

### Death in the line of duty... TIOS



A report from the NIOSH Fire Fighter Fatality Investigation and Prevention Program

September 26, 2019

### Career Captain Fatally Shot and a Fire Fighter Wounded by Arsonist while Responding to a Fire Alarm - California

### **Executive Summary**

On June 25, 2018, a 45-year-old career Captain suffered a fatal gunshot wound and another fire fighter suffered a gunshot injury while responding to a fire alarm at a high-rise senior apartment building. Dispatch was notified by an alarm company of a fire alarm activation at 03:44 hours. At approximately 03:45 hours Engine 2, Truck 1 and Battalion Chief 1 were dispatched. Due to reports of an explosion, the incident was upgraded at 03:49 hours and additional apparatus and personnel (Engine 1, Rescue 1, Engine 10, Engine 24, and Hazmat 24) were dispatched. Engine 2 was first on scene at 03:51 hours and reported no smoke or fire showing, but 4 minutes later, reported windows that were "blown out" suggesting an explosion. Battalion Chief 1 was in command and radioed dispatch that they had a working High Rise



**Senior Facility** (NIOSH Photo.)

fire resulting in Engine 3 and Battalion Chief 2 also being dispatched to the scene. Engine 2 and Engine 10 were assigned to the 2<sup>nd</sup> floor where the involved apartment was located (B/C corner of the structure).

Engine 2 did a primary search of the apartment and verified that an explosion occurred and that the building's sprinkler extinguished the fire. Engine 10 did a secondary search and reported the apartment was clear, but a distinct smell of gasoline pervaded the apartment and hallway. Engine 10's Captain was investigating the remaining apartments on the 2<sup>nd</sup> floor when he came across a resident with burns on his hands sitting in a chair at the end of the side D hallway. The window of the Side D hallway was blown out from the pressure of the explosion, so the Captain leaned out the opening and yelled down to Rescue 1 paramedics that they had a patient on the second floor. At this point the resident pulled out a revolver and shot the Captain in the torso. The Captain lunged into the Side D stairwell and yelled that he had been shot by an active shooter. Other fire fighters heard the shots. Thinking there were more explosions, two fire fighters from Engine 10 came running down the hallway only to be met with gunfire. The lead fire fighter's self-contained breathing apparatus mask voice amplifier was grazed by a bullet causing the amplifier to impact his torso and the bullet to deflect. The second fire fighter saw the resident with the gun and ran back towards the B-side informing Engine 2 fire fighters of an active

shooter. Engine 10's Captain collapsed at the bottom of the side D stairwell. Rescue 1 paramedics pulled him out of the building as they began basic life support procedures. The other wounded fire fighter came running out and was attended to by other fire fighter/EMTs. Both were transported to the local hospital, but the Engine 10 Captain succumbed to his gunshot injuries.

### **Contributing Factors**

- Arsonist/Shooter
- *Unsuspecting fire fighters*
- No advanced indication of an active shooter on scene.

### **Key Recommendations**

- Fire departments should ensure that fire fighters maintain situational awareness and when explosions and/or the smell of flammable vapors are reported, proceed with extreme caution.
- Fire departments should train for ambush scenarios on the fireground.
- Fire departments should ensure that law enforcement are requested at the time of dispatch for reports of explosions, and in the presence of flammable liquids.
- Fire departments should develop, establish, and train for rescue task force operations with local law enforcement and operate under a unified command.
- Fire departments should ensure that Incident Commanders are provided Chief's Aides/Command Post Support to manage information, communication, and accountability.

#### In Addition.

- Municipalities should ensure that dispatchers are trained in active shooter/ambush scenarios.
- Municipalities should ensure that fire dispatchers have a mobile capability for high stress incidents.

The National Institute for Occupational Safety and Health (NIOSH), an institute within the Centers for Disease Control and Prevention (CDC), is the federal agency responsible for conducting research and making recommendations for the prevention of work-related injury and illness. In 1998, Congress appropriated funds to NIOSH to conduct a fire fighter initiative that resulted in the NIOSH Fire Fighter Fatality Investigation and Prevention Program, which examines line-of-duty deaths or on-duty deaths of fire fighters to assist fire departments, fire fighters, the fire service, and others to prevent similar fire fighter deaths in the future. The agency does not enforce compliance with state or federal occupational safety and health standards and does not determine fault or assign blame. Participation of fire departments and individuals in NIOSH investigations is voluntary. Under its program, NIOSH investigators interview persons with knowledge of the incident who agree to be interviewed and review available records to develop a description of the conditions and circumstances leading to the death(s). Interviewees are not asked to sign sworn statements and interviews are not recorded. The agency's reports do not name the victim, the fire department, or those interviewed. The NIOSH report's summary of the conditions and circumstances surrounding the fatality is intended to provide context to the agency's recommendations and is not intended to be definitive for purposes of determining any claim or benefit.

For further information, visit the program website at <a href="www.cdc.gov/niosh/fire">www.cdc.gov/niosh/fire</a> or call toll free 1-800-CDC-INFO (1-800-232-4636).

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#### Introduction

On June 25, 2018, a 45-year-old career Captain suffered a fatal gunshot wound and another fire fighter suffered a gunshot injury while responding to a fire alarm at a high-rise senior apartment building. On June 25, 2018, the U.S. Fire Administration notified the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research, Fire Fighter Fatality Investigation and Prevention Program of the incident. On July 16–21, 2018, a general engineer and a medical officer from the NIOSH Fire Fighter Fatality Investigation and Prevention Program traveled to California to investigate this incident. The NIOSH investigators met with the fire department's Fire Chief, Support Services Bureau, Operations Bureau, Fire Prevention Bureau, Director of Training, and International Association of Fire Fighters local president. The NIOSH investigators visited the incident scene and conducted interviews with the officers and fire fighters who were involved with the incident. The NIOSH investigators collected department standard operating guidelines (SOGs) and officers' and fire fighters' training records.

### Fire Department

At the time of this incident, this career fire department had 23 stations with 384 uniformed members serving a population of over 462,257 within an area of approximately 52.3 square miles including 7 miles of beaches and 22 linear miles of waterways. All department members work a 24-hour duty shift or an average of 56 hours per week. The department has a three platoon system and three districts. The on-duty daily fire suppression staffing is 124. The department requires four member staffing on all engines and trucks, and two fire fighter/paramedics on all paramedic rescue ambulances. In 2017, the fire department responded to 5,844 fire incidents, 51,618 medical calls, 694 HazMat incidents, and 10,089 Lifeguard/Marine safety responses.

The fire department facilities include: Fire Headquarters, a Training Center, and 23 fire stations, which includes 2 fire boat stations and 1 airport fire station. The department also has 9 lifeguard facilities with 41 seasonal stations. Fire apparatus consist of 16 engines, 4 ladder trucks, 9 paramedic rescue ambulances, 5 basic life support ambulances, 2 fire boats, 3 airport apparatus, 1 urban search and rescue task force unit, 1 hazardous materials task force unit, 6 fire/lifeguard dive boats, 7 beach rescue units, and 1 dive rescue unit. All fire department apparatus are maintained by the city's fleet maintenance division with annual testing of fire apparatus and ambulances conducted by qualified vendors.

### **Training and Experience**

The fire department's training division is managed by one Battalion Chief and staffed by Fire Captains, a Communication Specialist III, Audio/Video Specialist, and a Clerk Typist. The Fire Department hiring

process for the Fire Recruit position requires that applicants have a valid Emergency Medical Technician (EMT) certification from the State of California or from the National Registry of Emergency Medical Technicians (NREMT) before being hired. Applicants are tested in the disciplines of reading, math, video scenarios, and the National Testing Network's Mechanical Aptitude Test as it pertains to the fire fighter position. Based on the results of the test, the most successful applicants are scheduled to perform a Physical Ability Test (PAT). The PAT consists of completing typical firefighting tasks while wearing safety equipment, turnout gear, breathing apparatus, helmet, and structural firefighting gloves in a timely manner. Candidates are then selected to participate in potentially two rounds of interviews, the first with the fire department's Fire Captains and the second with the fire department's Chief Officers. Based on the results of the interviews, candidates are offered a conditional job offer and are then subjected to background checks, and medical and psychological testing.

The state requires all career fire fighters complete training equivalent to the National Fire Protection Association (NFPA) 1001, Standard for Fire Fighter Professional Qualifications [NFPA 2019]. The Recruit Academy is based on the firefighter professional qualifications contained in NPFA 1001. The academy runs for a total of 16 weeks. The first 3 weeks focus on EMT training (120 hours) followed by 13 weeks of fire operations training (520 hours). Once a recruit has graduated the academy, they are placed on probation which lasts for 2,912 scheduled hours, or approximately 1 year. Each recruit spends around 6 months at a Truck station and 6 months at an Engine station. During this period, probationary fire fighters are evaluated monthly by their Captain and Battalion Chief based on the standards set forth by the fire training division. Probationary fire fighters are also required to keep both a daily and monthly shift log to ensure a comprehensive record of evaluation.

Table 1 summarizes the documented training of the Captain and Battalion Chief (incident commander) in addition to other officers on the scene:

Table 1. Training records for the Officers on scene leading up to the incident

Fire Fighter	Training Courses	Years of Experience
Captain (Engine 10)	Fire Fighter I, Fire Fighter II, Fire Officer, Company Officer Command 1A, B, & C, Instructor 1A & B, Fire Origin and Cause Determination, Fire Inspection Practices, Code Enforcement, All Hazards Incident Management Team, Rapid Intervention Crew (RIC) Operations, Low Angle Rescue Operational, Wildland Training for Structural Firefighters, Wildland S-230 and 290, Wildland Safety Refresher, Incident Command System (ICS) [courses 100, 200, 300, 700, and 800], State Board Certified Fire Officer and Training Officer, First Responder: Operations-Terrorism Consequence Management Training	25

Fire Fighter	Training Courses	Years of Experience
	Program, and various other administrative and technical courses.	
Battalion Chief 1 (Incident Commander)	Fire Fighter I, Fire Fighter II, Nationally Registered Emergency Medical Technician, First Responder Operations, Hazardous Material Incident Commander, High Rise First-In Company, Wildland Training for Structural Firefighters, Wildland S-215, S-230, S-231, S-270, 290, and S-330, Wildland Safety Refresher, ICS courses 100, 220, 300, 700, and 800, Structure Defense: The Risk Management Process, Management 1, MCI Triage Skills, National Weapons of Mass Destruction (WMD) Standardized Awareness Program, and various other administrative and technical courses.	27
Captain (Engine 2)	Fire Fighter I, Fire Fighter II, Hazardous Materials: First Responder Awareness, Nationally Registered Emergency Medical Technician, Wildland Training for Structural Firefighters, National WMD Standardized Awareness Program, Wildland Training for Structural Firefighters, Wildland S-230 and 290, Wildland Safety Refresher, ICS courses 100, 200, and 700, WMD/Terrorism Incident Defensive Operations for Emergency Responders, and various other administrative and technical courses.	13
Captain (Truck 1)	Fire Fighter I, Fire Fighter II, Nationally Registered Emergency Medical Technician, Wildland S-230 and S-231, Trench Rescue, Rescue Systems 1 and 2, Confined Space Rescue Operations, First Responder Operations, ICS courses 100, 200, 700, and 800), Hazardous Material Specialist, Hazardous Material Technician a, B, C, and D, Incident Commander, Regional Urban Search and Rescue (US&R) Task Force Leader Course, and various other administrative and technical courses.	23

Fire Fighter	Training Courses	Years of Experience
Captain (Engine 1)	Fire Fighter I, Fire Fighter II, Nationally Registered Emergency Medical Technician – Paramedic, Fire Officer, Company Officer Command 1A and B, Fire Prevention 1A & B, Investigation 1A, Fire Safety Officer 24 hr. Course, Training Instructor 1A and 1B, Fire Control 1 Basic Chemistry, Fire Control 2 Basic Operations – Structural, Fire Control 3 Structural Fire Fighting, Fire Control 4A and 4B Flammable Gas (propane) and Flammable Liquids, Fire Control 6 Wildland Fire Fighting Essentials, Wildland Training for Structural Firefighters, Wildland S-190, S-215, S-219, S-230, S-231, S-270, S-290and S-330, ICS courses 100, 200, 300, 700, and 800, National WMD Standardized Awareness Program, Auto Extrication, Confined Space Rescue Awareness, Trench Rescue, Urban Airborne Aquatic Rescue, Hazardous Materials First Responder Operations, Ventilation and Forcible Entry, Rescue Systems 1, Low Angle Rescue, and various other administrative and technical courses.	18
Captain (Engine 3)	Fire Fighter I, Fire Fighter II, Nationally Registered Emergency Medical Technician, Fire Officer, Company Officer Command 1A, B, & C, Instructor 1A & B, Investigation 1A, Fire Prevention 1A & B, Management 1, All Hazards Incident Management Team, RIC Operations, Low Angle Rescue Operational, Wildland Training for Structural Firefighters, ICS courses 100, 200, 300, and 700), Hazardous Materials Course First Responder Operational, Incident Response to Terrorist Bombings Performance Level Training Course, Phase 1 – Flashover Survival – Training, Regional Instructor Orientation, Rescue System 1 and 2, National WMD Standardized Awareness Program, Confined Space Rescue Operations, Swiftwater Rescue Technician, Trench Rescue, Auto Extrication, and various other administrative and technical courses.	17

Fire Fighter	Training Courses	Years of Experience
Battalion Chief 2	Fire Fighter I, Fire Fighter II, Emergency Medical Technician, Paramedic, ICS courses 100, 200, 700, and 800), Annual Wildland Safety Refresher, Wildland S-231, First Responder Operations, All Hazards Incident Management Team, Auto Extrication, National WMD Standardized Awareness Program, and various other administrative and technical courses.	24

#### **Structure**

The incident occurred at an eleven-story 100-unit senior high-rise apartment building. The facility was built in 1984 and is approximately 102,949 square feet on a 0.55 acre lot. The floors were accessible primarily by two elevators and two stairwells. The two interior fire escape stairwells exited to the east (Side B) and west (Side D) side of the building. Each stairwell contained a standpipe and sprinkler shutoff on each floor. The building was well known to the fire department due to numerous emergency medical service (EMS) calls for the elderly tenants.

### **Equipment and Personnel**

On June 25, 2018, the Fire Communications Center initially dispatched an engine, a truck and a battalion chief, then it was upgraded twice leading up to the incident. Table 2 identifies the apparatus and staff involved in the incident when declared a working high-rise fire.

Table 2. Equipment and personnel involved in the incident.

Resource Designation	Staffing	Dispatched (rounded to the minute)	On-Scene (rounded to the minute)
Engine 2	Captain, Engineer, Fire Fighter and Fire Fighter/ Paramedic	0345 Hrs	0351 Hrs
Truck 1	Captain, Engineer, and 2 Fire Fighters	0345 Hrs	0355 Hrs

Resource Designation	Staffing	Dispatched (rounded to the minute)	On-Scene (rounded to the minute)
Battalion Chief 1 (Incident Commander)	Battalion Chief 1	0345 Hrs	0355 Hrs
Engine 1	Captain, Engineer, and 2 Fire Fighters	0349 Hrs	0355 Hrs
Engine 10	Captain (victim), Engineer, and 2 Fire Fighters (1 Fire Fighter suffered a gunshot injury)	0349 Hrs	0356 Hrs
Rescue 1	2 Fire Fighter/ Paramedics	0349 Hrs	0356 Hrs
Engine 24 HazMat	Captain, Engineer, Fire Fighter, and Fire Fighter/Paramedic	0349 Hrs	0406 Hrs
Engine 3	Captain, E ngineer, and 2 Fire Fighters	0356 Hrs	0403 Hrs
<b>Battalion Chief 2</b>	Battalion Chief 2	0356 Hrs	0406 Hrs

#### Timeline

Note: This timeline is provided to layout the sequence of key events of the incident. The times are approximate and were obtained from information collected by NIOSH. The timeline is not intended, nor should it be used, as a formal record of events.

#### • 0345 Hours

Fire Communications Center (FCC) dispatched Engine 2, Truck 1, and Battalion 1 to a activated fire alarm.

#### • 0349 Hours

Call upgraded due to reports of an explosion dispatching Engine 1, Engine 10, Rescue 1, Engine 24, and Haz-Mat 24.

#### • 0351 Hours

Engine 2 first on scene reports nothing showing.

#### • 0355 Hours

Engine 2 reports windows blown out from second floor Charlie side.

#### • 0356 Hours

Battalion Chief 1 assumes Incident Command (IC) on Side Alpha; IC radios High Rise policy in effect and assigns Truck 1 to Lobby control and Engine 2 and 10 to fire floor; Engine 3 and Battalion Chief 2 dispatched for upgraded working fire.

#### • 0359 Hours

Engine 2 Officer reports Apartment Unit 210 sprinkler activation and is conducting a primary search.

#### • 0400 Hours

Engine 2 officer reports hallway clear and damage contained to unit 210; IC assigns Engine 1 to 3<sup>rd</sup> floor to check hallway and unit above 210.

#### • 0401 Hours

IC assigns Recue 1 as Medic Group and they position near Side Delta stairwell; Engine 1 reports large amount of water coming from 2<sup>nd</sup> floor into Side Bravo stairwell.

#### • 0402 Hours

Engine 2 reports primary search is clear.

#### • 0403 Hours

Residents on floors 2 and 3 are being told to shelter in place; IC requests a second Truck

#### • 0406 Hours

Battalion Chief 2 arrived on scene; Engine 2 Captain and Engine 10 Captain detect the smell of gasoline; Engine 2 Captain reports the smell of gasoline and requests positive pressure ventilation (PPV) fan.

#### • 0407 Hours

Engine 2 unable to locate source of gasoline; IC requests Truck 1 to send up the PPV fan to second floor.

#### • 0408 Hours

Engine 2 reports shots fired; Police officers run into the building; IC broadcasts emergency tones, emergency traffic, all units evacuate building to staging and conduct a personal accountability report (PAR).

#### • 0409 Hours

Engine 1 reports Engine 10 Captain is unresponsive while loading into Rescue 1.

#### • 0411 Hours

IC repeats emergency traffic and getting PARs.

#### • 0412 Hours

Fire Chief notified; Third alarm crews were arriving; Battalion Chief 2 started assembling Rescue Taskforce (RTF) Teams.

#### • 0425 Hours

Police Officers escort fire fighters from behind Engine 1 to the staging area.

#### • 0434 Hours

Engine 20 arrived on scene and stopped behind Engine 1 and retrieved remainder of fire fighters and took them to staging for a PAR.

#### 0450 Hours

Apparatus staging and PARs moved farther east of incident site.

#### • 0458 Hours

IC requests 2 RTF Teams to assist in search and shut-off building's natural gas and fire alarm.

#### • 0531 Hours

Assistant Chief assumes Command and BC 1 assigned RTF Supervisor.

#### • 0552 Hours

Police have suspect in custody.

### • 0918 Hours

RTF's primary search is complete.

### **Personal Protective Equipment**

During the incident, the Captain and injured fire fighter were wearing their bunker coat and pants, hood, boots, helmet, and self-contained breathing apparatus (SCBA) (off-air) with an integrated personal alert safety system (PASS). The Captain had his radio in his coat pocket and the injured firefighter was carrying his radio on a lanyard.

#### **Weather Conditions**

At the time of the incident, sky conditions were cloudy with a 7 mph wind from the south/southeast. The temperature was 64°F, Dew point was 57°F. Relative humidity was 78%. Barometric pressure was 29.90 [Weather Underground 2018].

### **Investigation**

On June 25, 2018, a 45-year-old career Captain suffered a fatal gunshot wound and another fire fighter suffered a gunshot injury while responding to a fire alarm/explosion at high-rise senior apartment building (see Photo 1). Dispatch was notified by an alarm company of a fire alarm activation at 03:44 hours. At approximately 03:45 hours, Engine 2, Truck 1 and Battalion Chief 1 were dispatched. Due to reports of an explosion, the incident was upgraded with additional apparatus and personnel (Engine 1, Rescue 1, Engine 10, Engine 24, and Hazmat 24) dispatched. Note: Since this incident, the computer aided dispatch has been updated so that an explosion in a highrise would receive 5 engines, 2 ladder trucks, 2 rescues, the urban search and rescue unit, and 2 battalion chiefs. At approximately 0351 hours, Engine 2 arrived on



Photo 1. Senior Facility showing side A and side D. (NIOSH Photo.)

scene driving by sides C and D then parking on side A. The Engine 2 captain reported no smoke or fire showing then made entry into the lobby on side A through the security gate being held open. As he entered, the captain noticed water on the lobby floor, and when he exited the lobby onto side C, he noticed shattered glass and window fragments on the ground (see Photo 2). Looking up, the captain saw and reported windows and sliding glass doors "blown out" from the second floor, side C. The captain and crew were then led to side D by the maintainence worker to the fire control room.

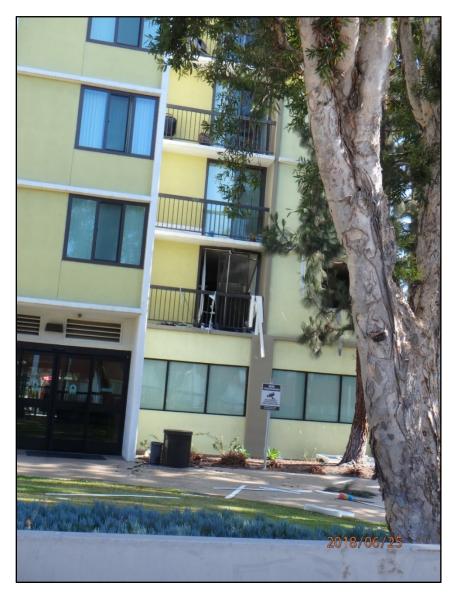


Photo 2. Side C showing windows and sliding glass doors blown out and on the ground.

(Courtesy of the Fire Department)

At approximately 0355 hours, Battalion Chief 1 arrived on side A and assumed command. The Incident Commander (IC) announced that the high-rise policy was in effect and assigned the Truck 1 captain to lobby control and the Engine 2 and Engine 10 crews to the fire floor. The incident was upgraded to a working fire which dispatched Engine 3 and Battalion Chief 2. The Engine 2 captain read the panel in the fire control room on side D near the C/D corner which indicated a sprinkler activation on the second floor. The Engine 2 captain reported this to Command and preceded to the side D stairway entrance where he encountered the Engine 1 captain. They noticed the window on the second floor side D was laying on the ground near the door and kicked it out of the way. The Engine 2 crew secured the interior ground floor stairwell door open as Engine 1 and Engine 2 crews ascended the stairs. At the same time, a female resident was exiting the stairwell. The Engine 1 crew went to the third floor while the Engine 2 crew entered the second floor hallway and advanced toward side B. The hallway was clear, but when they reached apartment 210 on the B/C corner, they noticed water outside the door. The Engine 2 captain opened the unlocked apartment door and saw no fire, just the actived apartment sprinkler system (see Photo 3).

The Truck 1 captain had set up accountability and assigned stairwell side B for fire operations and stairwell side D for civilian evacuation (see Diagram 1). The Engine 10 crew went to stairwell side D, so the Truck 1 captain repeated over the radio the stairwell assignment. At approximately 0359 hours, the Engine 10 crew was met by Engine 2, who came up the side B stairwell. The Engine 2 captain asked the Engine 10 captain and crew to do a joint primary search while on air. The Engine 2 captain remained in the hallway and reported to Command that they had a sprinkler activation in the apartment and were conducting a primary search. The IC assigned the Engine 3 crew to the third floor to check the hallway and apartment above apartment 210. The Engine 2 captain noticed a woman in her apartment across the hall from 210. He informed her of the situation and requested that she shelter in place. In the hallway outside apartment 210, the maintenance worker told the Engine 2 captain that they needed to shut down the sprinkler system and that he had the key to turn it off. Engine 2 captain told him to give the key to the Engine 10 crew.



Photo 3. Sprinkler in ceiling that was activated in the apartment where the origin of the explosion occurred.

(Courtesy of the Fire Department)

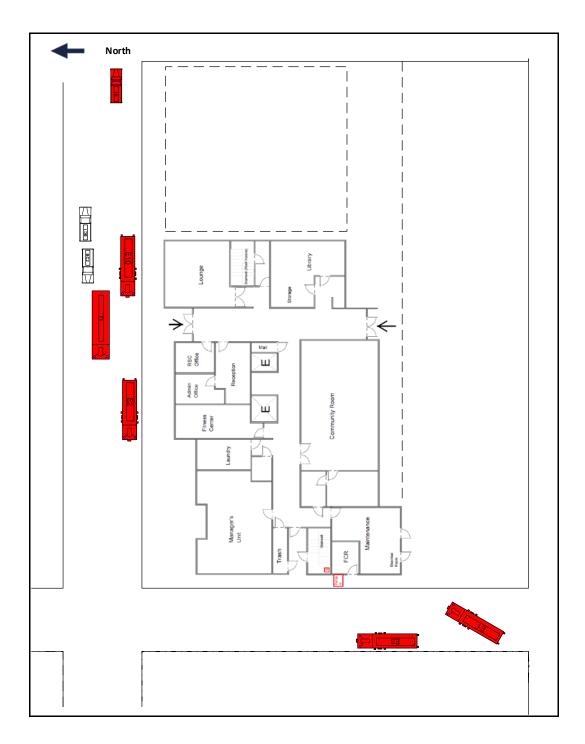


Diagram 1. Apparatus placement after initial and second alarm

At approximately 0401 hours, the IC assigned Rescue 1 as the Medical Group and they positioned near side D stairwell. Engine 10 conducted a secondary search and the Engine 2 captain reported the search was clear. After receiving a request for additional resources from Division 2, the IC requested a second Truck. The Engine 2 captain instructed his crew to secure a hose and funnel water from the flowing sprinkler head out the stairwell. The Engine 2 crew used a high rise pack and stretched it out to the side B stairwell balcony to divert the water. At approximately 0406 hours, Battalion Chief 2 arrived on scene and positioned his vehicle to the rear of the command post located at the Battlion 1 vehicle. Battalion Chief 2 was updating the tactical worksheet when both Engine 2 and 10 captains reported the odor of gasoline on the second floor. The Engine 2 captain radioed the IC stating that he smelled gasoline and requested a positive pressure ventilation (PPV) fan to vent fumes. The Engine 2 crew was unable to locate the source of the gasoline odor. The IC requested Truck 1 to send up a PPV fan to the second floor for ventilation.

The Engine 10 captain went to investigate the second floor when he encountered a resident with burns on his hands sitting in a chair at the end of the second floor side D hallway. The side D hallway window had been blown out from the pressure of the explosion, so the Engine 10 captain leaned out the opening and yelled down to a Rescue 1 paramedic that he had a patient on the second floor (see Photo 4 and Diagram 2). The Rescue paramedic knodded okay as he headed for the side D stairwell. The captain was near the D stairwell when the resident pulled out a revolver and shot the captain in the torso. The rescue paramedic heard the "pop," but thought it was another explosion. He then heard the captain lunging into the stairwell yelling that he had been shot by an active shooter.



Photo 4. Blown out second floor window on side D hallway that the captain leaned out to yell to paramedics about the injured resident in a chair by the window.

(Courtesy of the Fire Department)

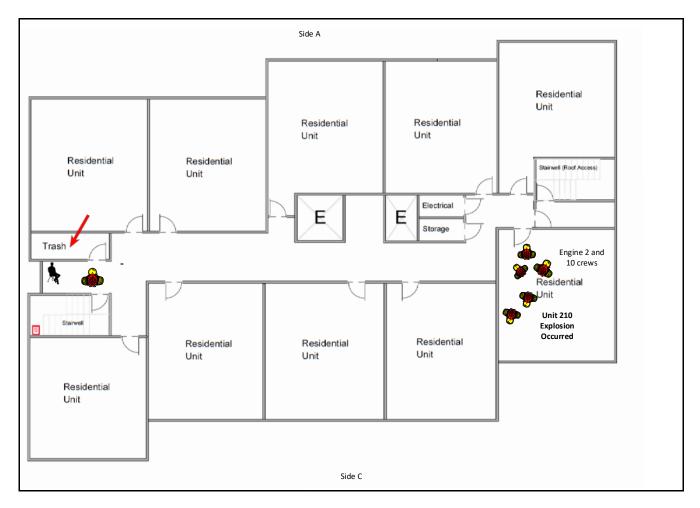


Diagram 2. Location of the crews on the second floor at the time of the shooting.

The Engine 2 captain had entered apartment 210 where his crew and the other two Engine 10 fire fighters were noticing the destruction from the explosion, blown out windows, buckled wall over the sliding door, and other damage, when they heard what they thought were two explosions (see Photos 5-7). The two Engine 10 fire fighters started running down the hall. As one of the Engine 10 fire fighters approached the side D stairwell, the resident sitting in the chair at the end of the second floor hallway fired a second bullet from his revolver. The bullet struck the lead fire fighter's SCBA mask voice amplifier which caused the amplifier to break off and impact his torso and the bullet to deflect. The fire fighter continued running into the side D stairwell, down the stairs and out the door yelling that he had been shot by an active shooter. The Engine 2 captain and his crew heard the third "explosion" when the second Engine 10 fire fighter came running back toward them yelling that they had an active shooter.

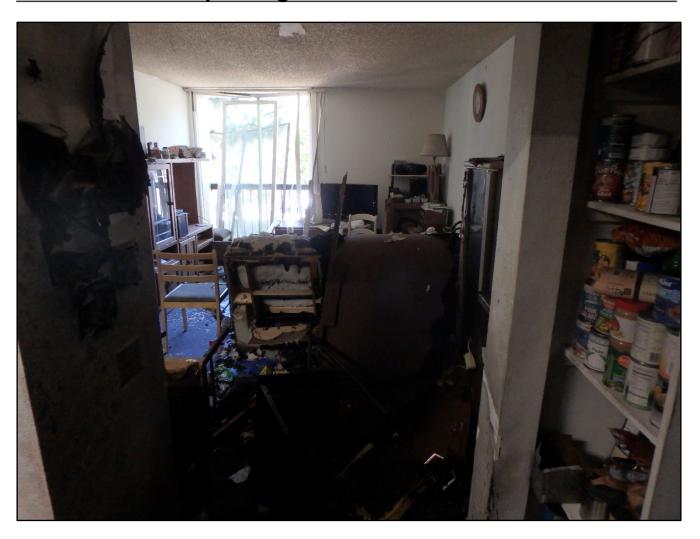


Photo 5. Shows blown out and bent door wall frame and burned chair covering from explosion.

(Courtesy of the Fire Department)

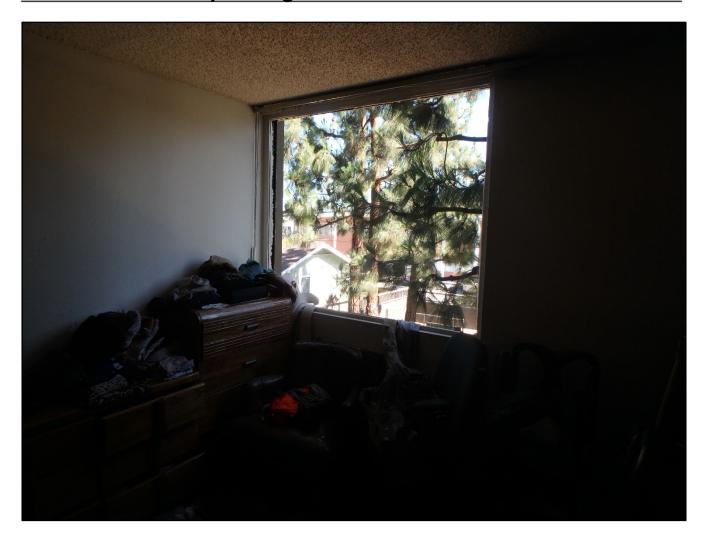


Photo 6. Blown out second floor window in the apartment of explosion's origin. (Courtesy of the Fire Department)

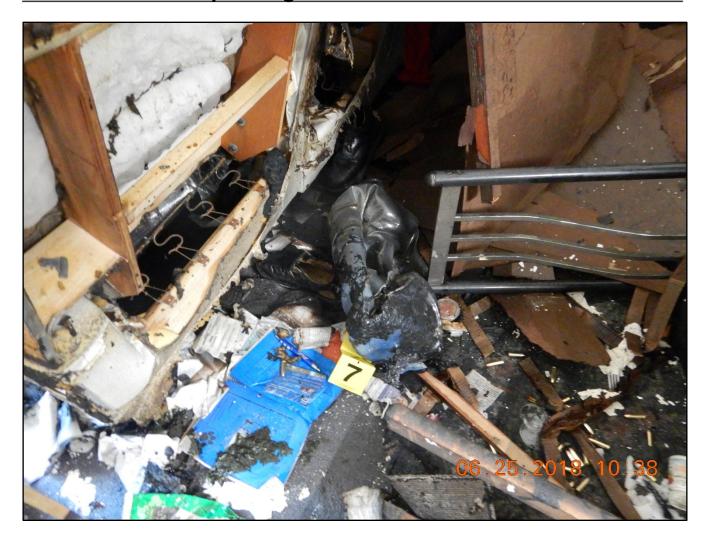


Photo 7. Remains of plastic water jug that contained gasoline to set off explosion in the apartment behind the chair.

(Courtesy of the Fire Department)

At approximately 0408 hours, the Engine 2 captain yelled, "get in stairwell" and he radioed Command that they had an active shooter. The Engine 2 fire fighter had noticed Engine 10's fire fighter's axe leaning up in the corner in the hallway and grabbed it for protection.

The Engine 1 engineer had been talking to the Engine 2 and Engine 10 engineers when he heard 2 "pops," then saw police officers, that were already on scene, run into the building. The Engine 1 engineer sprinted to Rescue 1 parked up from the A/B corner and told Battalion Chief 2 that he was going to bring it around to side D. Command immediately activated the emergency tones and broadcasted Emergency Traffic

twice to evacuate the building and conduct a PAR. The IC sent Battalion Chief 2 to side A to assist. The Engine 10 Captain had collapsed at the ground level stairwell landing just as the Rescue 1 paramedics made entry. Rescue 1 paramedics pulled him out of the building. One of the Rescue 1 paramedics commented that's when they heard the "pop," they thought it was another explosion and that the Engine 10 Captain may have been injured from that explosion. As the paramedics began evaluating the Captain's injuries, they found him unresponsive without a pulse and began basic life support measures. The paramedic heard another "pop." Due to the commotion, and anticipating further injuries, Battalion Chief 2 called dispatch for 3 more Rescue Ambulances. The second wounded fire fighter came running out and was attended to by other fire fighters/EMTs.

Engine 3 had been on scene for approximately five minutes. The Engine 3 Captain instructed his crew to grab their high-rise gear. As he walked to the command post, he heard a bang or pop. Then he heard the radio traffic that a fire fighter was down and saw the Engine 10 Captain being pulled out of the building. As the Engine 3 Captain and his crew approached side D they saw the other Engine 10 fire fighter come out saying he was shot and they assisted getting his gear off. The Engine 1 Captain radioed "997" for fire fighter shot and to evacuate the building. The Engine 3 crew assisted the injured fire fighter from Engine 10 into Engine 3 and drove him to the hospital. One Engine 3 probationary fire fighter was told by the Engine 1 Captain to take cover behind Engine 1.

The engineer and fire fighter from Truck 1 were in the process of shutting off the domestic water to the building when the engineer heard the popping sounds followed by the emergency radio traffic. He observed the Engine 10 Captain being brought out feet first followed by the Engine 10 fire fighter running out saying he had been shot. They assisted with removing the gear from the Engine 10 fire fighter then helped load the Captain into Rescue 1.

When the Engine 2 Captain exited the building on side A, he could hear the Engine 10 Engineer yelling for the Rescue 1 to be brought to side D. When he arrived at side D, the unresponsive Engine 10 Captain was being loaded onto Rescue 1 driven by the Engine 1 engineer. The Rescue 1 paramedics advised the hospital and performed advanced life support enroute to the destination facility. The Engine 2 Captain noticed a police officer pointing his firearm towards a person at the second floor side D window, at which point the captain grabbed the Engine 10 probationary fire fighter and ran to Engine 10 for cover. There were approximately 10 other fire fighters (Engine 1 Captain, Truck 1's Engineer and a fire fighter, Engine 10 Engineer, Engine 1 Engineer and 2 fire fighters, an Engine 2 fire fighter, an Engine 3 fire fighter and probationary fire fighter and Engine 24 Engineer) behind Engine 1 that was parked in the street down from the C/D corner of the building at this time. The police department had sent a civilian shooting victim across the road on side A. The IC told the Truck 1 captain to assess the civilian thought to have a gunshot wound to the abdomen and who was sheltering behind Truck 7 at the intersection near the A/D corner. The civilian was placed in Truck 7 after being patted down by a police officer and taken to the hospital. The IC requested the Truck 1 captain serve as his aide to assist with communications with staging.

At approximately 0411 hours, the IC repeated the emergency traffic and called for a PAR. The Engine 2 Captain gave a PAR at this time and accounted for the Engine 10 fire fighter. A police officer asked

the 10 fire fighters sheltering behind Engine 1 if anyone saw the shooter, the Engine 2 captain indicated yes and had Engine 10's fire fighter give a description to the police officer. The Truck 1 captain radioed to Truck 7 transporting the shot civilian to be on alert this may be the shooter.

At approximately 0412 hours, the Fire Chief was notified. Battalion Chief 2 asked the Engine 2 crew to be part of a Rescue Taskforce (RTF) and the Engine 2 captain replied that they were unable to complete the task and needed relief. Third alarm crews were arriving so Battalion Chief 2 started assembling RTFs with fresh crews.

At approximately 0425 hours, Police officers provided force protection to the fire fighters and escorted them from behind Engine 1 to the staging area.

At approximately 0434 hours, Engine 20 arrived on scene and stopped behind Engine 1. The remainder of the fire fighters taking cover behind Engine 1 jumped into Engine 20 for cover. Engine 20 then drove around to the staging area where another PAR was conducted.

At approximately 0450 hours, the police department set-up a Command Post several blocks west. The Engine 2 captain took the Engine 10 fire fighter to the hospital to see if he could identify the injured civilian as the shooter.

At approximately 0458 hours, the IC requested 2 Rescue Task Forces (RTF's) (4 fire fighters) to assist police (2 police officers) in searching the building. At the same time, the building's utilities were shut-off. Battalion Chief 2 went to the police Command Post to serve as the fire department liaison for the remainder of the incident.

At approximately 0531 hours, the Assistant Chief assumed Command and Battalion Chief 1 was assigned Rescue Group Supervisor. The RTFs started on the first floor going door to door. They initially skipped the second floor due to suspicious/unknown devices (5 gallon plastic water containers partially filled with gasoline and covered with black garbage bags) found in the hallway.

At approximately 0552 hours, a police officer came across a civilian with burnt hands and requested paramedics to check him out. The IC sent over the RTF. Police had the RTF crew bag his hands for evidence preservation due to the suspicious nature of the burns and the police took the civilian into custody. The civilian was identified as a suspect and later determined to be the shooter. At approximately 0918 hours, RTF's primary search was completed on the eleventh floor.

The Captain succumbed to his injuries at the local hospital. The Engine 10 fire fighter was treated for his injuries and released.

### **Contributing Factors**

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in the injury or fatality. NIOSH investigators identified the following items as key contributing factors:

- Arsonist/Shooter
- Unsuspecting fire fighters
- No advanced indication of an active shooter on scene.

#### **Cause of Death**

According to the medical examiner's report, the cause of death was the result of rapid blood loss from the right to left pass through of a .38 caliber bullet striking the aorta.

#### Recommendations

Recommendation #1: Fire departments should ensure that fire fighters maintain situational awareness and when explosions and the smell of flammable vapors are reported, proceed with extreme caution.

Discussion: All fire fighters operating at an incident should maintain situational awareness and conduct a continuous risk assessment throughout the incident, reporting unsafe or changing conditions to the incident commander. Fire fighters need to understand the importance of situational awareness and personal safety on the fireground. *Essentials of Fire Fighting and Fire Department Operations* defines situational awareness as "an awareness of the immediate surroundings [IFSTA 2013]." On the fireground, every fire fighter should be trained to be constantly alert for changing and unsafe conditions. This applies not only to the conditions found within a burning structure, but to exposure buildings and the exterior fireground as well. Even though a safety officer may have been designated for an incident, all personnel are obligated to remain alert to their immediate surroundings.

The ability to maintain situational awareness is reliant on a fire fighter's training, judgment, and physical condition. These factors must come together every time a fire fighter goes to an emergency incident, especially those involving a low-frequency, high-risk event, such as structural fire-fighting, wildland fire-fighting, trench rescue, high-angle rescue, or any of the wide arrays of emergencies fire fighters are called upon to mitigate. A lack of competency, or even a temporary lack of focus, can lead to a chain of events that may be catastrophic or even fatal [Brennan 2009, Gasaway 2013].

To properly train personnel to maintain situational awareness on the fireground or at any emergency incident, a fire department has to develop and utilize effective scenario-based training. Training fire fighters to maintain situational awareness on the fireground needs to include building construction, fire behavior, fireground tactics and strategy, ventilation, and other fireground operations. This is a continuous process that is initiated in recruit training and continues throughout a fire fighter's entire fire service career.

Fire fighters need to understand the importance of situational awareness, personal safety, and company/crew accountability on the fireground. The fireground dangers and hazards can and do change as an incident evolves and the event duration increases. Situational awareness is defined as recognition of the immediate surroundings. On the fireground, every fire fighter should be trained to be constantly alert for changing and unsafe conditions related to their immediate surroundings. Each and every fire fighter needs to be responsible and accountable for their own safety, as well as team members and others

working in the immediate area. This applies not only to the conditions found within a burning structure, but to the exterior fireground as well.

The United States Coast Guard says that "situational awareness is the ability to identify, process, and comprehend the critical elements of information about what is happening to the team with regards to the mission." In other words, in order to have "situational awareness" you must constantly know what is happening around you and where you are in relation to threats.

In addition, a perceived lack of a threat can lead directly to complacency or an unrealistic feeling of comfort in one's environment. Situational awareness is a cognitive skill; it can be taught. In order to have situational awareness, you must be able to perceive the threat, comprehend the threat, and predict what effect that threat may have on you. These elements—Perceive, Comprehend, and Predict—form the cornerstone of maintaining complete situational awareness [Brennan 2009, Gasaway 2013].

In this incident, fire fighters were carrying out assigned duties and weren't expecting anything to happen out of the ordinary despite the smell of gasoline and evidence of an explosion were present. Numerous fire fighters heard the gunshots but mistook them for explosions. After the scene was cleared it was discovered that the arsonist/shooter had placed 5 gallon water jugs of gasoline (half full) in the second floor hallway that were covered with black garage bags to later set off (see Photo 8).



Photo 8. Shows containers of gasoline set in hallway producing the smell the fire fighters detected.

(Courtesy of the Fire Department)

#### Recommendation #2: Fire departments should train for ambush scenarios on the fireground.

Discussion: Fire fighters face many potential hazards related to injury or death and they train on many of these scenarios. But it's almost impossible to prepare for a situation where there's no indication of a potential threat, such as being ambushed on the fireground. Although these events are rare, they are becoming more prevalent, even more so on emergency medical calls. The U.S. Fire Administration joined with the International Association of Fire Fighters (IAFF) and Drexel University to research best practices for preventing and mitigating violence against firefighters and other first responders. Their study supports the National Fallen Firefighters Foundation's *Fire Fighter Life Safety Initiative 12 – Violent Incident Response* [NFFF 2018]. Violence is a major occupational challenge confronting the field of Emergency Medical Services (EMS). Firefighters and EMS responders are increasingly called upon to meet community demands for their services. As a result, firefighters and EMS responders often respond to incidents where they can be exposed to violence. Violence against EMS responders has been recognized as an occupational hazard since the early 1970s, and recent incidents are evidence that the problem continues.

A review of the literature from academic and industry trade journals shows an increase in attention to the issue of violence confronting emergency responders. However, there is limited understanding of the risk factors and preventive measures. The literature provides insight into the characteristics of violence perpetrators, EMS responder risk factors, and best practices. However, much of the available information on these factors is contradictory, or not rooted in evidence-based assessment. The U.S. Fire Administration, in cooperation with the International Association of Fire Fighters (IAFF), recently published a report titled *Mitigation of Occupational Violence to Firefighters and EMS Responders*. The purpose of this report, released in June 2017, is to document the causes and risk factors of violence and mitigation opportunities to reduce and prevent violence to EMS responders [USFA 2017].

In fire and EMS, there is an obvious need for training and interventions to prevent and mitigate violence. There is limited evidence regarding the availability and effectiveness of such interventions (Gates et al., 2011). Much of the current violence prevention training that exists consists of generic programs that are not tailored to the unique setting of the patient care provider, and primarily focus on self-defense techniques rather than prevention [Gates et al., 2011].

The National Fire Protection Association (NFPA) is currently developing a new standard *NFPA 1300* (*Proposed Standard*): Standard on Community Risk Assessment and Community Risk Reduction Plan Development that is intended to serve as a source of information that communities can use to assess and plan for risks within their own jurisdiction [NFPA 2018a]. In addition, the National Fire Protection Association (NFPA) is currently developing a new standard NFPA 3000 (Proposed Standard): Standard For An Active Shooter/Hostile Event Response (ASHER) Program that is to identify the minimum program elements needed to organize, manage, and sustain an active shooter and/or hostile event response program and to reduce or eliminate the risks, effect, and impact on an organization or community affected by these events. Each chapter is written with these four concepts in mind – whole community, unified command, integrated response, and planned recovery [NFPA 2018b].

In this incident, fire fighters were unsuspecting and unaware of a person with a gun.

Recommendation #3: Fire departments should ensure that law enforcement are requested at the time of dispatch for reports of explosions, and in the presence of flammable liquids.

Discussion: Fire fighters are trained and are aware of the potential hazards associated with flammable liquids. Flammable liquids are often used by an arsonist to start a fire and/or propagate an explosion. This is where arson investigators, police, and/or the fire marshal is needed on the fire scene anytime an explosion or flammable liquids are present to implement evidence collection protocols. In addition, they are normally armed and have arrest powers to deal with the suspect if present and perhaps becomes violent.

In this incident, there was a report of an explosion. The Engine 2 Captain noticed shattered windows from the second floor apartment on the ground and damage to the exterior sliding door in the apartment. Also, while Engine 2 and Engine 10 conducted a primary search of the apartment they smelled gasoline. The evidence of an explosion and the smell of gasoline (an arsonist's choice for starting a fire) were indicators of possible foul play. In these situations, arson investigators and/or police should be notified immediately.

### Recommendation #4: Fire departments should develop, establish, and train for rescue taskforce operations with local law enforcement and establish a unified command.

Discussion: The concept of a Rescue Task Force is to start providing care to the victim(s) of an active shooter incident as soon as possible. The Rescue Task Force (RTF) concept integrates trained medical responders with law enforcement force protection into potentially hostile situations to provide rapid treatment and extraction of the injured. The task force treats, stabilizes, and removes injured patients in a rapid manner while wearing ballistic protective equipment and operating under the protection of members of a law enforcement organization. The typical RTF is comprised of four to five personnel: two trained law enforcement officers and two or three firefighters/paramedics. The fire department RTF positions will be staffed by members of fire companies in order to maintain the availability of medical crews to treat and transport patients.

Incidents that involve an active shooter or any type of on-going ballistic or explosive threat will require the fire department to operate in unified command with law enforcement. The activation and deployment of RTFs will be at the discretion of the fire department member of the unified command once law enforcement personnel have determined that portions of the scene meet an established criteria. The tactical gear and medical supplies that are needed to deploy the RTFs are generally carried on fire apparatus.

In order to maintain a redundant communications system throughout the incident, the fire and police members of an RTF generally operate on separate radio channels. The fire department members of the RTF will operate on the fire department channel that they are assigned by the Incident Commander and will communicate directly with the Rescue Group Supervisor, Rescue Branch Director (if established) or Incident Commander. The law enforcement members of the RTF will operate on the channel that they

are assigned by the Incident Commander and will communicate with law enforcement supervisors [USFA 2013].

In this incident, the fire department had a rescue task force policy and teams were established to assist with searching/attending to any injured personnel until the site was secured. The fire department had trained with the local police and had an active shooter policy, but this policy only covers situations when they know they have a shooter and the police are in the lead for protection. Unified command was never truly established in this incident, although the fire department sent Battalion Chief 2 to the police command post to help coordinate the fire department activities after shots were fired.

# Recommendation #5: Fire departments should ensure that Incident Commanders are provided Chief's Aides/Incident Command Support to manage information, communication, and accountability.

Discussion: Although not a contributing factor in this incident it is a good safety practice the incident commanders' have a chief's aide or incident command technician to assist an incident commander with various operational duties during emergency incidents. The chief's aide can be an essential element for effective command and control of an incident. At an emergency incident, the chief's aide can assist with key functions such as managing the tactical worksheet; maintaining personnel accountability of all members operating at the incident (resource status and deployment location); monitoring radio communications on the dispatch, command, and tactical channels; control information flow by computer, fax, or telephone; and access reference material such as pre-incident plans. The personnel accountability system is a vital component of the fire fighter safety process. The system is designed to account and track personnel as they perform their fireground tasks. In the event of an emergency or Mayday, the personnel accountability system must be able to provide the rapid accounting of all responders at the incident. This is one of the chief's aide's essential responsibilities. Another important function is the role of a driver in addition to their role as part of the command team. Command officers are required to respond quickly to emergency incidents. In their response, they have to be fully aware of all traffic conditions, construction detours, traffic signals, and other conditions. More importantly, the command officer must also monitor and comprehend radio traffic to assess which companies are responding, develop a strategy for the incident based upon input from first arriving officers, and develop and communicate an incident action plan that defines the strategy of the incident. A chief's aide can drive while the battalion chief or chief officer is processing information without distraction and complete the necessary tasks enroute to the scene [NFPA 2014]. The fire department involved in this incident does not assign a chief's aide to drive the battalion chief's vehicle and assist on the fireground with communications and accountability. Thus, the battalion chief is responsible for the operation of their vehicle during emergency responses, in addition to collecting and analyzing information about the incident from a number of sources. Departments should require a chief's aide to be an individual who has the requisite experience and authority to conduct the required tasks. Other potential roles for the chief's aide include assisting with the initial size-up, completing a 360-degree size-up, coordinating progress reports from group/division officers, and many others. The chief's aide position can be used as a training position to help facilitate officer development, especially for officers preparing to become battalion chiefs/incident commanders in the future. There are non-emergency functions for the chief's

aide that are vital to the daily operations of the department. Some jurisdictions assign a chief's aide to command officers to perform daily administration functions (such as position staffing and leave management).

### Recommendation #6: Municipalities should ensure that dispatchers are trained in active shooter/ambush scenarios.

Discussion: The fire service and police often train for dangerous scenarios but seldom utilize their dispatchers in real life training. Dispatchers play a key role in the command structure by relaying correct information in a timely manner. Often dispatchers are civilians with no previous fire or police experience and are unfamiliar with the language. It's critical that dispatchers understand the language, as well as, the potential strategies and tactics that may be deployed. Dispatchers learn to be accurate and efficient in documenting events/information but during an active shooter incident, the criticality of this is on a different level. Thus, they should be trained in these real life scenarios.

Several organizations offer active shooter training and workshops for dispatchers/telecommunicators. In this incident, the dispatchers did a tremendous job, however, not having any formal training in active shooter scenarios, most felt unprepared which took an emotional toll as well. Critical incident stress debriefings were provided.

### Recommendation #7: Municipalities should ensure that fire dispatchers have a mobile capability for high stress incidents.

Discussion: Large scale, terrorist or natural disaster incidents place additional stress on everyone involved, especially when communication and information gathering needs to be real-time. Although not a contributing factor in this incident, mobile technology/capability that can place dispatchers near the incident will enhance incident management. This provides a more effective means of communication between command and dispatchers to swiftly deploy resources. Radio traffic between command and dispatch can be reduced when dispatch shares the same space as Command. Communications are more effective when the incident commander and dispatcher are co-located and observing the same information.

In this incident, the police dispatcher was mobilized to the police command post to assist in communications. However, the fire dispatchers were not afforded this opportunity which may have hindered timely communications. Battalion Chief 2 was used as a liaison for the fire department at the police command post to relay information to the fire department incident commander which added an additional layer of communication.

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### **Investigator Information**

This incident was investigated by Matt E. Bowyer, General Engineer, and Tom Hales, Medical Officer, with the NIOSH Fire Fighter Fatality Investigation and Prevention Program, Surveillance and Field Investigations Branch, Division of Safety Research, located in Morgantown, West Virginia. An expert technical review was provided by Deputy Chief Bryan Frieders, MPA, CFO, Pasadena Fire Department. A technical review was also provided by the National Fire Protection Association, Public Fire Protection Division.

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