



National Fire Fighter Near-Miss Reporting System
In Support of the 2011 Fire/EMS Safety, Health and Survival Week

Reports Related to Preventing the Mayday
Situational Awareness, Planning, Size-Up, Air Management, Fitness for Survival, Defensive Operations

Report #	Topic	Synopsis	Page #
10-518	Situational Awareness/Size-Up	Engine crew flanked by hidden fire	2
10-30	Fitness for Survival	Health problem found during annual physical	2
09-1011	Situational Awareness	Crews stand on power line during operations	3
08-176	Situational Awareness/Air Management	Firefighters narrowly escape flashover	4
07-1152	Situational Awareness/Size-Up	Yesterday's lessons still relevant today	5
07-1009	Air Management	Hose line catches SCBA valve shutting it off	5
06-508	Pre-Planning	Firefighter falls through skylight	7
06-288	Fitness for Survival	Incident Commander of an apartment fire suffers heart attack	8
06-282	Air Management	Captain remains within structure after low air alarm is sounded	8
05-418	Situational Awareness/Size-Up/Air Management/Defensive Operations	Fire in church traps several firefighters. Multiple maydays called	9
Review	Review Questions	5 Questions Reviewing this Grouped Report	11

10-518

Event Description

We were working at a well involved structure fire on the second floor of a 2 1/2 story wood frame building. The first due engine stretched a 2 1/2" line to the second floor and were backed up by a second engine company. The first engine crew was advancing on the fire when a false wall behind them burnt through putting them in danger. They rapidly exited the building via a ground ladder that was placed near the front porch. A MAYDAY was never initiated.

Lessons Learned

A proper size-up was never completed by all companies working on the scene. The back-up line that the second engine pulled was a 1 3/4" and did not match the initial 2 1/2" attack line. The first engine should have realized what the conditions were and that they were rapidly deteriorating before advancing as far as they did. Once they realized they were in trouble, they should have called the MAYDAY.

10-30

Event Description

Information in squared brackets [] has been edited for de-identification.

The purpose of this letter is to relate my personal story of near miss averted due to sufficient county funding and interdepartmental procedures.

In my department, all members must complete their annual physical by the end of the calendar year or that person's turnout gear is secured and they cannot work, respond on emergency calls, or attend any training until their annual physical is complete. Because of this requirement, and with the end of year deadline looming, I scheduled my annual physical for mid-December. My physical went well (as it had in past years) up to the point of my stress test. The doctor conducting the stress test was not happy with the results and prohibited me from responding until I had consulted with a cardiologist.

I consulted with a cardiologist that evening and two days later was in the hospital where I underwent a cardiac catheterization. During the catheterization, a 95% blockage of my right coronary artery was found and a stent was placed.

I was in complete disbelief! I thought, I have never had ANY symptoms. I am [under 45] years old. I really don't eat that bad. My cholesterol is not that high. I am heavier than I should be, but who isn't? I didn't have any knowledge of family history. I was a smoker but I have not smoked for 3 years. In other words, I am very typical of a lot of other members of every fire department.

Had this cardiac problem not been caught, had it not been for the county government-funded annual firefighter physical that is mandated and ENFORCED by my [department], I am certain that I would have had a life changing, if not fatal event either last week or in the next few months. If I could have “put off” this physical, I would have because, “I am way too busy.”

I have since returned to service without any restrictions and I look forward to many more years of service to my community.

Lessons Learned

- Do not put off your physical.
- Government support and sufficient funding is required for an adequate physical program.
- Make good use of the benefits offered to you (fitness center, physical program etc.).
- Administrations must define and enforce life safety programs.
- Each member must accept responsibility for his or her own health. Health screenings, physicals, and fitness programs are of limited value if members do not take advantage of the benefits offered to them and administrations do not enforce the requirements.

09-1011

Event Description

It was a routine, single-family dwelling structure fire. On arrival, the structure was totally involved and defensive operations were initiated. On the “C” side of the structure, an LP gas tank was next to the structure and was involved with flame impingement. After a few minutes, the pressure relief valve on the LP gas tank started venting and we had a column of fire venting about 5 to 10 feet in the air.

Upon noticing the venting, we immediately placed a 1 ½ inch line flowing on the tank. This was done immediately because the fire chief and department captain (who was in command of the scene), had just completed a hazardous materials class on LP gas fires. This was done so fast that the personnel didn’t pay any attention to the location of a downed power line. It was noticed by another firefighter that personnel on the 1 ½ inch attack line, were standing directly on the power line (actually on the end of the power line) and the line was still electrically charged. This was confirmed as the firefighters stepped away from the line. When they stepped away, they moved the line and it immediately started arching. The firefighters had been standing on the line for several minutes without even being aware that they were on it.

We attributed standing on the line, because the smoke was hanging low to the ground. We also had tunnel vision about the gas tank. We feel that the chief and the captain were so aware of the problem with the gas tank, they forgot about the other dangers at

the scene. Because of the training they had just received on LP gas fires, they were focusing only on the LP tank.

Lessons Learned

We learned that no matter how fresh a particular training event is or how pertinent it is to the scene, we cannot focus all of our attention on just that object. We have to be aware of the entire scene and everything that is going on.

This was a decision made by command (who fully accepted the blame for the mistake) and have trained diligently to keep something like this from happening again. We realized that we were lucky and that we could have had a tragic outcome from this event.

08-176

Event Description

The fire involved a three-story 50'X50' apartment building of ordinary construction. The Safety Officer noticed signs that the building was losing its structural integrity. Large cracks were noted with smoke issuing from them. When the Incident Commander was notified, he insisted on ten more minutes of firefighting. While conducting a primary search on the third floor, which was above the main body of fire, one member of the engine company crew become affected by what he thought was heat exhaustion. Since he did not think he could make it to the stairs, the captain decided that they would evacuate the building through a window. The crew was experiencing heavy smoke conditions but low heat. While waiting at the window, one crew member's air supply was depleted and he removed his mask while still in the smoke. As soon as the ladder was placed at the third floor window, the crew immediately descended. Fifty seconds after the last crew member reached the ground; the room that they had just left flashed over and became heavily involved in fire.

Lessons Learned

Situational awareness must be maintained. This includes smoke conditions, status of the fire, and SCBA/air management.

The Incident Commander should immediately evacuate the structure when signs of possible impending failure are noticed.

07-1152

Event Description

We were the first engine on arrival at a structure fire with heavy smoke showing from a large commercial ordinary construction (brick and stick) structure in downtown [location withheld]. The commercial structure was vacant and boarded up. We forced entry into the store front doors of the building and advanced a 1 3/4 handline into the structure. After advancing into the structure several feet with zero visibility another company on the scene pulled off the boards that sealed the front display windows of the vacant commercial occupancy. This provided the fire the oxygen it needed and fresh air to suddenly ignite the entire interior of the building with us inside. The rapid explosion of fire blew all three of us out of the structure and into the street. Only one of us received any injury (minor burns).

This near miss was clearly a result of a lack of situational awareness, proper size up or reading of the conditions thereby resulting in a poor decision. The decision to advance a single line into a heavily involved structure and zero visibility without ventilation was an act of automation and not judgment. We saw fire and we went after it. This event was prior to the concept of risk management, reading the smoke, and a good working incident command system that exists today in our department. In the past, if it was on fire we went in even if bulldozers were parked outside the structure for a planned demolishing of the building the next day.

Lessons Learned

Risk management. Vacant structure not worth risking the lives of firefighters.

Situational awareness. A proper size up of the scene and greater experience by the initial attack crew would have told us that we had no business going into the structure with the fire conditions visible, much less with a single attack line.

Better coordination. Our attack team should have been called out of the building prior to the removal of the boards sealing the store front windows, which resulted in us being blown out of the building by the force of the fire.

Better command presence at the onset of the working incident.

07-1009

Event Description

I was the acting Lieutenant and my engine company was dispatched to a first alarm assignment for a confirmed structure fire. Upon arrival we encountered smoke showing for side A/B corner of structure and assumed a fast attack mode. While forcing the front door, smoke was visible on the first floor and in the basement windows. This indicated a

possible basement fire. My partner and I advanced a 1 3/4" hoseline through the first floor kitchen area and down the stairs. At the bottom of the stairs we experienced a high heat and heavy smoke environment. We visualized the "glow" from the seat of fire approximately ten feet around a corner. After making multiple attempts to advance the hoseline, I called upstairs for more hose and instructed my partner to hit the fire from our location in order to cool the room. As I did this, I experience a brief (less than one second) activation of the vibralert on my SCBA followed by my mask "sucking" to my face. I activated my purge valve and got a small release of air followed by the mask sucking to my face again. Using my helmet mounted flash light I confirmed my SCBA pack gauge was reading 0 psi. I grabbed the coat of my partner and relayed "no air, let's go". I then started up the stairs. After reaching the top of the stairs I turned and could not see him following me. I scanned the kitchen and caught the reflection of bunkers a few feet from me. I was unable to speak so I moved to the side of the basement doorway, crouched low to the floor and cracked my regulator in order to take in enough air to speak. I approached the officer from the rescue crew and relayed that I was out of air and my partner was in the basement alone. Once again my mask "sucked" to my face. I proceeded out the back door and removed my mask. I relayed that my partner was in the basement and the rescue crew was on their way to assist. I checked my pack and found my bottle stated I had approximately 2500 psi. My SCBA pack gauge showed 0 psi. I checked the bottle valve and found that it was closed. My partner later informed me that he heard me say "let's go" but did not hear me say I had "no air". He thought "let's go" meant advance the hose. As a result he did not realize I had left the basement. I believe that while pulling hose around several corners and down the stairs, the hose was dragged over my bottle valve and shut off the valve.

Lessons Learned

Ensure the bottle is fully open prior to entering building. I know that I made multiple turns on my bottle valve and believed that the bottle was fully open. However, I cannot say 100% that the bottle was fully open.

Check the bottle valve. Turning the bottle back on would have solved the problem and I would not have had to exit the building.

Utilize the EBSS. This would have allowed me to exit the building with air and bring my partner with me at the same time.

Make note of means of egress as the hose is advanced. I knew that after reaching the top of the stairs, I had to make a left turn and the back door would be approximately ten feet away.

06-508

Event Description

My engine company (3 man crew) responded to an apartment fire. We had received multiple calls reporting the possibility of victims trapped. We were the first unit on the scene and found heavy smoke and fire from the 2nd story of an 8 unit apartment building. Upon exiting the apparatus, I was advised by Sheriff Deputies that there were possibly 2 victims trapped.

Another firefighter and I pulled a 2" attack line while the engine operator worked with the Truck Company to establish a supply line. The center of the building was fully involved and contained the entrances to all of the apartments. My plan was to knock down the fire by the entrances to allow a rapid search for victims. I knew there was plenty of help on the way because I had called for a 2nd alarm while responding to the scene. We knocked down the fire by the doors to the lower units and began moving up the stairs to the second floor. While advancing the attack line to the balcony/entrance area, I fell through the floor and landed on the enclosed concrete patio that was below me. This area was still fully involved with fire. The firefighter who was with me, attempted to call a MAYDAY but could not get through due to heavy radio traffic. I was able exit the building on my own and sustained only a bruised shoulder and hip. My injuries could have been much worse. I gathered my crew and exited out of the building. Command decided to switch to a defensive mode using master streams to knock down the majority of the fire. This incident eventually escalated to 3 alarms. There were no victims found.

After reviewing the incident and looking at some of the other buildings in the complex, it appeared that I actually fell through a 2ft x 4ft skylight/atrium located on the 2nd floor. The railing had burned away and I could not see it do to the smoke, fire and steam. If we had not received reports of victims trapped, I would not have been as aggressive with our initial attack. In our jurisdiction (population of 45,000+) we rarely find victims in the fire building. We have experienced only 4 fire fatalities in 30+ years and have only a few "saves".

Lessons Learned

I fell through a hole that I did not know was there and could not see. It might have been prevented with better knowledge of pre-plans. I have been responding to this complex for 10 years and never noticed the small atriums. My station has 11 large apartment complexes in our first due area and over 75 large apartment complexes in our 1st alarm area. This makes it difficult to remember small details about each one of them.

06-288

Event Description

While working as the Incident Commander of an apartment fire, I suffered "Sudden Cardiac Death." My heart had gone into ventricular fibrillation resulting in cardiac arrest. Firefighter/EMTs and Firefighter/Paramedics were next to me when I went down. They performed CPR and gave me one shock from a LifePak 500. Within four minutes of dropping dead, I was awake and talking with the crews who had just given my life back to me. I underwent a 4-way open heart bypass operation two days later. A couple of months after that, I went through a cardiac stress test and echocardiogram. Those tests revealed that I had no heart damage and was completely healed.

Thirty years as a firefighter, many without use of a SCBA, poor diet, lack of exercise and tobacco use, were certainly factors that led to this event. Since that day I have quit smoking, started eating a much more heart healthy diet and exercise 4 to 6 days a week. I firmly believe in fire-based EMS and firefighter physical fitness.

Lessons Learned

I learned that our lives are not our own - we share them with a lot of other people. Keep yourself physically fit and be sure to get regular checkups from your doctor. Ask that you get screened for signs of coronary artery disease, heart history in your family, high blood pressure, high cholesterol, smoking, lack of exercise, obesity, and so on. Be advised that Electron Beam Tomography (EBT) scans are good tools for determining the condition of coronary arteries, whereas cardiac stress tests, treadmill tests, generally do not recognize coronary artery disease problems until those arteries are nearly 70% blocked.

Firefighting is one of the most stressful and dangerous jobs in America. We owe it to ourselves, our families and our fellow firefighters to be in the best physical condition possible. Likewise, we must insist that we become as proficient as possible in the emergency medical field, if for nothing else than those times when we can save the life of a fellow firefighter.

06-282

Event Description

Units noticed smoke in the area while responding to an EMS call. They were then notified of a structure fire and responded. Upon arrival they encountered a ranch-style home with heavy smoke showing from the front door. Police officers on scene, fire dispatch, and a resident on-scene all told the Captain that a 9 year-old boy was trapped in the basement.

The crew advanced a 1.75" line to the basement and found heavy smoke conditions with relatively low heat. They searched the basement exhaustively, found a burning mattress but had not located the missing child. In the meantime, other crews were completing a search of the main level. The Captain's low-air alarm sounded but he decided to continue searching. At about the same time that a relief crew arrived downstairs, the Captain ran out of air. He unsealed his mask and took a total of two breaths at the floor level before he was able to exit the basement. It was later determined that the missing child was at a neighbor's house.

This same Captain and crew had experienced a very similar call less than two years earlier. They searched a basement fire extensively without locating a young victim who was later found deceased under a great deal of materials. There is no doubt that this previous experience affected this very competent Captain's decision-making.

Lessons Learned

1. It is clear that previous experiences, particularly experiences that might be construed as failures, can have a significant effect on decision-making capability.
2. A good air-management program can establish better rules for air use. Specifically, by making a low-air alarm an immediate action item, you may prevent your folks from running out of air.

We have since developed a CISM policy and are more aware of the psychological stress that our firefighters face. I would recommend that all departments take a serious look at the psychology of firefighting and the value of CISM. In addition, we are developing an air management policy that will eliminate the practice of "work until your low-air alarm activates".

Remember that these situations can affect the seasoned, top-notch officer as easily as the new boot.

05-418

Event Description

Units responded to automatic alarm at church. While enroute, incident was upgraded to full alarm assignment on reports of fire in the "red brick" building. First alarm assignment consisted of Q(X), E(X), E(XX), E(XXX), E(IV), B(X). Q(X) and E(X) arrived 1st with nothing visible from large church. Q(X) took command and positioned on the south side, and E(X) positioned on the North-side. On investigating E(X) reported working fire on second story and was stretching line to attack fire. Approximately 1 minute after arrival command requested 2nd alarm and sent Q-crew in to assist with evacuation and investigation. At 2 minutes in command advised that

smoke condition had changed, and warned interior crews that they possibly had a "well charged attic".

E(X) acknowledged and proceeded to attempt to locate and extinguish a fire located in 1 room (per radio report). At approx 4 min in E(XX) reported fire at an exterior porch and ceiling starting to come in on the north side. As B(X) arrived and assumed command, radio time was hampered with the request for additional resources such as police and our laundry list of things. At approximately 6 minutes in we had approximately 3 big boosters and 1 super booster operating. Units on the interior were requesting more pressure. At approximately 8 minutes in, units were not reporting any progress and command was debating a switch to defensive operations. At this point a total of 3 maydays were transmitted by interior crews with members lost and off of hose lines. E(X) firefighter ended up outside the building and was out of air. His lieutenant was left in the building.

At this point the decision to go defensive was made, and all members were ordered out. E(XX), knowing the situation, decided to stay and was able to find E(X) lieutenant, who was lost and low on air. All companies were able to exit and after a large aerial assault the fire was brought under control.

Lessons Learned

1. Exterior smoke conditions must match reports from interior companies.
 2. Consider the size of the structure when reading smoke conditions.
 3. Sound your mayday as soon as you are in trouble.
 4. Company officers must keep track of their crew members and their air supply.
 5. Radio discipline (must be observed) from units not engaged in fire ops.
 6. Support units can be called for on cell phones or included as automatic dispatch.
 7. Fire is not 1 dimensional. If your lines are not reducing the volume, it may be beyond interior operations.
 8. Thermal imagers are a must for every company on the fireground.
 9. Sometimes the building will win.
 10. Know what the fire is doing to the building and what the building is doing to the fire.
-
-

Review Questions

1. What is consistently the highest contributing factor in Near-Miss Reports?
 - a. Command
 - b. Decision Making
 - c. Lack of Situational Awareness
 - d. Individual Action

2. _____ is the official name of the process of evaluating a structure or area before an emergency occurs, identifying items such as: building construction, hazards, occupancy, and special operational considerations.
 - a. Walkthrough
 - b. Note-taking
 - c. Pre-Planning
 - d. 360 Size-up

3. Provide five items that should be included in a scene Size-Up by the first arriving company officer at a structure fire.

4. When an SCBA low-air alarm activates, that member should:
 - a. Continue to carry out his task until completed without notifying his crew.
 - b. Notify his crew but insist on completing a task.
 - c. Immediately stop operations and begin to exit the building; call a Mayday if conditions worsen or cannot exit.
 - d. Immediately call a Mayday.

5. In 2010, the USFA reported that the majority of Line of Duty Deaths were caused by heart attacks or strokes.
 - a. True
 - b. False