind of hydraulic modeling made possible by scientists of centuries past.

Interested in those missing equation steps? Reach me at [upson@nfsa.org](mailto:upson@nfsa.org) or join me online for NFSA's Fundamentals of Fire Sprinkler Hydraulics Calculations online Distance Learning course starting in March. ☺



## BIOGRAPHY:



NAME: **LORRELL BUSH**  
TITLE: **REGIONAL MANAGER FLORIDA REGION  
EXECUTIVE DIRECTOR OF THE FLORIDA  
FIRE SPRINKLER ASSOCIATION**  
REGION: **FLORIDA, PUERTO RICO**

Since 2011, Lorrell Bush has served as the Executive Director of the Florida Fire Sprinkler Association, NFSA's largest chapter. In this role she is responsible for coordination and implementation of all aspects of regional operations activities in Florida and Puerto Rico. Her duties include oversight of all training for contractors and Authorities Having Jurisdiction (AHJs) in the region. She is responsible for the administration of the chapter's annual conference held primarily to provide continuing education to contractors and AHJs. This entails the planning and management of speakers, oversight and implementation of CEU credits and securing sponsorships to offset expenses associated with hosting such a major event. Lorrell currently sits on the Third Party ITM Committee, NICET alternative Inspector I & II Committee and the Side by Side Sprinkler Committee. Her daily efforts include working with jurisdictions throughout the State of Florida providing training needs within their respective communities.

In 2004, Lorrell started with NFSA working as Administrative Assistant to Buddy Dewar, then Director of Regional Operations. In this role she assisted in arranging delivery of training programs across the country, corresponded with contractors and AHJs and helped to establish committee structure. She worked closely with Fire Team U.S.A. to educate and instruct contractors and AHJs on the benefits of home fire sprinklers.

Prior to coming to NFSA, in 1996, Lorrell started her career in the fire sprinkler industry working at the Pompano office of long-time contractor member Wayne Automatic Fire Sprinklers, Inc. where she worked closely with the Branch Manager in developing new business, working with existing clients and maintaining long-term client relationships through service excellence. •

**SQ:** Lorrell, since every region across the country is different, tell me about your role as Regional Manager for Florida and Puerto Rico as well as serving as the Executive Director of the Florida Fire Sprinkler Association (FFSA) – a chapter of NFSA.

**Lorrell:** The issues and needs of the industry differ drastically between Florida and Puerto Rico. In Puerto Rico, NFSA has hit the ground running by offering exposure to NFSA benefits. Most recently, NFSA sponsored a lunch-and-learn offering two, four hour training classes. During lunch, vendors were able to set up tables and network with the participants—it was a huge success and has opened the door to several more opportunities.

We are just starting out in Puerto Rico, but Florida has an established Chapter with very active members. The FFSA

Board of Directors has quarterly meetings, which I organize and participate in. The Board of Directors consists of 19 NFSA members located throughout the state of Florida. In addition to the FFSA Board of Directors meetings, FFSA participates in joint meetings with the American Fire Sprinkler Association (AFSA) Board of Directors. There are four joint committees—ITM, Public Safety, Legislative, and Codes and Standards, in which FFSA and AFSA Board members work together as the voice of the Florida fire sprinkler industry. As the Executive Director, I take an active role in the committee meetings and the joint board meetings.

In Florida, we have also successfully implemented Area Interest Meetings (AIMs) throughout the state. AIMs are held four times a year in eight target areas in Florida. We have a guest speaker who addresses industry-related topics and has the opportunity to network with contrac-

tors, AHJs and fire officials. Over 300 people participate in the AIMs throughout the year. Additionally, as the Executive Director of FFSA, I am responsible for identifying and organizing training for contractors throughout the state.

The members of FFSA are very active and engaged in the issues and activities affecting the industry. Without the support and engagement of the members, FFSA would not be nearly as active and successful. I understand the value of our members and work to ensure that members' needs are met.

**SQ:** You mentioned your involvement with the FFSA board meetings, what is the current structure of your Board of Directors?

Lorrell: The board consists of nineteen members, inclusive of fifteen contractor

>> CONTINUED ON PAGE 39



>> CONTINUED FROM PAGE 38

members, two SAM members and two Professional members. All contractor members are voted into their seat by NFSA Florida contractor members and serve a two year term. Supplier and Manufacturers are elected by Florida SAM members and serve a one-year term. Professional members are non-voting members of the board and they are voted into their seats by the Board of Directors.

The board meets quarterly, with each meeting scheduled in a different geographical area of the state. Six weeks prior to the scheduled board meetings, members meet with their committees via teleconference to discuss the current issues and prepare for the upcoming quarterly meeting.

All NFSA Florida members are welcome and encouraged to attend and participate in the quarterly Board of Directors meetings.

**SO:** What is one of the things that you are most proud of in Florida?

**Lorrell:** We partner with the NFSA training department to creatively identify new and exciting topics that will benefit our members in addition to offering training topics that are requested by contractors and/or AHJs. If a member has an issue and believes more training is

needed, the NFSA training department is always eager to develop and deliver on an as-needed basis. Additionally, FFSA offers FREE training to Authorities Having Jurisdiction each year! This is a result of the annual Buddy Dewar Golf Classic, and the funds we raise through this event allow us to be able to offer training free of charge to local AHJs. In 2013, we were able to offer FREE training to over 200 AHJ's in the state of Florida. It is a great benefit to the AHJs and also our members. By inviting AHJs to attend FFSA training, contractors are able to build meaningful professional relationships with AHJs. Additionally, attending FFSA training ensures that both contractors and AHJs are receiving the same training. This year we are celebrating the 20th Annual Buddy Dewar Golf Classic and we are anticipating that we will be offering even more training to even more AHJs across the state.

**SO:** Can you tell me some issues that are affecting the sprinkler industry in Florida?  
**Lorrell:** One of the key issues we are working on now has to do with third party ITM companies coming to Florida. Many contractors have invested a lot of time and resources in their inspection programs in order to ensure they are compliant with NFPA 25 while working closely with AHJs to operate within Florida's program. We

believe that Florida has one of the best compliance programs in the country. Adding additional layers of administration with higher compliance costs is never a good policy, particularly in the current economy. We have an opposition paper posted on our website stating the reasons why we oppose this practice. We also are currently working with the State Fire Marshal's office to address our concerns.

**SO:**What is the number one thing that you feel most helps you be successful as the Florida/Puerto Rico Regional Manager?

**Lorrell:** There is no doubt in my mind that without the amazing support and involvement of our membership, I would not be nearly as successful. I am so fortunate that all of Florida's members are so engaged and I work very hard to ensure their needs are being met. All Florida contractors, SAMs, professionals and friends of the industry work together as a team and take ownership of the needs within our industry to make it better and more successful. We are really working hard to create the same activity in Puerto Rico and I am continually seeing progress in this area.

**SO:** Thanks, Lorrell. 🙏



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NAME: **ERIC GLEASON**  
TITLE: **REGIONAL MANAGER  
GREAT PLAINS REGION**  
REGION: **COLORADO, NEBRASKA,  
UTAH, WYOMING**

Humbly, I'm an anomaly. I'm not from the fire service and I'm not from the sprinkler industry. So everything is a fantastic learning experience between my background and fire suppression. I've been around construction all my life. I am the grandson of a brick mason and my other was a plasterer. My father was a general contractor and my father-in-law was a land developer. After my "Fathers" retired, I went to work for a production builder who also constructed class a/b office, light industrial and low-rise hotels. Everything was sprinklered. •

**SQ:** Eric, Why should fire sprinkler contractors care if residential fire sprinkler requirements are adopted?

**Eric:** It changes the public mindset about sprinklers. Back in the 1980's remember asking "Does this car have an airbag?" Not multiple, two stage, first, second and third row with rollover protection, but one air bag. Now airbags are synonymous with automobile safety. Moving the public consciousness to understand that fire sprinklers are synonymous with life safety and property protection is a benefit for all of our members and most importantly, the public.

**SQ:** What are some of the challenges in getting fire sprinkler requirements adopted at the local level?

**Eric:** In my relatively short period of time with the Association, David, I have heard this question addressed a number of different ways, but I think Jim Ford, a Fire Marshal in Scottsdale, Arizona, said it best, "This isn't about sprinklers; it's about politics." After sitting in dozens of city council meetings and testifying at two different state capitols, Jim Ford hit the nail on the head. When you have elected officials who are charged with making legislative decisions on everything from hearing aid accessibility to the maximum capacity of a firearm magazine, where do they get their information to make those decisions? Fire protection is no different. We still have members of the public, fire service and builders who think all the fire sprinklers go off at once, they all leak and that water damage is greater than fire loss. When my Area Director, Gene Postma of APi Group, brought me on board with NFSA, we identified three key categories of focus for my efforts: EDUCATE, LEGISLATE and MEMBERSHIP. In order to legislate we need to educate – members, the fire service, the public and legislators.

**SQ:** Why are homebuilders challenging fire sprinkler requirements?

**Eric:** It may be surprising, but I believe the fire sprinkler requirements were actually introduced into the building code by a multi-family homebuilder in 2008. Rick Morris with Avalon Bay Communities (7th largest apartment builder) introduced some of the 'trade-offs' in favor of fire sprinklers.

For builders it's about profit versus quality and safety. In the 1970's, inexpensive aluminum wire replaced more expensive copper wire until it was found

that aluminum wire connections started fires. In the 1980's, copper again was too expensive and less expensive polybutylene was used for plumbing until the class action lawsuits came. There are numerous other examples like GFCIs and Arc-Fault Interrupters, wind/heat/cold ratings, and many more. The 2012 IECC alone is costing builders and homeowners thousands of dollars, but "green" practices and energy efficiency have public movement and support.

**SQ:** Does the fire sprinkler concept have public support?

**Eric:** It's getting better. We now have numerous "Fire Sprinkler Coalitions" throughout the U.S. with the help of the Home Fire Sprinkler Coalition, NFPA, NFSA and others. These local efforts are successful with targeted actions to educate audiences.

**SQ:** Where do we go from here?

**Eric:** We need to find strong partners in our journey. Is the local fire chief knowledgeable about sprinklers? Is the chief building official? Fire Marshals are a great supporter and understand life safety, but it is the chief and building officials who stand in front of City Council hearings and testify at the Capitol.

As members you may not even offer residential systems, however, having a fitter, a manager or even the president show up at a city council meeting to garner support as a resident of that city goes a lot further than one would think. Grass roots, butts in seats wins the day.

**SQ:** Thanks, Eric. 🍷

## Part IV of IV

# The Role of the Contractor

By Jason Webb

**S**o far in this series we have discussed the role of two of the three stakeholders in the inspection, testing and maintenance (ITM) process as outlined in NFPA 25. The owner is the primary stakeholder and has the responsibility for inspecting, testing, and maintaining the water-based fire protection system(s) on their property. The owner is also responsible for having the system evaluated when any changes to the use, process or water supply are made, and for maintaining ITM records among other things. Those requirements are clearly identified in Chapter 4. The AHJ's role is one of enforcing the standard along with occasional consultation and approval. The role of the final stakeholder in the process is that of the contractor employed to perform the ITM on the system(s).

To start with, it should be made clear that not all functions of the ITM process are meant to necessarily be performed by an outside contractor. NFPA 25 only requires that whoever performs the ITM be "qualified." Qualified is simply defined as someone who is competent and capable and meets the requirements of the AHJ. Some jurisdictions may require that anyone performing these functions hold certain certifications or be licensed, but those are requirements of government, not of an NFPA standard. In almost all cases, a contractor will need to be brought in at some point to perform inspections and tests that are beyond the training or resources of in-house personnel. Some

owners may delegate all ITM to an outside contractor.

In reality, the role of the contractor is the easiest to determine. It's the easiest because it is, or at least it should be, completely spelled out in the agreement, or "contract" made between the owner and the ITM contractor. As long as the contract is clear about what work is, and isn't included (*what "isn't" is arguably more important*) there shouldn't be room for misinterpretation. Provided, of course,

*"...it should be made clear that not all functions of the ITM process are meant to necessarily be performed by an outside contractor"*

that the inspectors and testers are aware of those contract limits.

Besides knowing the scope of the contract, proper training on the requirements of the standard they are working under, NFPA 25 in this case, is critical. For example, if the contract is for the annual inspections and tests of the wet-pipe sprinkler systems in a facility, the inspector must be aware of this and limit his or her work to those specific functions on those particular systems. Once the inspector steps outside those boundaries problems can, and most likely will, follow.

The issue that commonly comes up next is what to do about those things that are identified and important to fire

protection, but fall outside the scope of the agreement and/or the standard. Let's say that during the limited inspection and testing described above, the inspector finds that there are no records of the 5-year internal valve and pipe inspections having been completed. While it is tempting to note this as a deficiency, the terms of the contract did not involve these 5-year requirements. Since ITM of the system is a requirement placed on the owner, and enforcement of the standard falls to the AHJ, it may leave the inspector in a difficult situation, but one that isn't their responsibility. Usually these things are best dealt with using an "observation" form or something similar to note the concern but keep it separate from the ITM record.

As long as all stakeholders know and understand their role and the role of the others, the process works well. For the contractor, that means not blurring the lines of responsibility by voluntarily assuming the role of the owner or the AHJ. 🕒



Director of  
Inspection, Testing  
& Maintenance

Jason Webb

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 **NFSA**  
The Voice of the Fire Sprinkler Industry

By Vickie Pritchett

# Notes from the Fire Scene

**A**re we thinking of ways to seize new opportunities? How are we challenging ourselves to stretch outside our comfort zone and find new ways to share our message that “Fire Sprinklers Save Lives?”

Working with the United States Fire Administration (USFA) on the campaign “Fire Is Everyone’s Fight™” has made me realize that many of our battles have been waged for years...and yet, we are still engaged because we believe in the concept of fire sprinklers and we KNOW the role that fire sprinklers can and do play in affecting positive outcomes across our nation. As we monitor sprinkler saves, we recognize that most of the time they do not make the headlines because they are just not quite as sensational. Yet, we MUST try to help local AHJs share the news when fire sprinkler saves occur, because that is where we help everyone understand their value. For the latest information regarding “Fire Is Everyone’s Fight™” visit <http://www.usfa.fema.gov> -- we will be working with the USFA to add fire sprinkler modules to this program in 2014.

Teachable moments also help us highlight their value, and we have to always strive to never miss one of those! Fire Team USA has served as a great grassroots effort that brings stakeholders together to learn together and examine the facts. Common Voices is now joining Fire Team USA with their grassroots outreach with Fire Safety Days across the nation. For the complete schedule, visit [www.fireadvocates.org](http://www.fireadvocates.org) -- including registration information. We would love to have NFSA members join us and see first-hand the power of advocates’ testimony in helping to share the important role that fire sprinklers play in community fire protection.



The Fire Safety Day will provide educational outreach on community fire protection to fire department personnel, community stakeholders such as realtors, insurance agents, policy makers, homebuilders, water purveyors and citizens alike. All interested stakeholders are encouraged to attend. Lunch is provided free of charge. The event will conclude with a side-by-side burn demonstration at 4:00 p.m., which will highlight how fire sprinklers work and save lives.

Common Voices advocates are Amy Acton of Michigan, burn survivor and Executive Director of The Phoenix Society for Burn Survivors; Vina Drennan of New Jersey, lost her husband, Capt. John Drennan of FDNY in a fire; Donna Henson of Missouri, lost her son, Dominic in a fire; Gail Minger of Florida, lost her son, Michael in a fire; Justina Page of Texas, lost her son, Amos in a fire; Bonnie Woodruff of Raleigh, North Carolina, lost her son, Ben in a fire; and Pam Elliott of Winston-Salem, North Carolina, burn survivor.

The advocates are able to use their first-person accounts of the affects of fire to bring home the message of fire safety and how to focus on fire prevention and save lives. Their hope is that by sharing their stories future tragedies will be prevented.

This educational opportunity provides resources to interested stakeholders (take home resources from national fire safety initiatives) and also provides an opportunity for networking and dialogue on making all communities safer.

Our work with outreach to non-traditional stakeholder groups also continues, with concentrated efforts going to homebuilders, realtors and insurance agents. The team approach to community fire protection is one that requires all hands on deck, and it’s exciting to be involved with these non-typical outreach groups across the nation.

I am hopeful that I will be seeing you at one of our upcoming events, till then... know that your work makes a difference and thank you for all that you do to support our non-traditional outreach through the NFSA.

*Stay Safe, Vickie* 🙏



Director, Public Fire Protection

**Vickie Pritchett**

## PEOPLE

### Jack Grice Named Chairman and CEO of JG Innovations, Inc.



JG Innovations, Inc., the leading provider of steel soffit concealment systems, is pleased to announce that **Jack Grice, P.E.** has recently been named Chairman and Chief Executive Officer. As the founder of JG Innovations, Jack recently served as

the President of the company.

Jack has been a contributor to the life safety and mechanical industries for over thirty years through his development of several soffit concealment systems. His passion for producing a quality product coupled with his engineering background has been instrumental in implementing the strategies that have positioned the company as an industry leader. In his new role as CEO, Jack will oversee all new business development, keep a pulse on market trends and will continue to be intricately involved in critical business decisions.

As a graduate of Michigan Technological University, Jack's engineering degree shaped his future endeavors and helped to create many opportunities for him by obtaining numerous patents for various construction products. He is a registered P.E. in the state of Wisconsin and his patented products are utilized throughout the trades across the nation.

For more information, visit [www.JGIUS.com](http://www.JGIUS.com) or call 1-888-933-2248.

### Jacques Joins Brothers Fire Protection Team

Welcome Margaret Jacques to the Brothers Fire Protection team. Margaret is a Life Safety Service Representative focusing on serving Brother's Commercial and



Multi Housing clients. Margaret spent the last 16 years as a sales representative for Bachman's, Inc. where she handled their

corporate accounts. She is well known within the Commercial Real Estate and Apartment/Condominium Community and is looking forward to developing effective and economic programs to help Brother's customers manage their life safety systems.

Margaret can be reached at: [MargaretJ@brothersfire.com](mailto:MargaretJ@brothersfire.com) or 612-490-2155.

## HQ NEWS

### 2014 NFSA Annual Seminar Sponsorships Now Available!

NFSA Annual Seminar Sponsorships are now available for purchase live at the NFSA website. Registrations are coming in at a record pace for the semi-



nar, which will take place at the world-renowned Atlantis in Paradise Island, Bahamas, May 8-10. This seminar looks to be one of the most well-attended in NFSA history.

This unique opportunity offered to NFSA SAM members comes around only once a year. Be sure you don't miss out on making your company presence known!

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We have a wide range of sponsorship opportunities to fit every budget. All sponsorships are sold on a first come, first serve basis, so don't wait! View and purchase sponsorships online at [www.nfsa.org](http://www.nfsa.org).

### Gey Elected as NFSA Director at-Large

During elections held at the end of 2013, **Clark Gey** of Wayne Automatic Fire Sprinklers in Florida received a majority of votes winning the Director at-Large seat on the Association's Contractors Council and thereby a seat on the Board of Directors. The Director at-Large position on the Contractors Council is voted on by fire sprinkler contractor members from across the country, not just a specific region as is the case for Area Directors, the balance of representatives on the Contractors Council. He will be seated to a three-year term during the Association's Board of Directors meeting being held in Houston on February 28th.

He can be reached at: (407)-656-3030 or email [cgey@waynefire.com](mailto:cgey@waynefire.com).

## NORTHEAST REGION



**DOMINICK KASMAUSKAS**  
Associate Director of Regional  
Operations - North

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

### Side by Side Live Burn Demonstration Huge Success

The Firemen's Association of the State of New York (FASNY) did an outreach to media and legislators for a live Side-by-Side burn demonstration at the Colonie Fire Training Center in Colonie, New York on Tuesday, December 3, 2013.

A special thank you goes out to long-time NFSA contractor member SRI Fire Sprinkler for the donation of space to build units plus designing and installing the fire sprinkler system. Thank you to FASNY for being the first to promise a donation to help cover costs. Thanks also go out to New York State Building Officials Congress Northern Adirondack Code Enforcement Officials Association to be the second. A very special thanks to the Northern Illinois Fire Sprinkler Advisory Board for their large contribution as well as Don Smith and Chicago Backflow Preventer, Inc.

This side by side demonstration would not have been possible without the wonderful donation of used furniture by Jezreel, Inc. and the assistance of their supervisor Robert and his great staff. Jezreel International is a humanitarian aid organization in Albany, New York that has been shipping needed items to 40 nations since 1996.

*Dominick Kasmauskas is the NFSA's Associate Director of Regional Operations-North. He can be reached at [Kasmauskas@nfsa.org](mailto:Kasmauskas@nfsa.org) or 1436 Altamont Ave. Suite 147 Rotterdam, New York 12303, Phone 518.937.6589, Fax 518.836.0210.*

## MID-ATLANTIC REGION



**RAYMOND W. LONABAUGH**  
Regional Manager

DELAWARE, MARYLAND, NEW JERSEY,  
PENNSYLVANIA, VIRGINIA, WASHINGTON D.C.

### New Jersey Senate Bill S2273 Dies on Governor Christie's Desk

New Jersey Senate Bill S2273 "New Home Fire Safety Act" requiring residential fire sprinklers in new homes, received a favorable vote by the New Jersey Senate on January 6, 2014. The bill then went to the Governor for his signature, however, in a "lame duck legislative session," the Governor had the option to ignore the bill and let it die. If the Governor ignored the bill in a regular legislative session the bill would have automatically become law. The Governor would then have had to veto the bill in a regular session in order to prevent it from becoming law.

Regardless of the outcome, there was a well organized and thorough effort by the New Jersey Fire Sprinkler Advisory Board (NJFSAB) lead by Executive Director Dave Kurasz to move S2273 and companion bill A1570 through the legislature. Beside the NJFSAB there were many other organizations behind the bill including but not limited to: IAFF, NFPA, New Jersey Fire Protection and Prevention Association, St. Barnabas Burn Center, the insurance industry, numerous fire chiefs and fire code officials as well as Lobbyist Kevin Monaco, Leading Edge LLC.

Capitol Region Fire Sprinkler Association Becomes NFSA Chapter

The Capitol Region Fire Sprinkler Association met on January 28, 2014 at Ferguson Enterprises in Baltimore, Maryland and voted in favor of becoming an official NFSA Chapter. More on this and other activities of the newly formed chapter will be published in future issues of SQ.

*Raymond W. Lonabaugh is the NFSA Regional Manager for the Mid Atlantic Region. He can be reached at: [lonabaugh@nfsa.org](mailto:lonabaugh@nfsa.org) or P.O. Box 126, Ridley Park, Pennsylvania, 19078. Phone: 610.521.4768*

## SOUTHEAST REGION



**WAYNE WAGGONER**  
Associate Director of Regional  
Operations - South

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

### Sprinkler system slows dryer fire in Cookeville, Tennessee

The sprinkler system in an apartment on Buffalo Valley Road stopped a fire that started in a dryer there Saturday from spreading to other areas of the home, fire officials say.

Crews were called to the 400 block of Buffalo Valley Road after residents in an apartment there discovered that a fire had started in their dryer, Capt. Matt White said.

"The occupant was inside drying clothes, came around the corner and noticed the smoke," White said. "He opened up the dryer and it flamed up on him. The clothes inside of it started flaming and the flames began to melt the front of the dryer."

The apartment was equipped with a residential fire sprinkler system.

"The sprinkler system did exactly what it was supposed to do," White said. "When the flames started coming up and got the sprinkler head hot enough, it discharged and the water put most of it out except just a little bit inside the dryer."

Crews arrived and put out the remainder of the fire, leaving little smoke or fire damage behind, White said.

The sprinkler discharge did leave some water for the building's maintenance workers to clean up, but that mess is much less than what could have been left behind without the sprinklers, according to White.

All damage was contained to one unit of the complex and within the laundry closet and kitchen area of that unit.

A family of four lived in the apartment, officials said, but they were expected to only be displaced for the night, if at all, according to White.

The Cookeville Fire Department had about 15 men on the scene who worked

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# REGIONAL ROUNDUP

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the incident for about an hour. White said the fire did start in the dryer, but, at press time, it was unclear what had caused it.

Wayne Waggoner is the NFSA Associate Director of Regional Operations-South. He can be reached at [Waggoner@nfsa.org](mailto:Waggoner@nfsa.org) or PO Box 9, Andersonville, Tennessee 27705, Phone 865.755.2956, Fax 865.381.0597.

## FLORIDA & PUERTO RICO



**LORELL BUSH**  
Regional Manager

FLORIDA, PUERTO RICO

### NFSA in Puerto Rico

On January 29, 2014, NFSA held a one day training and Area Interest Meeting event in Puerto Rico. The event featured a two-hour course on NFPA 25 Updates presented by Jim Lake, NFSA's Vice President of Training and Communication, and a two-hour Storage and New Fire Sprinkler Technology course presented by David Asplund, Director of Technical Services for Reliable Automatic Sprinkler Company. The day also included a networking lunch attended by more than 30 contractors. Several vendors set up booths and were able to discuss with local contractors the needs in Puerto Rico.

The event was a huge success! Several requests for more training and information were made by several participants. NFSA is hopeful this is the first of many events to come in Puerto Rico.

NFSA Florida Chapter to Host Annual Regional Conference

This year the Florida Fire Sprinkler Association - a Chapter of NFSA will be hosting its Annual Spring Conference April 28 - May 1 at Caribe Royale in Lake Buena Vista, Florida. The conference will offer exciting new classes being presented by experienced and engaging instructors. Additionally, the conference will offer all 32 required CEU's just in time for the June 30th renewal date. For more information,

visit [www.FloridaFireSprinkler.com](http://www.FloridaFireSprinkler.com).

Lorrell Bush is the NFSA Regional Manager for the Florida Region. She can be reached at [bush@nfsa.org](mailto:bush@nfsa.org) or 2025 Droylsden Lane, Eustis, FL 32726. Phone: 352.589.8402 Cell: 954.275.8487 Fax: 561.327.6366.

## GREAT LAKES REGION



**RON BROWN**  
Regional Manager

INDIANA, MICHIGAN, OHIO,  
WEST VIRGINIA, KENTUCKY

### NFSA to Attend 11th Annual Campus Fire Safety Conference & Expo

As has been the case over the past several years, NFSA will again be staffing an exhibition booth at the Annual Campus Fire Safety Conference & Expo being held March 3 - 4, 2014 in Columbus, Ohio where information about fire sprinklers will be handed out. Ron Brown, NFSA's Great Lakes Regional Manager, will also be making two presentations during the conference. Each is a one-hour long presentation with one covering NFPA 13D sprinkler requirements and the other reviewing the basics of NFPA 25, the ITM standard.

### Shambaugh & Sons Hosts "Lunch and Learn" for Fort Wayne Fire Inspectors

The Lunch and Learn held January 23, 2014 was a great opportunity for the officials of one of the nation's largest fire sprinkler contractors and longtime NFSA member, Shambaugh & Sons, to meet with fire officials and share the fire sprinkler story. Included in the Lunch and Learn were discussions regarding the Inspection, Testing and Maintenance necessary to ensure many years of reliable service from fire sprinkler and other water-based fire protection systems. A tour of Shambaugh's fabrication shop was taken at the completion of the Lunch and Learn session. Special thanks go out to Rob Vincent for helping to facilitate the event.

Ron Brown is the NFSA Regional Manager for the Great Lakes Region. He can be reached at [Brown@nfsa.org](mailto:Brown@nfsa.org) or 1615 Cypress Spring Drive, Fort Wayne, Indiana 46814, Phone 845.661.6534; Fax 260.625.4478.

## ILLINOIS REGION



**BOB TINUCCI**  
Regional Manager

ILLINOIS

### Chicago High-Rise Opts to Ban Smoking Instead of Installing Fire Sprinklers

Condo owners of a 42-story high-rise in the city of Chicago where three fires have occurred since 2007 recently instituted the city's first full smoking ban in a high-rise condominium building, effective since January 31. The motive for the ban comes from the unsprinklered high-rise's recent fire history: a double-fatal fire in January 2007, a fire in October 2012, and a fire causing injury to a resident in March 2013. Smoking materials caused at least two of the fires.

Tom Lia, executive director of the Northern Fire Sprinkler Advisory Board, sees the smoking ban as a "band-aid" and a blatant distraction from the larger issue and a major deficiency in the building's infrastructure, which is the lack of fire sprinkler protection.

Reporting to the press, "I'm not against a smoking ban for health reasons, but cigarettes are not the only source of fires. By avoiding the installation of fire sprinklers, the condo owners, management and misinformed residents are essentially shrugging off other leading causes of potentially deadly fires, such as candles, heating equipment and cooking. Are they going to ban those as well?" Lia asks. "People's activities inside their residences are virtually uncontrollable and not easily regulated, but fire sprinklers account for human error when fires do occur."

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Bob Tinucci is the regional manager for the North Central Region. Bob may be reached at 6401 Richmond Avenue, Willowbrook, Illinois 60527, phone/fax: 630.655.1875, cell: 630.514.1601, email: tinucci@nfsa.org.

## NORTH CENTRAL REGION

TBA

Associate Director of Regional Operations - North

MINNESOTA, WISCONSIN, NORTH DAKOTA, SOUTH DAKOTA

### Minnesota Chapter to Again Host BurnAid Fundraiser

Each year NFSA's Minnesota Chapter hosts a golf outing fundraiser called BurnAid to benefit Regions Hospital Burn Center. This year BurnAid, now in its 18th year, is being held Monday, September 8th at North Oaks Country Club. Mark the date! The benefit includes 18 holes of golf on a pristine course, dinner, silent and live auction and an inspirational presentation from a burn survivor treated by the burn center staff, representatives of which who will also be in attendance. Since its inception, BurnAid has raised over \$730,000 for the Burn Center. •

## CENTRAL REGION



**CHRIS GAUT**  
Regional Manager

IOWA, KANSAS, MISSOURI

### Common Voices Fire Safety Day Coming to Missouri

Don't miss out on a great informational event being held March 25, 2014 in Columbia, Missouri.

Join in a day of learning about community fire protection, the facts regarding the nation's fire problem and the solutions that exist. Firsthand accounts of fire will bring the issues to life!

The location and time will be announced soon. Register today at <http://fs24>.

### formsite.com/CommonVoices/FireSafetyDay/index.html

Space is limited!

### City of St. Louis Issues New Fire Sprinkler Permit Process

Effective January 1, 2014 with the passage of the 2009 International Fire Code, the City of St. Louis Building Division has developed, as a customer service initiative, a One-Stop-Shop for Permits program to assist fire sprinkler contractors in obtaining a Same-day Fire Sprinkler building permit. In brief, when a same-day sprinkler permit is requested, here's what's required:

Drawings and Cut Sheets, Scaled Drawings, General Design Information, Standard Symbols, Floor Plans, Reflected Ceiling Plans, Zoning, Operational Matrix and Calculations.

More details can be found in a press release issued by the city. [http://www.nfsa.tv/regional\\_news\\_articles/City\\_of\\_St\\_Louis\\_Permits\\_Fire\\_Sprinkler\\_2014.pdf](http://www.nfsa.tv/regional_news_articles/City_of_St_Louis_Permits_Fire_Sprinkler_2014.pdf)

Chris Gaut is the NFSA Regional Manager for the Central Region. He can be reached at [gaut@nfsa.org](mailto:gaut@nfsa.org) or NFSA Central Region Office, 207 Van Buren Rd. Branson, MO 65616, Phone 845.803.6426, Fax 636.410.7700.

## SOUTH CENTRAL REGION



**CYNTHIA GIEDRAITIS**  
Regional Manager

ARKANSAS, LOUISIANA,  
OKLAHOMA, TEXAS

### Texas Supreme Court Rules in Favor of Contractors Regarding Contractual Liability Exclusions

The Texas Supreme Court released a decision on January 17, 2014 that will have national implications regarding contractors, subcontractors and liability insurance.

"Does a general contractor that enters into a contract in which it agrees to perform its construction work in a good and workmanlike manner, without more specific provisions enlarging this obligation, 'assume liability' for damages arising out of the contractor's defective work so as to trigger the Contractual Liability Exclusion." In answering this question in the negative, the Texas Supreme Court confirmed that "assumption of liability" "means that the insured has assumed a liability for damages that exceeds the liability it would have under general law.

For more information, read the February 4, 2014 article in Claims Journal entitled "Texas Supreme Court Reins in Contractual Liability Exclusion on CD Claims." <http://www.nfsa.tv/ro/Texas%20Supreme%20Court%20Reins%20in%20Contractual%20Liability%20Exclusion%20on%20CD%20Claims.pdf>

Cindy Giedraitis is the NFSA Regional Manager for the South Central Region. She can be contacted at [giedraitis@nfsa.org](mailto:giedraitis@nfsa.org) or PO Box 10403, College Station, Texas 77842. Phone: 979.324.8934.

## GREAT PLAINS REGION



**ERIC GLEASON**  
Regional Manager

Colorado, Nebraska, Utah, Wyoming

### Fire Suppression Contractor Registration House Bill 14-1221 Introduced to House Floor

Ready for tougher oversight? Well the Colorado House of Representatives is challenging Director Paul Cooke to do just that. The Director of the Colorado Department of Fire Prevention and Control (CD-FPC) is actively staffing his team to assist and regulate the fire sprinkler industry. With the first ever organization chart having been created, the CDFPC will be better equipped to handle staff changes in the future.

What does HB14-1221 have to do with it? Plenty! The law requiring Fire Suppression Contractors, Underground Contractors and Backflow Contractors has been in existence for almost 40 years in the state. Every 10 years the law 'sunset.' Sunset-

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# REGIONAL ROUNDUP

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ting is a process that assists citizens of any state by having the state congress review laws for improvement, continuance or obsolescence.

In a somewhat heated hearing, Chair Rhonda Fields pointed some important questions about the law's effectiveness and what the CDFPC was doing to ensure the citizens of Colorado were being protected. In response, Director Cooke, head of the CDFPC, stated that accurate and efficient record keeping measures of violations was already underway.

A focus of the new bill will be violation reporting of contractors. This is on all projects - residential, commercial, government and schools/hospitals. Local AHJs will be notifying the CDFPC of repeated contractor violations and egregious violations.

When the General Assembly brought health care facilities under the responsibility of the CDFPC it also enabled an appeals process. Given the new violation reporting, increased participation at the appeals hearings is anticipated.

*Eric Gleason is the NFSA Regional Manager for the Great Plains Region. He can be contacted at [gleason@nfsa.org](mailto:gleason@nfsa.org) or P.O. Box 62157, Littleton, CO. 80162. Tel: 720.470.4894*

## WEST REGION



**BRUCE LECAIR**  
Regional Manager

ARIZONA, NEVADA, NEW MEXICO,  
CALIFORNIA, HAWAII

### Southwest Regional Manager Bruce Lecair Appointed to Associate Director of Regional Operations-West

In January, NFSA Vice President of Regional Operations Buddy Dewar announced that as a result of a regional reorganization, Southwest Regional Manager Bruce Lecair has been promoted to Associate Director of Regional Operations - West. In his new position, Bruce will oversee regional operations on

the western side of the Mississippi River and work closely with Regional Managers throughout the western states and his counterpart on the east side of the Mississippi River, Wayne Waggoner. In addition to his new duties he will remain as the Southwest Regional Manager and continue to promote fire sprinklers in California, Hawaii, New Mexico, Nevada and Arizona.

Bruce has been instrumental during his six years of service to NFSA in moving the statewide adoption of the California residential sprinkler regulation, chairing study groups and writing recommendations with Area Director Jack Thacker toward the adoption of the 2013 California edition of NFPA 25 and was a key member of the California Water Discharge for Water-based Fire Protection Systems OSFM Task Force that wrote a Best Management Practices document. This document is currently saving contractors from fines throughout the state. He is currently working closely with Arizona Area Director Aaron Bennett toward the goal of forming a new NFSA Chapter in the Phoenix area.

*Bruce Lecair is the NFSA Regional Manager for the Southwest Region. He can be reached at [lecair@nfsa.org](mailto:lecair@nfsa.org) or Phone: 951.277.3517, Fax: 951.277.3199.*

## NORTHWEST REGION



**SUZANNE MAYR**  
Regional Manager

ALASKA, IDAHO, MONTANA, OREGON,  
WASHINGTON

### NFSA Membership Benefits Tour Begins in Northwest Region

Over a two-day stretch in February, NFSA's Director of Membership & Communications, David Vandeyar, made member benefits presentations to two very active NFSA Chapters in the Pacific Northwest. The first was to the newly formed Columbia/Willamette Chapter in the Portland area of Oregon, the second was to the Puget Sound Chapter in the Seattle area of Washington State. His presentation

began with an overview of how NFSA is structured and the many opportunities for members to participate in committee activities and how those committees are working to advance the fire sprinkler industry and the cause of public fire safety. He also surfed NFSA's website where he demonstrated how members can access valuable "member-only" publications and services and search archives by subject for a wealth of information not readily available anywhere else in the industry. Emphasis was also placed on the extraordinary value fire sprinkler contractor members are finding in the Association's member-only EOD or Expert of the Day service. This is a service through which NFSA members get answers to their most challenging installation and codes and standards interpretation challenges, saving them money, often enough to pay for a year's worth of dues.

*Suzanne Mayr is the NFSA Regional Manager for the Northwest Region. She can be contacted at [mayr@nfsa.org](mailto:mayr@nfsa.org) or P.O. Box 7328, Tacoma, WA 98417, phone: 253.208.8467.*

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## NFPA Names New President

### JIM PAULEY TO SUCCEED JAMES M. SHANNON

The National Fire Protection Association (NFPA) Board of Directors voted unanimously to name Jim Pauley of Lexington, Kentucky as the next president of NFPA. Pauley is currently senior vice president of External Affairs and Government Relations for Schneider Electric and will assume his new role in July.


"For more than 115 years, NFPA has been a leader in fire, life and electrical safety through codes and standards development, research, training and

education. This appointment ensures the continued pursuit of the critical mission of NFPA and positions the association to address the challenges of our times," said Philip C. Stittleburg, chair of the board. "Jim is an experienced leader and very knowledgeable on many of the issues important to NFPA."

Pauley has been with Schneider Electric since 1985 when he began as an application engineer. He has held a number of positions through the years and was appointed to his present position in 2011. He holds a Bachelor of Science degree in Engineering from the University of Kentucky.

Pauley has served in a number of

codes and standards-related activities including chairman of the board for the American National Standards Institute (ANSI), chairman of NFPA's Standards Council and chair of the High Performance Building Council for the National Electrical Manufacturers Association (NEMA).

Pauley will succeed James M. Shannon who has served as NFPA president since 2002. Shannon has been at NFPA for 23 years, having joined the organization as vice president and general counsel in 1991. He had previously served as a Member of Congress representing Massachusetts and as Massachusetts Attorney General. 

### ■ Home Fire Sprinklers: Ask for Them!

New online consumer guide from HFSC makes home fire sprinklers easier to understand.

When a new home is built in an area where codes do not require fire sprinklers to be installed, and the homebuilder does not offer sprinklers as an option, many homebuyers are not aware that they can ask for fire sprinklers. Every time a new home is built without fire sprinklers, generations of families miss out on the ultimate protection from fire.

The nonprofit Home Fire Sprinkler Coalition (HFSC) has launched new online content designed to help consumers learn about the life-saving benefits of fire sprinklers. And whether they're simply interested, or are thinking of building or buying a home, they'll quickly see why it's so important to ask for fire sprinklers when moving to a new home.

Available at no cost on HFSC's website, the new Ask for Them! interactive guide provides consumers with easy to understand information in a fast-paced and entertaining format. Watch any or all of the 11 brief video segments in the menu that answer common questions about home fire sprinklers. Consumers can click through to direct links for more details about the technology and to watch additional videos online. All of the content is free, noncommercial, and has

no advertising.

Ask for Them! was funded in part by a U.S. FEMA Fire Prevention & Safety Grant.

To use this new free educational tool, please visit HFSC online at [www.homefiresprinkler.org](http://www.homefiresprinkler.org).

Follow HFSC through your favorite social media outlets:

On Facebook at [www.facebook.com/HFSCorg](http://www.facebook.com/HFSCorg), on Twitter at @HFSCorg, on Pinterest at [www.pinterest.com/hfsc/](http://www.pinterest.com/hfsc/) and join HFSC's networking group on LinkedIn.

### ■ Lubrizol CPVC Now Offers Mobile App for Android™ Devices

The Lubrizol Corporation's CPVC mobile app is a handy, useful jobsite resource for building and construction professionals. Previously available for the Apple® iPhone® and iPad®, the app is now also available for free download on Android devices. Lubrizol CPVC designed the app to provide easy access to valuable information and tools about Lubrizol CPVC's trusted brands, including FlowGuard Gold® Pipe & Fittings, BlazeMaster® Fire Sprinkler Systems and Corzan® Piping Systems.

The mobile app features the Lubrizol CPVC FBC(TM) System Compatible product finder, a tool that helps identify the chemical compatibility between Lubrizol CPVC piping systems and other common

## SPRINKLING OF NEWS

construction materials. This tool supports project success, taking the guesswork out of chemical compatibility. The app also includes the latest news from Lubrizol CPVC, as well as regional contact information for training and support in the field.

The Lubrizol CPVC mobile app initially debuted for the Apple iPad at the 2013 NAHB International Builders' Show. It was later expanded in the fall of 2013 to include the Apple iPhone and more recently updated for Android devices.

For more information on Lubrizol's CPVC products and technology, visit [lubrizolcpvc.com](http://lubrizolcpvc.com).

### ■ Mach Mechanical Selects Brothers Fire Protection for the installation of new fire sprinkler system at the Minot Air Force Base.

Long-time NFSA contractor member Brothers Fire Protection is pleased to announce that it has been selected by Mach Mechanical of Cookeville, Tennessee to install the new fire sprinkler system in Building 758 located on the United States

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# SPRINKLING OF NEWS

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Air Force Base in Minot, North Dakota. Embracing the Minot AFB's motto that "Only the Best Come North", Brothers is scheduled to begin the demolition of the current fire sprinkler system on March 17th. After demolition is complete, Brothers Fire Protection will modernize the hanger with a new fire pump and a galvanized schedule 40 fire sprinkler system. Overall, the project is expected to take 1,150 man hours and 15 weeks to complete.

## ■ Viking Launches Series of New Mobile Web Sites

Viking Corporation has introduced a

new mobile web platform aimed at providing customers with convenient field-access to critical product information. The six new mobile sites include valuable service and troubleshooting resources including links to repair and maintenance videos, technical data sheets, replacement parts, and frequently asked questions for several Viking products. The result is a single online troubleshooting resource specifically formatted for fast and easy viewing on a smartphone or tablet while at the job site.

This new mobile web series includes dedicated sites for Viking's Model D-2 air maintenance device, Model C-1 thermostatic release, Model C-1 pressure oper-

ated relief valve, Model VFR-400 release control panel, and Viking's D-2 and E-1 accelerators. Dedicated mobile web sites for additional products will be available in the near future.

Customers can access the new mobile web sites via the following link: <http://vikinggroup.mobi/p/128192>. A specific QR Code for each mobile site will also be placed on the appropriate Viking technical data pages and product packaging to provide a convenient link while at a job site.

*For more information on Viking's complete line of quality fire protection products and services, visit [www.viking-groupinc.com](http://www.viking-groupinc.com) or call 800-968-9501. ☎*

## LETTERS

Dear Mr. Gleason:

This year's Fire Prevention Open House was a great success; your support and partnership ensured our event was successful and beneficial for those who attended. We estimate that over five hundred people attended this year's event.

The Fire Prevention Open House is an important event that not only allows the opportunity to promote fire safety; but also provides a venue for those we serve to visit and interact with the firefighters. An aspect that was new for us this year was the opportunity to demonstrate the importance of home fire sprinkler systems.

An event of this magnitude takes a great deal of effort to produce. Our open house was successful due to the generous support of the staff at National Fire Sprinkler Association with the live home fire sprinkler demonstration. The National Fire Sprinkler Association donation of time and hand outs allowed us to better educate our community about home fire sprinklers through the home sprinkler demonstration box. The Cunningham Fire Protection District would like to thank you for your time and the assistance you provided on October 5, 2013. We also wish to extend our appreciation to the rest of the National Fire Sprinkler Association staff for their support. Thank you!

Sincerely,  
Jerry Rhodes  
Fire Chief

Tim Cox  
Fire Marshal  
Cunningham Fire District  
Denver, Colorado

Dear Russ:

I am deeply honored to have been voted into the National Fire Sprinkler Association Fire Sprinkler Hall of Fame. To be noted in such a way by your peers from a national organization is very humbling as well as exciting for myself and my family.

Although I have not attended a recent annual seminar and have had some medical problems, I am looking forward to attending the Paradise Island meeting. It will be good to see some old friends from the industry and meet some of the new members. I look forward to seeing you and others.

Very truly yours,  
Joel Pastolove  
Acme Sprinkler Company, Inc.

Ron Brown and John Corso:

I greatly appreciated your kind words and consideration. I was a pleasure working with both of you throughout the planning and presentation of these 3 classes. I received many thanks and compliments regarding the material presented, as well as the overall experience.

John Corso,

I appreciate your attention to detail and help during instruction. I had yet to meet an instructor that could make such subject matter so lively and fresh. There are usually a couple "sleepers" or "nodders" in each class, from my perspective there were none. You were able to keep everyone engaged and presented an outstanding learning environment.

I look forward to working with both of you in the future and hosting another session soon.

Capt. Rick Boisvert, NFPA Inspector II & CPE,  
Brighton Area Fire Department, Brighton, Michigan

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NO.	DESCRIPTION	QTY.
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2	300 psi/ 2000 kPa Water Pressure Gauge	1
3	1/4" Gauge Test Valve	2
4	1/4" Pressure Relief Valve	1
5	1/2" Angle Valve	1

NO.	DES	P/N
20	1"	CH
21	1"	CH
22	1/2" Union	CH

NO.	DESCRIPTION	QTY.	P/N
38	1 1/2" x 3-1/2" Nipple	1	CH
39	3/4" x Close Nipple	2	CH

## Introducing the newly re-designed Pre-trimmed Model DPV-1 Dry Pipe Valve from Tyco

The Model DPV-1 Pre-trimmed Dry Pipe Valve offers contractors a complete valve assembly, ready for installation directly out of the box. These units now feature a butterfly valve, pressure switches, and the option to add accelerators to customize your valve package. Pre-tested to minimize job site labor and risk, the Model DPV-1 Pre-trimmed Dry Pipe Valve — another cost-effective solution from the Tyco family of fire protection products.

2. ROUTE 1/4" TUBING, TO DRIP FUNNEL, IT...
  3. SLOPE 3/4" ANGLE VA ITEM 9, DOWN TOWA BACK OF VALVE TO FACILITATE SUFFICIEN LOW BODY DRAINAGE...
- INGS AND NI... VANIZED. COMMON HARD... 45-48 INCLUDI... IN PRE-TRIMME... E ASSEMBLIES; OTHERWISE SEPARAT... ORDERED.

4 INCH (DN100) MODEL DPV-1 DRY PIPE VALVE

[www.tyco-fire.com](http://www.tyco-fire.com)  
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Fire sprinkler contractors and their fitters take pride in doing it right the first time, every time. That's why we make the most dependable flow, tamper, and pressure devices on the market. Potter values your commitment to protecting lives and property and we continue to match that commitment with products you can trust.

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