Editor Fusible Link
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FUSIBLE LINK

February 2020

President's Message….

We kicked off the 2020's with our chapter holiday party. What does this decade have in store for fire protection engineering?

Jerry Naylis made an informative presentation 'Lessons Learned from Recent Fires'. He reviewed 5 large loss fires in New Jersey in the last decade including: Dietz and Watson Warehouse, Veteran's Industrial Park, North Brunswick Warehouse, Seaside Heights Boardwalk & Marcal Paper. A common thread through most of these losses was lack of reliable water supply. This begs to be addressed in our design & maintenance of our fire protection systems and fire suppression operations.

Hope for Veterans, a non-profit that offers aid to homeless veterans, held a raffle to raise funds for their effort. We are proud to support their program.

We congratulate Jeff Caster of United Fire Protection for obtaining his NY Fire Protection License.

Fire Facts Seminar #27 was a great success as Russ Leavitt with Telgian Corporation covered NFPA 25 Water-Based Fire Protection Systems: Inspection, Testing & Maintenance. Over 350 Fire Officials and fire Protection professionals attended at Seton Hall and Princeton University on January 9th & 10th.

20 years ago, January 19th, 3 students perished and 58 were injured in the dormitory fire at Seton Hall University. Shawn Simon and Alvaro Llanos, burn survivors from this fire, continue to take their story 'After the Fire' to high school and new college students all over the country about their experience. There efforts along with changes to building fire codes and higher level of awareness of fire on college campuses has reduced student fire deaths significantly. Their and our job will never be done as long as fire continues to be a threat.

Mark your calendar for Monday, February 3rd, for our next chapter meeting. Bill Moore with Cla-Val Company will make a presentation on 'Automatic Breach Valves'.

Automatic Breach Control Valve are designed to automatically isolate portions of distribution piping when a catastrophic downstream breach or line break occurs. The Breach Control Valve is typically installed in commercial building water distribution systems, such as fire protection, potable water service, or chilled water circulation.

I look forward to seeing you there!

Paul

Chapter President

Minutes of the NJ-SFPE Chapter Meeting – January 6, 2020

President Paul McGrath convened the meeting at 6:02 PM with a salute to the flag and customary introductions.

It was mentioned that the minutes of the last meeting were published in the Fusible Link.

A motion was made and carried to accept the November and December treasurer's reports.

Rich Reitberger mentioned that our 2019 budget was very accurate and we achieved a net profit of about $2,600. The books will be audited in the next week or two and the 2020 budget will be submitted to the trustees for approval. Dues notices and invoices for Fusible Link ads will be sent out shortly.

Congratulations were sent to Jeff Castaer of United Fire Protection for obtaining his P.E. license.

On the legislative front, the bill requiring automatic sprinklers in townhomes is progressing and additional amendments are being added before it is hopefully signed into law. Gerry Naylis announced that both houses of the state legislature adopted a law allowing people to receive college credit from four-year colleges upon completing tested courses at county fire academies. With our chapter trying to work with City College of NJ regarding the development of a curriculum to teach various topics related to fire protection engineering, this law may act as springboard.

The president and vice president of the Foundation, which swap positions every two years, will be voting on the budget soon. The Foundation made $9,000 and $14,000 in scholarships and $5,000 in grants are planned for next year. The golf outing will be held on June 1 and work has begun on setting up both a half- and full-day training program on the topic of fire protection to raise money for the Foundation.

We have six sponsorships at the current time and the symposium is scheduled for April 22nd at the Hanover Manor.

The Fire Facts Seminar will take place this week in Princeton and South Orange and the topic will be NFPA 25. Registration is still available.

Representatives from Hope for Veteran's gave a brief overview of this program.

Tonight's speaker was Gerry Naylis and his presentation was titled, "Lesson Learned from Recent Fires." Specific fire that he discussed and was involved with the investigation included:

Dietz and Watson Warehouse

Veteran's Industrial Park

North Brunswick Warehouse

Seaside Heights Boardwalk

Marcal Paper

Baskets and door prizes sponsored by the Hope for Veteran's organization were raffled off.

The meeting was adjourned at 8:22 PM.

Author(s): Jesse Roman. Published on January 1, 2020.

Stranded Energy

The number of electric vehicles on the road is growing rapidly, even as critical questions remain about how to effectively respond to the most severe EV crashes

BY JESSE ROMAN

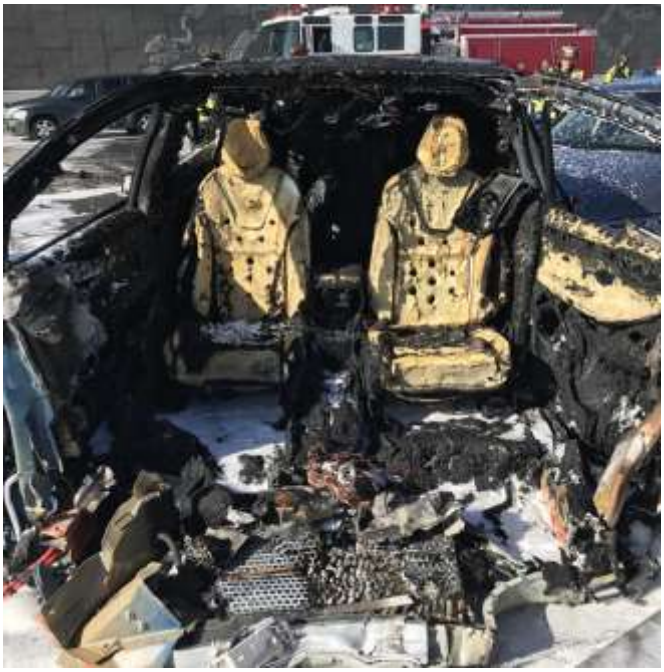
AT 9:27 A.M. ON MARCH 23, 2018, just as the morning rush hour was starting to ease in Mountain View, California, a violent collision threw a ho-hum Friday commute into chaos.

For reasons still unexplained, a Tesla Model X SUV, traveling at 70 mph down a flat, straight stretch of the 101 freeway, abruptly drifted left and slammed into a concrete median that divided the freeway from an offramp. Bystanders risked their lives to pull the 38-year-old driver from the wreck before it burst into flames. He later died at the hospital from his injuries.

The crash resulted in a complex and dangerous accident scene. The impact tore the front end off the vehicle's frame, ripping open the Tesla's 1,200-pound, 400-volt lithium ion battery and scattering energized cells across the road. By the time units of the Mountain View Fire Department arrived, just after 9:30 a.m., the badly damaged battery was shooting flames five feet into the air. Firefighting crews readied their gear and got to work.

If there was a fire department anywhere in the world equipped, trained, and prepared to handle the situation on the 101 that morning, it was the Mountain View Fire Department. The Bay-area city of 80,000 is in the heart of Silicon Valley and home to a who's who of technology behemoths, including Tesla itself. Tesla vehicles are assembled nearby, and the company routinely hosts emergency responders from Mountain View and elsewhere to teach them about its EV batteries, high-voltage wires, and emergency cut loops, straight from the engineers who designed them. Tesla has donated hundreds of vehicles to local departments to practice emergency extractions and other procedures, and Mountain View's firefighters have had plenty of live training.

Nearly 10 percent of passenger vehicles in Silicon Valley are either hybrid or fully electric, double the national average, according to a recent study. “We’ve been through a lot of Tesla and other EV crashes,” Juan Diaz, chief of the Mountain View Fire Department, said in a recent interview. “I hear reports come in every day.”



The crash in Mountain View tore open the EV's battery, exposing cells (pictured in the foreground) that contained stranded energy. (Mountain View (CA) Fire Department

As they’d been trained, firefighters shot copious amounts of water directly at the flaming battery, and extinguished the fire in a couple of minutes. After eight more minutes with no reoccurrence of fire, they turned off their hoses. But the severed battery continued to hiss and pop, sounds Diaz likened to “slamming a hand on a kitchen table.” Firefighters feared the vehicle’s frame could be energized, but they lacked tools to test it. They also lacked the proper protective equipment to handle or remove the battery’s energized lithium ion cells, and there was no way for responders to drain the massive amount of energy still clearly trapped in the unstable battery. The tow company refused to load the hissing car onto a flatbed for fear of electrocution. Firefighters found themselves in the middle of a busy freeway with a battered EV and few options for what to do next.

As in all Tesla models, the battery in the Model X is comprised of more than a dozen separate modules, each made up of hundreds of individual cells. All of these components are neatly packaged in a rectangular metallic case that runs the length of the chassis beneath the passenger cabin. Fully charged, the battery has a capacity of 75 kWh—roughly enough energy to power the average US home for more than two-and-a-half days, and more than enough to instantly kill anyone exposed to it. If punctured, breached, or otherwise damaged, heat can build rapidly inside the compromised battery cells and spread to surrounding cells in a cascade-like process called thermal runaway, which can lead to fire, arc flashing, off gassing, and sometimes explosions. Faced with these hazards, the Mountain View firefighters resorted to one of their few remaining options: call Tesla.

Engineers from the nearby Tesla headquarters work to clean up and de-energize exposed portions of the battery. (Mountain View (CA) Fire Department

About two hours into the event, a team of Tesla engineers arrived at the crash site, dispatched from company headquarters just down the road. The engineers began the laborious task of disassembling the damaged battery cell by cell, dropping each into a bucket of water. The six-lane 101 remained closed for six hours as Tesla employees removed the exposed portion of the battery and isolated the exposed high-voltage wiring, while firefighters provided water as necessary to keep the fire from reigniting. With about a quarter of the battery removed, it was agreed that the car was safe to transport to an impound yard in nearby San Mateo. A Mountain View fire captain and fire truck accompanied the tow on the roughly 20-mile trip. During the ride, what was left of the car's battery continued to pop like a firecracker.

At the impound, the vehicle's battery ignited twice within the first 24 hours, and the salvage yard operator had to call San Mateo firefighters to assist. The following Thursday, six days after the initial crash, the battery reignited yet again. Tesla engineers eventually removed the remaining battery from the vehicle and de-energized it by submerging it in a vat of salt water.

Afterward, the US National Transportation Safety Board investigator who looked into the crash told Diaz that the Mountain View department was the first he had seen to properly mitigate a battery fire under such extreme circumstances. Other than the driver of the vehicle, no further injuries or damage were reported.

Still, the crash—and dozens of others like it around the world—lay bare the gaps in our understanding of what can occur in such incidents, and how far responders have to go to prepare for the rapid influx of battery technology that experts say is fast approaching. That technology goes beyond EVs to include all manner of energy storage systems (ESS), from utility-scaled ESS arrays to consumer-sized ESS that can be stored in a home's garage to provide electrical power on demand (see "Beyond EVs"). Right now, though, the hazards associated with EVs are of primary concern to many responders. With the number of EVs on the roads expected to rise dramatically—and with it, the number of crashes and associated challenges—emergency response experts say much more research and training are needed to provide them with tools to deal more safely and effectively with the most severe EV incidents.

The rest of this10 page article can be found in the January/February 2020 NFPA Journal and at the link below:

https://www.nfpa.org/News-and-Research/Publications-and-media/NFPA-Journal/2020/January-February-2020/Features/EV-Stranded-Energy

NJSFPE-AFAANJ 11th Annual Symposium Attendee Registration

When

Wednesday, April 22, 2020 from 7:30 AM to 4:00 PM EDT
Add to Calendar

Where

The Hanover Manor
16 Eagle Rock Ave
East Hanover, NJ 07936
Driving Directions

Get more information

Register Now!

I can't make it

As with previous years we will be having our Vendor Trade show throughout the day.

Our speakers and program:

- John Drucker - Fire Protection Sub-code Official, Borough of Red Bank, NJ
  - New Jersey's Rehabilitation Code
  - Jason Webb- Director of Industry Relations- Potter
  - How to prepare for automated inspection and testing
  - Steve Cummings -Director Sensors Business Unit-Nexceris
  - Energy Storage Systems (ESS) Gas Detection Designs Based on Large-Scale Fire Testing
  - Phil Gunning, PE.-Director Education & Training-Globe Fire Sprinkler Corporation
  - Sprinkler Protection Attic Spaces
  - Shamim Rashid- Sumar, PE, FSFPE-Vice President, Fire Codes and Standards - National Ready Mixed Concrete Association
  - Benefits and Fire Resistance Qualities of Concrete in Construction
  - Michael J. Hosch- Lead Applications Engineer-Det-Tronics
    Ultra-high-speed Optical Flame Detection and Releasing System Solutions

Raffle Prizes following the last speaker.

Please use the link below to register or RSVP.

If you have any questions please contact Ed Armm (see below) Vicki Serafin vicki.serafin@affiliatedfm.com (973) 541-6771, or Jim Loftus, james.loftus@siemens.com (973) 590-0048

Thank you for your attention and response, we look forward to seeing them at your event.

Sincerely,

Jim Loftus
AFAANJ & NJSFPE
james.loftus@siemens.com
973-590-0048

Our Feb. 3rd Technical Meeting

Automatic Breach Control Valves

Our speaker will be Bill Moore who is the Eastern Regional Sales Manager for Cla-Val Company of Newport Beach, CA, he manages all sales and marketing efforts for the eastern U.S. and Canada. He provides consultation on projects for water, industrial, fire, petroleum and marine applications for automatic control valve applications. Bill has 30 years of professional experience in the valve industry. He is a graduate of the University of Alabama with degree in Industrial Sales & Marketing.

Automatic Breach Control Valves are designed to automatically isolate portions of distribution piping when a catastrophic downstream breach or line break occurs. The Breach Control Valve is typically installed in commercial building water distribution systems, such as fire protection, potable water service, or chilled water circulation.

Strategically located to isolate damaged portions of a water systems, the Breach Control Valve prevents significant water loss and damage, allowing continued service until piping can be repaired. The Breach Control Valve is especially well-suited for high-rise building sprinkler systems because of their vulnerability to failure should a line break occur in the top floors of a building, where gravity can cause fire water reserves to quickly drain.

Meeting Dates/Programs 2019-2020

Most meetings are held at the Hanover Manor, 16 Eagle Rock Ave., East Hanover, NJ.
Social hour starts at 5:00PM, Dinner meeting starts at 6:00PM.

2019-2020 SFPE Program Schedule	Presenter	Date
Cla-Val RE: Breach Valves	Bill Moore	February 3, 2020
Power over the Ethernet	Ernesto Vega Janica, IEEE	March 2, 2020
NJSFPE & AFAANJ Technical Seminar	Various Presenters	April 22, 2020
United Fire Protection Facility Tour on Special Hazards	Frank Savino, United Fire Protection	May 4, 2020
NJ-NY Metro Education Foundation Golf Outing	New York County Club	June 1, 2020
Fire Sprinkler Anti Freeze Protection	Amber Bodner, Johnson Controls Fire Protection	June 8, 2020
NFPA Conference & Expo	National Fire Protection Association	June 15-18, 2020

Advertising in the Fusible Link

It is a new advertising year and we invite you to participate with a spot in our Chapter newsletter the ***Fusible Link.*** We have a few options to get your name out to the full membership and also to be a part of our website, Just click on the convenient link below to register now. Thanks in advance for your consideration to advertise with us today. We appreciate your support of the Chapter.

http://events.constantcontact.com/register/event?llr=gyofsfkab&oeidk=a07egtv146yab39552f

SFPE New Jersey

2018-2019 Chapter Committees

STANDING COMMITTEES

Program
Joe Janiga

Arrangements
Vicki Serafin, Chairperson

Membership
Rich Reitberger

Nominating
Rich Reitberger

Auditing
Vanessa Gallagher, Chairman

Archivist/Historian
Vicki Serafin

Speakers Gifts
Rich Reitberger

Communications
Fusible Link—Brad Hart
bradhart07438@yahoo.com
Lindsey Taylor—Coordinator

Communications-Other
Paul McGrath

SPECIAL COMMITTEES

Spring Seminar
Jim Loftus

Bylaws
Rich Reitberger

Career Recruitment
Tim Costello

Chapter Excellence Awards
Paul McGrath

PE Examination
Donna Spano & Marios Michaelides

Legislative
Jerry Naylis

Finance
Dave Gluckman

Fire Prevention Week Grant Program
David Gluckman

HELPFUL LINKS

ADAAG http://www.access-board.gov/adaag/about/index.htm
AFAA National http://www.afaa.org/
AFSA http://www.firesprinkler.org/
ANSI http://web.ansi.org/
ASHRAE http://www.ashrae.org/
Campus-Firewatch http://www.campus-firewatch.com/
Coffee Break Training http://www.usfa.dhs.gov/nfa/coffee-break/
CPSC http://www.cpsc.gov/
CSAA http://www.csaaul.org/
Municipal Codes (E Codes) http://www.generalcode.com/Webcode2.html
FDNY http://nyc.gov/html/fdny/html/home2.shtml
FM Global http://www.fmglobal.com/
FSDANY http://www.fsdany.org/regs.htm
FSI http://www.firesprinklerinitiative.org/
FSSA http://www.fssa.net/
Fire Tech Productions—Nicet Training (FTP) http://www.firetech.com/
Home Fire Spklr Coalition http://www.homefiresprinkler.org/
HVAC Bld. Control Fire Safety http://www.iklimnet.com/hotelfires/hotelfiresmain.html
AFAA-NJ http://www.afaanj.org/
International Code Council - http://www.iccsafe.org/
International Code Council Residential Sprinkler Exam - http://www.iccsafe.org/news/nr/2009/0709_ResidentialSprinklerExam.pdf
The Joint Commission (JCAHO) - http://www.jointcommission.org/www.JointCommission.org/
Material safety data Sheets (MSDS-OSHA Site) - http://www.osha.gov/SLTC/hazardcommunications/index.html
National of Fire Equipment Distributors (NAFED) - http://www.nafed.org/index.cfm