Hello folks,

Thanks to Doug Nadeau and Joe Sinisgalli of TruVUE, speakers at our January meeting, for their excellent presentation ‘What’s Eating Your Pipes’ which was a very informative discussion of corrosion to sprinkler piping with an explanation of how their ultrasonic thickness testing can help quantify the problem.

While the first day of spring is officially March 20th, the beginning of meteorological spring is March 1st. So as you read this you can breathe a sigh of relief, there is only about a month to a month and a half of winter to go. That means Ed Amm, with help from some of our other directors, is up to his elbows planning our joint symposium with the AFAANJ. Mark your calendars for May 6th and look for further updates and announcements. (I don’t want to jinx us but by my count I’ve only shoveled two inches of snow this season. And while there have been some bitter cold days temperatures seem balmy compared to a year ago. I’m thinking Mother Nature may be giving us a break after what she did to us last winter.)

Enjoy the Super Bowl but remember to come to our meeting on February 2nd because Frank Savino is going to have a really good presentation for us about the state of the art in Smoke Detection.

Joe Janiga
President, NJ Chapter SFPE

Mark your calendars for the annual joint NJ/NY SFPE Chapter annual golf outing. It will be Tuesday June 16th 2015 at the New York Country Club, New Hempstead, NY

http://www.njsfpe.org/
www.twitter.com/newjerseysfpe
www.facebook.com/njsfpe
Minutes of the SFPE – NJ Chapter Meeting – Jan. 12, 2015

President Joe Janiga convened the meeting at 6:10 PM at the Hanover Manor, E. Hanover, NJ with a salute to the flag and the customary introductions.

There were 28 attendees including the speakers. The minutes from the December, 2014 meeting were not available so the Secretary’s Report was not given.

The Treasurer’s Report for December, 2014 (dated 1/12/15) was approved as presented by Nathan Gorey, Chapter Treasurer.

The chapter approved the membership applications for 2 new members – Cliff Hartford of Tyco Fire Protection Products and Joseph Meyer of FM Global.

Joe Janiga gave an update on some items of interest:

- Frank Savino of United Fire Protection will be presenting at the February, 2015 meeting on the current state of the art of smoke detection.
- Thank you notes have been received from the scholarship recipients.
- There will be a public meeting of the US Chemical Safety Board on January 15, 2015 to discuss some recent losses.

Paul McGrath updated the chapter on the recent Fire Facts 22 seminar.

The speaker at this meeting was Doug Nadeau of Tru Vue who spoke on Corrosion of Sprinkler Systems.

The meeting was adjourned at 8:00 PM.

Technical Presentation for the February 2nd Meeting

**Advanced Technology Automatic Smoke Detection**

Detection of smoke is usually the first indication of fire. There are a multitude of available automatic smoke detection technologies from which to choose.

This presentation will be an overview of the most popular options, applications, strengths, and weaknesses of each. There will be a discussion relative to the challenges and solutions in high air movement environments.

The presenter, Frank Savino, has a Bachelor of Science Degree in Administrative Sciences and is a NICET Level Four fire alarm technician. He is president and C.E.O. of United Fire Protection Corp. and has 40 years of experience in the fire protection industry.
CSB Names Poor Design and Failure to Test Dust Collection System Among Causes of U.S. Ink New Jersey Flash Fire that Burned Seven Workers in 2012;

OSHA Again Urged to Issue New Combustible Dust Regulations

The CSB found that the ductwork conveyed combustible, condensable vapors above each of three tanks in the mixing room, combining with combustible particles of dust of carbon black and Gilsonite used in the production of black ink.

Investigation Supervisor Johnnie Banks said, “The closed system air flow was insufficient to keep dust and sludge from accumulating inside the air ducts. But to make matters worse, the new dust collector design included three vacuuming hoses which were attached to the closed-system ductwork, used to pick up accumulated dust, dirt and other material from the facility’s floor and other level surfaces as a ‘housekeeping’ measure. The addition of these contaminants to the system ductwork doomed it to be plugged within days of startup.”

The report describes a dramatic series of events that took place within minutes on October 9, 2012. About 1 p.m., an operator was loading powdered Gilsonite, a combustible carbon-containing mineral, into the bag dump station near the pre-mixing room when he heard what he called a strange, squealing sound. He checked some gauges in the control room, and as he was leaving he saw a flash fire originating from the bag dump where he had just been working. He left to notify his supervisor. At about that same time, other workers heard a loud thump that shocked the building.

In response to the flash from the bag dump station and the thump, workers congregated at the entrance to the pre-mix room. One worker spotted flames coming from one of the tanks. He obtained a fire extinguisher but before he could use it, he saw an orange fireball erupt and advance toward him. He squeezed the handle on the extinguisher as he jumped from some stairs, just as the flames engulfed him and six other employees who were standing in the doorway.

The CSB determined that overheating and spontaneous ignition which likely caused the initial flash fire at the bag dump was followed by ignition of accumulated sludge-like material and powdery dust mixture of Gilsonite and carbon black in the duct work above tank 306. Meantime, the dust collection system, which had not been turned off, continued to move burning material up toward the dust collector on the building’s roof, where a sharp pressure rise indicated an imminent explosion. This was contained by explosion suppression equipment, but the resulting pressure reversed the air flow, back to the pre-mix room, where a second flash fire occurred, engulfing the workers.

Investigation Supervisor Banks said, “The new system was not thoroughly commissioned. There was no confirmation of whether the system would work as configured, missing opportunities to find potential hazards. The design flaws were not revealed until the dust explosion.”

The report’s safety management analysis points to a lack of oversight by company engineers of the work done by installation contractors. The company chose not to perform a process hazard analysis or management of change analysis –
required by company policy for the installation of new processing equipment – because it determined it was merely replacing a previous dust collection system in kind. However, the new system in fact was of an entirely different design.

Considering the emergency response following the flash fire and dust collector explosion, CSB Investigators found that while workers had received training in emergency response situations, they did not follow those procedures, because U.S. Ink had not developed and implemented an effective hazard communication and response plan. A fire coordinator was designated to use the public address system to announce a fire and also pull the alarm box. But because the system was not shut down immediately after the first flash fire, he was among the injured and could not perform his duties.

The CSB report’s regulatory analysis highlights the need for a national general industry combustible dust standard which the agency has long recommended that OSHA promulgate, putting in on the CSB’s “Most Wanted” list in 2013, following years of urging action as dust explosions continued to occur in industry. The report, if adopted by the board, would reiterate the CSB’s original recommendation to OSHA, and also recommend OSHA broaden the industries it includes in its current National Emphasis Program on mitigating dust hazards, to include printing ink manufacturers.

Chairperson Moure-Eraso said, “Although OSHA’s investigation of this accident deemed it a combustible dust explosion, it did not issue any dust-related citations, doubtless hampered by the fact that there is no comprehensive combustible dust regulatory standard. In U.S. Ink’s case – and thousands of other facilities with combustible dust – an OSHA standard would likely have required compliance with National Fire Protection Association codes that speak directly to such critical factors as dust containment and collection, hazard analysis, testing, ventilation, air flow, and fire suppression.”

The CSB report notes that the volume of air flow and the air velocity in the company’s dust collection system was significantly below industry recommendations – which, in the absence of a federal combustible dust regulation, are essentially voluntary. The report states the ductwork design did not comply in several respects with guidelines set by the American Conference of Governmental Industrial Hygienists (ACGIH) Industrial Ventilation Manual. Nor did the system’s design, the CSB said, comply with the voluntary requirements of NFPA 91, which states: “All ductwork shall be sized to provide the air volume and air velocity necessary to keep the duct interior clean and free of residual material.”

Chairperson Moure-Eraso said, “A national combustible dust standard would include requirements to conform to what are now largely voluntary industry guidelines and would go far in preventing these dust explosions.”

The report cites gaps in New Jersey’s regulatory system, noting the state’s Uniform Construction Code Act has adopted the International Building Code (which references NFPA dust standards) but has also exempted “manufacturing, production and process equipment.” A proposed CSB recommendation to New Jersey’s Department of Community Affairs calls on the regulatory agency to revise the state’s administrative code to remove this exemption so that dust handling equipment would be designed to meet national fire code requirements. The state is also urged to implement training for local code officials as local jurisdictions enforce the code, and to promulgate a regulation that requires all occupancies handling hazardous materials to inform the local enforcement agency of any type of construction or installation of equipment at an industrial or manufacturing facility.

Chairperson Moure-Eraso said, “Events leading to this accident began even before the earliest planning stages, when the company failed to properly oversee the design, construction and testing of a potentially hazardous system. The victims have suffered the consequences. We hope our recommendations are adopted so that these terrifying industrial dust explosion accidents will stop.”

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The CSB is an independent federal agency charged with investigating industrial chemical accidents. The agency’s board members are appointed by the president and confirmed by the Senate. CSB investigations look into all aspects of chemical accidents, including physical causes such as equipment failure as well as inadequacies in regulations, industry standards, and safety management systems.

The Board does not issue citations or fines but does make safety recommendations to plants, industry organizations, labor groups, and regulatory agencies such as OSHA and EPA. Visit our website, www.csb.gov.

For more information, contact Communications Manager Hillary Cohen, cell 202-446-8094 or Sandy Gilmour, Public Affairs, cell 202-251-5496.
Workers using a blowtorch to make plumbing repairs were blamed for Wednesday’s massive blaze that ravaged a luxury apartment complex, the second fire there since 2000.
Instead of immediately calling 911, the workers first phoned their supervisor, leading to a 15-minute delay in the emergency response, Skidmore said.

That decision, the chief said, “certainly didn’t help” stop the fire’s spread.

“It was mostly a big contributor because it was a delay in the response of the fire department,” he said.

Asked if the delay opened the workers to criminal liability, Skidmore said it did not, terming the fire a “tragic accident.”

The fire raged for nearly seven hours, destroying 240 of the complex’s 408 units. Two firefighters and two civilians suffered minor injuries.

More than 500 people lost their homes, and about 520 others from neighboring buildings and houses were displaced temporarily.

Christie, at the afternoon news conference, pledged his administration’s assistance.

“At times like this most people are concerned that they’ll be forgotten,” he said. “That’s why I’m here, to make sure people know that we won’t forget.”

Why fire spread quickly

As firefighters continued to douse hot spots in the wreckage, officials pointed to the complex’s lightweight wood-frame construction in explaining how the blaze spread so rapidly, leaving firefighters all but helpless to contain it.

“If it was made out of concrete and cinder block, we wouldn’t have this sort of problem,” Edgewater Fire Chief Thomas Jacobson said. “It’s very difficult because once it’s in the walls and floors, we’re chasing it.”

The fire in 2000 also involved wood-frame construction. That blaze destroyed four buildings.

Jacobson said the fire alarm and sprinkler systems worked properly during Wednesday’s fire, and the two-building complex, owned by AvalonBay Communities, met all state and local fire codes.

As he surveyed the damage in Edgewater yesterday, Kurasz said it might be time to “re-look at the codes,” both in the construction materials used and the types of sprinkler systems installed, because even projects that follow the letter of the law can see tragic accidents.

In a statement, AvalonBay’s chief construction officer, Michael Feigin, called wood-frame construction a “standard, common, and safe construction method for multifamily housing used throughout the United States.”

“The community was built in accordance with the fire and safety codes applicable at the time,” Feigin said. “The purpose of those codes is not to prevent the building from burning down, but rather to ensure that there is sufficient time and opportunity for all occupants to exit safely in the event of a fire.”

He said AvalonBay, based in Virginia and among the largest publicly traded apartment developers in the country, was cooperating fully with investigators.

“We recognize the tremendous disruption that this incident has caused for residents and the community alike, and we are working with the Red Cross and local officials to assist residents,” Feigin said.

Losing everything

Though thankful to be alive, hundreds of residents lost all their possessions in the fire, which destroyed most of the northernmost building. Among them was Yankees broadcaster John Sterling.

“I, along with everyone else, lost everything I have ever owned,” Sterling told ABC News yesterday.

It was about 4:30 p.m. when the fire alarm sounded. Residents said the system went off frequently, so there was little panic. Then they smelled smoke.

“Basically, I saw the police, we heard the fire alarm, and we just left,” said Daniel Stavale, who, with his wife Thaluana and 7-month-old son are now living with friends. “We didn’t wait. And then it got worse.”

Angela Nyagu, who fled with her husband and 7-year-old son, said the situation “seemed to be under control — and then it became like a volcano explosion.”

By 6 p.m. flames were soaring into the night, casting a glow visible from Manhattan’s West Side.

More than 250 firefighters from 35 communities responded, along with fire boats and other watercraft from Jersey City, the StatePolice, and the New York City Fire Department.

The FDNY boats pumped water from the Hudson River to firefighters at the scene as water pressure dropped, a consequence of prolonged and heavy use of all available hydrants, officials said.

“A fire like that, you use millions of gallons of water, and their water system could only put up so much,” said Jerry Cala, Jersey City’s assistant director of public safety.

Christie and local officials praised the first-responders for their efforts, noting they rescued not only people but pets. An unknown number of animals died in the fire.

Avalon at Edgewater offers one-, two- and three-bedroom rental units that fetch as much as $3,200 a month.

$6M in settlements

The earlier fire, also an accident, occurred in August 2000 as a luxury complex owned by AvalonBay neared completion. That blaze spread to all four buildings in 15 minutes, burning hot enough to ignite nearby homes. Nine houses were destroyed, as were dozens of cars.

AvalonBay later paid $6 million in settlements to the homeowners, the Associated Press reported in 2005. The replacement complex, Avalon at Edgewater, reportedly cost $75 million to build.

Staff writers Seth Augenstein, Kathryn Brenzel, Noah Cohen, James Kleimann and Myles Ma contributed to this report.
Project Description
NFPA 400: Hazardous Materials Code 1 specifies separation distances for hazardous material storage and processes from other equipment and occupied buildings. To satisfy these requirements, standards and industry practices have come from a multitude of sources. The basis of the recommended separation distances in NFPA 400 is challenged by recent accidents. For example, the April 2013 ammonium nitrate explosion that occurred in West, Texas exposed a problem with regulation and storage of hazardous materials and related separation distances around the facilities. Though this is an important specific example, the chemical safety field as a whole needs to study many such hazards and how they could affect one another. Through validation of the separation distances outlined in the NFPA code, safety and productivity can be maintained for the community by reducing accidents due to insufficient separation distances and decreasing the burden on business due to excessive separation distances.

Many sources are available regarding methodology for determining separation distances for processing and storage of hazardous materials. Despite similarities in stored materials, distances determined from these sources vary widely depending on the intended protected entity and the users themselves. The separation distance specifications can be based on historical information, investigation of an accident, near-misses, modeling, or experimentation; all of which can lead to different codes and regulations due to the differences in the information considered in their development. With historical information, for example, separation distances have been based on ad-hoc decisions with no basis on historical accidents or events, whereas with experimentation, the exact separation distance can be determined but with no accounting for spontaneous environmental factors.

Post-accident investigations lead to new separation distance practices born out of necessity, but this reactionary response comes at a high price: loss of life and damage caused by these accidents. Collecting and distilling information on separation distances will enable a better understanding of both the basis for the current methodologies and the knowledge gaps for storage of hazardous materials. This analysis will help revise NFPA 400 requirements regarding the separation distances of hazardous materials, with the goal of determining the uncertainty and margin for error in each specification based upon the method used to arrive at that specification.

Summary of Review Findings
The documents, tables, experimental data, and technical reports presented in this literature review address the very diverse aspects of separation distances for hazardous materials. A focus was placed in two major areas, human injury and vapor cloud explosions. It should be reiterated that this review is not exhaustive, but builds upon the review performed by Kazarians and Associates. Many more documents, including more recent documents, have been published and should be considered before assuming a complete understanding of the effects of separation distances on hazardous materials.

In general, it was found that the standard tables presented for process planning are insufficient for every planning situation since they are based very specifically on TNT equivalency and not a more specific measure of a material’s reactivity. Other modeling methods should be used to supplement the basic tabular data for various situations, especially those where long duration blast fronts are present. In addition, fragmentation should be accounted for in addition to simple blast overpressure to ensure tank or pipeline ruptures are unlikely.

Through this review, it can also be concluded that human injury estimation varies widely among different sources due to the large array of potential hazardous events. For instance the DoD safety manual has tables and formulas to determine how the human body may be injured in a blast. These calculations, however, only account for blast waves, and do not account for the problem of fragments from the explosive that could be thrown at personnel during the blast. More research is needed to combine the ideas in this review to create a method that can be applied to a wider array of process planning situations. For instance, DoD distance tables could be combined with the Bowen curves to come up with a safe working distance for personnel during blast operations. Also, as described in the Kazarians literature review, sources are overwhelmingly focused on non-catastrophic events and on fire hazards. Catastrophic events need to be further investigated and then checked against industry and regulatory standards to prove that the chance of serious injury or damage is predicted accurately.
MEETING NOTICE

Date: February 2, 2015

Place: Hanover Manor
16 Eagle Rock Avenue
East Hanover, NJ 07936

Price: $30.00

Dinner: 5:00-6:00 (Cash bar for mixed drinks)
Dinner at 6 PM

Topic: Advanced Technology Automatic Smoke Detection

Speaker: Frank Savino, United Fire Protection

PLEASE COMPLETE AND RETURN WITH YOUR CHECK PAYABLE TO “SFPE NJ CHAPTER” TO:

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OR PAY AT THE DOOR

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# Meeting Dates/Programs 2014-2015

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<td>Feb. 2</td>
<td>Advanced Technology Automatic Smoke Detection—Frank Savino, United Fire</td>
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<td>March 2</td>
<td>Foam Systems Design &amp; Acceptance Testing’ Gary Ryman FM Global &amp; Fay Purvis Vector Fire</td>
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<td>April 13</td>
<td>This will be the breakfast meeting at FM Global’s office at 300 Kimball Drive, Suite 200, Parsippany. Dick Davis will speak about “Solar Panel Fire Hazard”</td>
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<td>May 6</td>
<td>Joint Seminar’ with NJ AFAA</td>
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<td>June 8</td>
<td>Comparison of UL 286 and ASTM E84’ JC Harrington FM Global &amp; ’SFPE Update’ Julie Gordon SFPE</td>
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<td>June 16</td>
<td>Joint NY/NJ SFPE Golf Outing will be Tuesday, June 16, 2015 at the New York Country Club, New Hempstead, NY</td>
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Emesto Vega Janica, CIT

Senior Consultant

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