



FLASHPOINT

PHILADELPHIA-
DELAWARE VALLEY
SFPE

VOLUME 22, ISSUE 9

May Business Meeting & Social

Date: Tuesday May 9, 2017

Place: Great American Pub 123

Fayette St. Conshohocken, PA

5:30 PM: Fellowship Time

6:30 PM: Dinner

Dinner Program: Annual Business
Award Social

Cost: \$30.00: Spouse/Guest included
for free

Reservations: By 12 noon, Friday,
May 5, 2017

Reserve with: Lou Annas by

E-mail: lannas@bearindustries.com or

Fax: (302) 368-9217

This is our annual business meeting where we will be handing out awards. We will also have election of officers.

****PLEASE, NOTE RESERVATION
DEADLINE! ****



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PRESIDENT'S SPARK

The March meeting was held at Jacobs. The Trade Show is on the 27th of April . The business meeting will be held on May 9th at the Great American Pub. The speaker for March was Jim Davidson, DAVIDSON ASSOCIATES . The presentation was on Engineering Ethics. Jim went through some historical court cases that involved engineering ethics. This type of ethics training is great for all of us. It also satisfies many states Professional Engineering training requirements. It was a wonderful presentation which really explained what an engineer should be aware of concerning ethics. As always, the food was great and attendance was excellent. Our first trade show after a long time is in April. It will be a very exciting event which I hope everyone will love. There will be many vendors and an opportunity for all of us to get some training (6 PDH Credits). Make sure you plan to attend if you can.

Thanks!

A word from Jeff LaSalle, member of the trade show committee

“As I write this it is the day before our Spring Trade Show and Seminar. While I have no idea how the event will actually turn out, I am optimistic it will be a success. I don’t have the final numbers, but right now we have 93 people signed up to attend, 27 vendors, and 13 speakers. We are on target to accomplish our goal to replenish the John D. Cook, III and Philip Gaughan Scholarship Funds. Final dollar value will be shared with the membership when we’ve paid all our bills and collected all the proceeds. This event has been in the planning stages for over a year. At a Board meeting last Spring, we discussed the need to increase our funds for scholarships and other worthy causes. Following that meeting a group of people volunteered to participate on the Committee to see this effort through.

I would like to acknowledge several people for their efforts and contributions to renewing what I hope will become the premier annual event for fire protection engineering and affiliated fields in the Philadelphia-Delaware Valley. I had the pleasure of working with the following individuals over the past year as we planned the Trade Show and Seminar: Jim Davidson, Jack Fairchild, Gary Lederman, Jason Lupa, Steve Oliver, Ryan Schartel, and Dave Winder. Without their efforts this event would not have been possible. Please take the time to thank each of them when you see them.

A special thanks to Jay Stough for stepping in to develop the brochures, John Spitz, Jr. for handling all the vendor transactions, Jack Fairchild for setting up the Eventbrite site for registrations, Dave Winder for coordinating several last-minute issues, Gary Lederman for challenging us to think bigger than we started, Steve Oliver for setting a lofty goal of raising \$10,000 for the Scholarship funds, and Bob Moser for his constant encouragement.

Of course, this event would not have been possible without the participation of our many vendors, the contributions of our excellent speakers, and the presence of the attendees. Thank you all for your enthusiasm and support of fire protection engineering and the greater fire protection community in our region.



Philadelphia • Delaware Valley Chapter

A FIRE SPRINKLE R FAMILY NEEDS YOU HELP TODAY



On Monday April 17th at 6:30 pm a great man, father, husband, and apprentice was taken from us well before he should have been. John Carlos Romero, 21, of Spring Grove, Pa was involved in a vehicle accident that claimed his life and left his family with a major void. It also took away a rising star who had so much youth and potential to become a predominant member of our life safety community.

John was a 2nd year apprentice who had really picked up on his abilities over the last couple of months and was someone Commonwealth Fire Protection was mentoring through the apprenticeship, pushing him to work on his books and be the fitter he could be.

John has left behind three very young children and wife, with the youngest being 3 weeks old, they just recently purchased a new home, and Lynzi was a stay at home mom. It is our hope that we can raise enough money to help with funeral expenses and cost of living expenses til they are able to work through this time and get back on their feet.

We all play small parts in this organization but together we make up a dream where no lives have to be taken for preventable reasons. Please keep John's family close to your hearts and do everything we can to support them in their time of great need.

All of your donations are going into an account that has been set up at for Lynzi to use to pay these expenses.

AFSA MAC Members - please share this email and donate - please show John's family that they are not alone in this time of need. Help in any way you can to get Lynzi, Henley, Paisley and Larry through this tragedy in their young lives.

Thank you in advance for your consideration.

Donations can be made at the following address: <https://www.gofundme.com/romero-family-support-fund>

Water Mist Systems: the Future of Fire Protection Technology

Water-based fire protection systems have been around since 1860, and water mist systems are making a strong argument that they will be around for years to come in the form of water mist systems.

Can water mist systems take over the fire protection industry? With the growing safety concerns and environmental impact of other suppression agents such as halogenated hydrocarbons and carbon dioxide as well as dry and wet chemical, water mist systems could be the answer.

The most common fire protection system used in the United States today is wet pipe automatic fire sprinklers. So, why not just improve what already works: water. In 1996, the National Fire Protection Association (NFPA) created NFPA 750, *Standard on Water Mist Fire Protection Systems*, which is now the standard on the installation of water mist fire protection systems. A water mist system is a distribution system connected solely to a water supply or alternatively to a water supply and an atomizing media (air or nitrogen) that is equipped with one or more nozzles capable of delivering water mist intended to control, suppress, or extinguish fires; this is defined by NFPA 750.

The performance objectives set fourth by NFPA 750 are to control the fire through a reduction in thermal exposure, to suppress the fire by drastically reducing the heat release rate and prevent restart, and to ensure complete extinguishment. Further studies have shown that water mist systems can also be effective at controlling a room's temperature, which allows for a safe egress and reduced damage as well as exposure protection through prewetting of combustibles ahead of the advancing fire.

The key to a water mist system working more proficiently than traditional fire sprinklers is the water droplet size. The water droplet size on water mist systems at the minimum operating pressure is no less than 1,000 microns. With the smaller droplet size, this creates more droplets. With a larger water surface area exposed to heat, more drops will evaporate and turn to steam. The steam then absorbs more heat per unit time from the flame, reducing the flame temperature. Not only will water mist systems control room temperature and convert the droplets into steam, suffocating the fire, but water damage from water mist systems as compared to ordinary water sprinklers is lowered considerably. The water damage from using these systems will be reduced to the point that they are proving to be effective on electrical fires as well as occupancies with high value items that require as little water damage as possible.

Water mist systems could possibly be the answer to effectively combating all classes of fire (with the exception of Class D combustible metal fires). Class A fires are traditionally controlled by water sprinklers, and Class B fires are controlled with foam and dry chemicals. Carbon dioxide and halogenated agents are used for Class C electrical fires, while Class K fires are currently extinguished by wet chemical.

For years, dry chemical and low-expansion foam have been the staples of fighting Class B flammable liquid fires. Low expansion Class B foam such as aqueous film forming foam (AFFF) are the most common along with high-expansion systems and, in some instances, alcohol-resistant foam. Since it's the vapor and not the liquid that burns during flammable liquid fires, AFFF is used to create a blanket over the liquid that suppresses the vapors, cools, and excludes oxygen. High-expansion foam is a volumizer and relies on its ability to fill an area with a large volume of super-aerated foam. These foam systems are common in aircraft hangars and fuel farms where flammable liquid fires are commonplace.

Water Mist Systems: the Future of Fire Protection Technology (cont.)

Although water mist systems cannot create a blanket over the surface of a flammable liquid, they can be just as effective. Water mist systems can displace oxygen from the steam conversion and extinguish flammable liquid fires. In these instances, water mist systems would have to stay on for a period of time after extinguishment to prevent reflash. Water mist systems have to be used in a confined environment—not out in the open—for them to work to their full potential and for the steam conversion to be effective.

Dry chemical is a powder that consists of very small particles that are suspended in a gaseous medium, which permits distribution of the powder to the hazard. Dry chemicals' ability to adhere to the surface and prevent reignition as well as the fact that it produces a rapid knockdown of flame by breaking the chain reaction can be both good and bad. Dry chemical can be hard to clean up and, if mixed with water, may solidify and be hard to get off. Maintenance can also be expensive; if dry chemical sits without being agitated, it can solidify in the storage container and be unable to discharge with the introduction of nitrogen. With dry chemicals, you also need to fulfill other requirements such as signs and markings to identify that there is a system that requires people to exit; it can also present a respiratory hazard. When used during Class C fires, dry chemical can damage other electrical equipment in the room from the powder spread from discharge, increasing the monetary loss from the fire.

Over the past decade, there has been substantial research done regarding water mist technology in fire suppression applications when extinguishing Class C fires in electronic equipment and computer rooms. This research shows that water mist systems can be just as effective at slowing the spread of fire during Class C fires without the cleanup that comes with dry chemical systems. Testing the system also becomes significantly easier than dry chemical systems because of the discharging of dry chemicals vs. water. Cost becomes a factor after use when you consider purchasing more dry chemical or refilling water.

Clean agents are called as such because of their ability to extinguish electrical fires without leaving a residue or creating damage to exposures, as would dry chemical or traditional water sprinklers. These agents displace the oxygen to extinguish fire. With these systems come the potential for significant safety considerations that may require additional costs such as marking and signage requirements, audible and visual notification systems, and employee training. Because of the droplet size inherent in water mist systems, very little damage is created from the water used in other areas, and the costs can be significantly less.

Two designs are used when installing or designing water mist systems: local application or total flooding. Total flood design uses nozzles placement to cover the whole room regardless of the location of the fire. The local application method places nozzles over a specific hazard area. Both design methods have their place, but a new design that is emerging—zoned application—has several distinct suppression zones. With special hazards or in occupancies with other high-value items, you may want to use a zoned or local application method to reduce water contact with other items.

Water mist systems appear to offer the best value among all fire suppression systems. Although it may not be practical for water mist systems to take over as an all-class fire suppression system for every scenario, it may be the case for fixed fire suppression systems. When considering the overall use and diversity of water mist systems such as effectiveness, cost, training, testing, and application, it has a chance to be the future of fire protection.

May 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|---------------------------|---------------------------|-------------------------------------|--|-----------|-----------|-----------|
| | 1 | 2 | 3 SOUTH JERSEY ASCET MTG. | 4 | 5 | 6 |
| 7 | 8 | 9 PHILLY SFPE MEETING | 10 | 11 | 12 | 13 |
| 14 MOTHER'S DAY | 15 | 16 ASCET BERKS CHAPTER | 17 DELAWARE ASCET | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 MEMORIAL DAY | 30 | 31 | | | |

MAY 3: SOUTH JERSEY ASCET MEETING

MAY 9: PHILADELPHIA SFPE MEETING

MAY 14: MOTHER'S DAY

MAY 16: BERKS COUNTY ASCET MEETING

MAY 17: DELAWARE ASCET MEETING

MAY 29: MEMORIAL DAY

MISSION STATEMENT

The Philadelphia/Delaware Valley Chapter purpose is to advance the art and science of fire protection engineering and its allied fields, for the reduction of life and property losses from fire, to maintain high ethical standards on engineering among its members and to foster fire protection education. Recognition of fire protection engineering as a discrete engineering discipline is a prime goal. Engineering disciplines exist because there is a special body of knowledge based on the fundamentals of mathematics, physics, chemistry, engineering science and economics. The chapter strives to facilitate sharing of sound engineering experiences and knowledge between its members and the fire protection community in general with an active program of education and scholarship activities



**Society of Fire
Protection
Engineers**

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