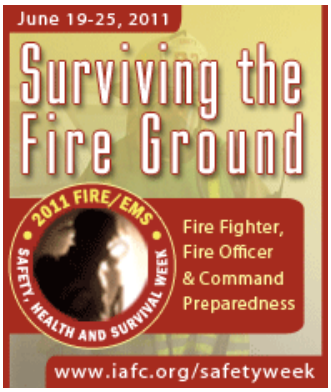


**National Fire Fighter Near-Miss Reporting System**
***In Support of the 2011 Fire/EMS Safety, Health and Survival Week***

## Fire Fighter Expectations of Command

***Command Level Mayday Training, Pre-Mayday, Mayday & Rescue, Post-Rescue, Expanding the Incident Command System, Communications***


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**11-15**

## Event Description

Personnel were operating on the scene of a structure fire in a two-story, balloon wood frame, multi-family dwelling. The near-miss occurred about one hour after units were dispatched.

The fire had started in the bathroom of a first floor apartment. The fire had spread to the front door by department arrival. There was a three to five minute delay in charging the initial attack line due to pump operator error (lack of experience). The fire ignited the vinyl siding and contents of the front porch, exposing the attached porch roof to fire. Two members were standing on the porch roof to open the exterior wall between the first and second floor for overhaul. The porch roof collapsed, falling 10-12 feet. Both firefighters were injured and transported to a nearby trauma center. One firefighter has returned to duty, the other will not return to duty for at least two months.
The personnel failed to evaluate the stability of the porch roof before using it as a work platform. Built of 2x4's with a composite shingle topside and vinyl covering bottom side, the roof was attached to the house with nails to a 2x4 stringer (poor construction). No one assessed the impact of the fire to the building stability until the collapse of the porch roof. The direct flame contact resulted in heavy charring of the 2x4's across the underside of the porch roof. There was no accountability of incident workers in place. Incident Command had weak control of units functioning at the scene. There were some reports of freelancing by individuals due to a lack of command presence and responder discipline. There was no safety officer assigned to the incident.

## Lessons Learned

Incident command must maintain clear command and control of incident operations. Accountability of all incident personnel must be maintained at all times with a PAR conducted every 15-20 minutes of incident operations. A tactical command board with an aide (field incident technician) will help with this.
A safety officer (competent and experienced for the hazards present) must be assigned to monitor incident operations and halt if necessary.
Responders must stay disciplined in completing assigned tasks. They must not wander or do things at an incident as they see fit. (A strong command presence and in-place accountability system will help to prevent this.)
Company officers must constantly evaluate the building for the fire's impact to its "gravity resistance system." Remember: A building is only as sure as its connections. Load supporting members may appear safe, but faulty connections (nails into 2x4 stringer) will still result in collapse.
The Incident Commander must have a clear vision of how to manage an incident involving a MAYDAY and give clear orders following its resolution. Management of the incident must go on for the safety of those still working on the scene.

Incident personnel must be given the opportunity for an informal CISD debriefing (also known as defusing) or psychological first aid information before being allowed to leave duty. None was provided in this case.

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**10-977**

**Event Description**

A chief officer assumed command without a report from the initial IC. After assuming command, the chief officer proceeded to take photos of the fire and did not command. Within a few minutes, a mayday was transmitted for a lieutenant that had fallen backwards down an attic staircase. The lieutenant became wedged between the walls and staircase, effectively blocking egress for two firefighters who were running out of air in the attic. Five maydays were transmitted before acknowledgement by the IC. Fortunately, only minor injuries were sustained by the fallen lieutenant and there were no injuries to the two firefighters.

**Lessons Learned**

IC must command in a proper manner. He must do the job of command and must remain attentive to radio communications, especially maydays, so that RIT/RIC teams can be activated immediately.

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**10-273**

**Event Description**

We responded to a 2-story wood frame residence with heavy fire showing at the B/C corner. The fire was extending to the 2nd floor and the attic. The initial attack line was advanced through the front door towards the B/C corner. A secondary back-up line was positioned by the front door by the Rapid Intervention Team (RIT). The RIT was ordered by Command to advance their line to the 2nd floor. No additional RIT had been established prior to the order. While the RIT was advancing their line to the top of the stairs, the building started to shake and a loud crash was heard. Conditions in the building changed from heavy black smoke to heavy fire over our heads. We immediately directed our line towards the fire and a Mayday was called by the companies on the initial attack line downstairs. Command ordered all companies to evacuate the building. We dropped our nozzle and followed our line back downstairs to the front door. Once we arrived at the front door we found that the ceiling in the great room had collapsed. We exited the building and gave a PAR to command. We then asked if we needed to go back in to find the companies who initiated the Mayday, only to find out that they had exited the building on the C side. A second alarm assignment was requested and we were ordered to rehab. One firefighter received second degree burns to the face.

**Lessons Learned**
A strong command presence is needed. The first due engine established a water supply and the first battalion chief on scene ordered the RIT to attack the fire. Our SOG requires a RIT at all fires unless first arriving units have become trapped upon entry to the fire. RIT needs to be established and maintained throughout the fire attack. The RIT should work side by side with OIC to maintain safety and monitor the ever changing conditions of the fire.

This building was new construction with light weight wood trusses. The room that collapsed was 2-stories tall and assisted in hiding fire that appeared to be on the second floor. Good pre-planning may have averted this from happening.

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**10-59**

**Event Description**
Units were dispatched to an apartment fire reported "in the area of" with no address. The Battalion Chief arrived on scene and communicated a working fire. I was the officer on the first arriving engine. We found 4 apartments with heavy fire involvement and command advised us to hit it from the other side. Not knowing where the other side was, we changed from pulling a 3" attack line to establishing a hose lay attacking the fire with a 1 ¾" line. Command advised we had a second crew coming in behind us. We attacked fire on the 1st floor, knocking major portions of fire in the first two units. My crew advanced the line to the second floor for fire attack. During this time the fire began to intensify. The second crew was delayed in advancing the second line to the first floor units.

While completing attack on the second floor, the floor collapsed causing me to fall into the first floor. My two firefighters, who were exiting the building, advised command of the incident. Command continued communicating over the radio. I was unable to call a MAYDAY because of the radio traffic. I rescued myself out of the first floor and attempted to locate my crew. Command had advised them to go get me. One went inside and one went around the back. After not finding my crew, I found command and advised him I was out and trying to locate my crew. We exchanged words and I called a mayday declaring a lost crew. There were no RIT or back-up crews. I also advised command to go "defensive mode" and call for a PAR report.

After several tense moments, my crew was located. There was a failure of an on-scene report advising crews of location and conditions. Failure to identify, properly state task assignments, and a failure on my part to question command on my assignment to "attack from the other side."

The first crew was aggressive making it to the second floor; I did not check to insure fire was in control prior to advancing above.

**Lessons Learned**
There was a failure to have a RIT or backup units in place to assist. A good command system should have been established from the beginning. Staging should have been established with the amount of fire we had and the building construction. There was no department review or critique of the incident. Command believed it was a lack of proper actions by the first officer. I accept my mistake and have taken action to improve my abilities. The department should have conducted an investigation and a post incident analysis so everyone could learn from the incident.

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**09-990**

**Event Description**
Our department was dispatched to a structure fire reported by police who were initially dispatched to a burglar alarm. First companies arrived to find a two story, wood frame multi-use structure with moderate smoke issuing from the structure. After forcing entry, the engine company (three person hose team) entered with an inch and three-quarter attack line and a TIC. The crew reported high heat conditions and indicated that the TIC screen was red! They proceeded to the right and pushed to the rear of the structure with heavy black smoke but no visible fire. A rescue company (2 person team) entered shortly after the engine company. They too reported extreme heat at the floor and a Red screen on the TIC. The rescue crew also proceeded to the right and pushed to the rear.

Outside, the IC and ladder company crew observed smoke conditions rapidly changing from laminar light brown smoke to a turbulent black smoke pushing from the entry doorway. At this time, IC attempted to contact the initial engine company without success.

Back inside, the rescue crew reached the engine company at the rear wall. They all reported the same high heat conditions with no visible fire. Some confusion occurred when personnel mingled together and at some point, the rescue crew lost contact with each other. The engine captain also lost track of one of his two rookie firefighters. One of the rescue members retreated outside and reported he had lost his partner. At the same time, the engine captain attempted to radio IC that he too had lost a member of his crew and to report the condition encountered inside.

Back outside, the IC ordered the ladder company to "vent" a large window on the A Side of the structure. As this window was vented, the ladder crew observed fire at the floor level and it rolled across the room toward the rear of the structure.

The captain of the engine observed the fire roll over head and ordered his crew to evacuate. He reported extreme heat and made a hasty exit out of a window. Upon exiting, he reported that he had lost his crew and a MAYDAY was called. Almost immediately, all interior crews were accounted for at the entry doorway. The engine

captain sustained 2nd degree burns to his face. No other injuries were reported. Crews quickly regrouped.

Later arriving companies were assigned to the fire attack, and the fire was quickly contained.

**Lessons Learned**

Communications: The interior crews had some difficulty with the radios inside. The radio seemed to work fine. User errors lead to the problem. Better training in the use of the radio will correct this issue.

Situational awareness: All personnel on the interior crews failed to recognize the conditions they were entering. While it was during the early morning hours, better education and understanding of fire conditions and behavior would prevent this error in the future. During a critique, the involved personnel recognized the conditions and agreed they should have made some tactical priority changes prior to entering.

Decision making: The decision to vent the window once the conditions were recognized was a risky one at best. This action most certainly prevented a flashover that could have resulted in a catastrophic event for the interior crews. However, this decision placed the interior crews in extreme danger. The decision to vent should have been communicated to the interior crews so they could be prepared for the change in the environment.

All involved personnel did an extraordinary job and reacted to the changing conditions accordingly. The mayday was called immediately in accordance with department policy and a RIT team was in place and prepared when the MAYDAY occurred. Our department has recently increased training in situational awareness, communications, and size up. This training did aid in recognizing the changing conditions but additional training will occur.

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**08-577**

**Event Description**

Crews were fighting a fire in a 4 unit rowhouse/townhouse, wood-frame dwelling. Fire was visible from the C side (exterior). Crews reported fire in walls and ceilings on first floor and fire was moving up to the second floor. Initial crews were containing the fire, while an additional crew moved to the second floor for reconnaissance and search. When the reconnaissance crew reached the second floor, 2 members (a lieutenant and a firefighter) entered a bathroom that was located directly above the fire. Almost immediately upon entering the bathroom, a 6' to 7' section of the bathroom floor collapsed with the lieutenant falling through the floor. The lieutenant was able to catch himself on a floor joists and nearby debris. As the floor collapsed, the firefighter jumped into a tub and did not fall through the floor.

Immediately upon falling through the floor, the lieutenant called a "mayday" and provided a clear and concise report detailing his unit, his location, the situation, and his immediate needs. Operations acknowledged the mayday, quickly confirmed the situation, and deployed the RIT team to the location of the trapped lieutenant. Simultaneously, command called for an additional alarm to stage nearby. Upon hearing the mayday and receiving associated information, a firefighter operating in the exterior of the structure notified two additional firefighters that the lieutenant had been seen operating in the area of a second floor window. A ground ladder was raised to the window and several firefighters helped the lieutenant extricate himself from the collapsed floor.

Within a minute or two from the time of the mayday call the lieutenant had been extricated and self-evacuated from the structure. Immediately upon hearing that the trapped lieutenant had been located, extricated, and removed from the building, command removed all personnel from the structure and ordered a PAR. The PAR revealed that all members were accounted for and firefighting operations commenced. Soon after the incident, the fire was knocked down and placed “under control.” Meanwhile, the lieutenant and firefighter involved in the collapse were examined by an ambulance crew at the scene and no injuries were observed.

**Lessons Learned**

In this case, a second alarm assignment was operating at the scene because of the large size (30'x100') and construction type of the structure. This assured an adequate number of firefighters on scene to address any problems. Proper staffing played a major role in the successful outcome for the mayday situation and for fire control.

Upon a post incident critique of the event, many factors were attributed to a positive outcome in what could have been a tragic situation. The factors which played a major role in this "successful outcome" are: proper use and staffing of ICS functions (Command, Operations, Safety, RIT), early recognition of significant risk potential (a second alarm was summoned very quickly), coordinated fire attack, ventilation and reconnaissance, and training.

The fireground was very organized and calm prior to the mayday/collapse and remained so (as best as can be expected) while mayday operations were being conducted. Great credit should be given to the lieutenant who immediately recognized his predicament and instantly called a mayday. He provided exactly the type of information to Command/Operations which contributed to a quick rescue.

**07-990**

**Event Description**

Upon arrival, the rescue unit [number deleted] was assigned to roof ops by the IC [deleted]. They placed a 35 ft ladder on the a/b corner. Upon gaining access to the roof they were met by heavy smoke conditions. Multiple roof jack vents had heavy smoke coming from them. The captain [name deleted] checked the roof to determine the extent of roof involvement. Upon the initial walkout, the roof was spongy in non-involved areas. The fire wall was breached on the b side but the fire wall on the d side was still intact. The rescue started vertical ventilation above the fire room and were met by heavy flames from the roof. Upon completing this cut they moved back to the b side over the fire wall. The rescue unit vertically ventilated this area and was met by heavy smoke conditions. They went back to the initial roof cuts and extended these cuts with an apparatus operator and 2 firefighters [names deleted]. The cuts were extended to prevent further lateral spread since these holes were too small and smoke conditions were sucking in and out with pressurization.
During this operation I walked across the a side roof and met an apparatus operator on the d side fire wall. He was confirming that the fire wall was holding. I confirmed that he did not need any more assistance and walked back to my crew. While sounding the roof along the way it was spongy but not to the point of breaking. Upon returning back to my crew, who was finishing up, the apparatus operator informed me that the roof was starting to get worse. At this point one of the firefighters fell through the roof, which was noticed by the apparatus operator, who informed me. I attempted to call a mayday but was unable to get through the radio on the tactical channel.

At this point I walked over to the edge of the roof and saw the chief and threw my pike pole down towards him to get his attention. I re-transmitted the mayday and was acknowledge this time. I returned to the hole that the firefighter had fallen through, and was told by the apparatus operator that he saw the firefighter who fell get up and be escorted out of the building. I then went back to the edge of the roof and confirmed visually that he had walked out of the building and was being taken care of. Upon seeing that the firefighter was being attended to, the rescue unit moved off the main center roof and onto the b side roof until a good knock down of the attic fire. They confirmed no further extension to the b and d side fire walls and then moved off the roof.

**Lessons Learned**

The rescue unit failed to properly size the ventilation hole for the amount of fire involvement in the common attic.
Failure to place a second ladder that they could use in the event their primary access/egress route became blocked.

Unable to get the mayday out initially due to heavy radio traffic and once it was the radio was not cleared for this priority traffic.

Upon finding the firefighter safe, no termination of the mayday was heard by the rescue unit.

Lessons to be learned:
Rescue unit needs more practical training on roof operations, specifically on how to size a vent hole. After talking with my crew they said they needed to cut a larger hole the first time. They tunneled in on a 4 x 4 vent hole size.

Continue to assist fire crews on the roof with secondary egress routes or needed fire ground operations.

Establish and review mayday policies and practices for radio traffic and accountability. Need to establish multiple RIC teams for larger fires and not in one location.

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**07-890**

**Event Description**
We were dispatched to assist at a structure fire with a mutual aid department. Our department was sent for RIT & tender operations. The RIT team arrived and staged at the A/D corner of the structure.

Our RIT did a 360* of the building, set ladders checked conditions, number and locations of crews working and stood ready. About 20 minutes into the response, crews lost water for a short time and were forced to retreat. After water supply was re-established the crews made a second aggressive attack.

After about 10 minutes into the 2nd attack, the conditions rapidly deteriorated. After a quick consult (less than 20 seconds) with command the evacuation order was given and air horns sounded. Crews were attempting to retreat when there was a flash over. The RIT was activated due to lack of accountability of 2 crew members.

The RIT made their way into the 1st floor, did a quick search, found 1 FF wandering in the first floor hallway dazed and confused. He was assisted to the front door and handed to waiting FF's from the RIT support. The crew then made their way to the second floor landing which was the other FF's last known location. Following the hose line, there were no other FF's located. The RIT was cut off by fire that was coming now from a first floor room across a ceiling and then across the stairway.

The fire was hit from a hose line manned by additional RIT members and allowed other RIT members to egress to the front door. At this point it was determined that all FF's were accounted for and out of the structure.

**Lessons Learned**
The function of a command staff was needed. The IC attempted to do too much and the span of control was too great. Other department chiefs assisted with getting this under control.

There was a need for a committed accountability officer. The accountability officer was not keeping accurate records of crew locations or job tasks. There was only an attendance system initially, until a new accountability officer was assigned. If the accountability would have been in place, we would have known there was only 1 FF missing. Make sure that all firefighters are trained with the knowledge of an accountability system.

Have all FF's understand the RIT function and what the need of every FF is if the RIT is deployed.

There is no real way to change the fast changing fire conditions except to never do an interior attack with the risk of potential injuries of FFs.

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**06-164**

**Event Description**
Our department was dispatched to a structure fire on a rural road in the far reaches of our district. This fire was located approximately 6 miles from the station, on the top of a hill. This was a very windy day. The National Weather Service had issued a wind advisory for winds around 35mph and gusts up to the 60mph range.

The first due assignment consisted of a career staffed engine company with 5 personnel, an ALS ambulance with 1 firefighter/medic, and the career chief. Other apparatus follows as it is staffed with volunteer staff. Enroute the captain on the engine reminded his men of the dangers of high winds in this situation and advised them to use extreme caution if it was decided that an interior operation was needed.

The chief arrived on scene just ahead of the Engine Company and reported smoke and fire showing from 2 windows on the second floor of a 2-story older farm house. The fire was on the leeward side of the house. No other windows or doors had been opened and the roof had not vented. It appeared to be a room and contents.

The engine arrived just moments later. The captain ordered his men to take 2- 1.75" lines to the house. The first to the bottom of the stairs and the other to be used for fire attack. The men stretched the lines and made their way into the house. There was a couple minutes used locating the stairs in this old house as the home had been remodeled many times. The crew made their way up the stairs and towards the fire room. Meanwhile on the exterior the chief was ordering a firefighter to break the

upstairs window on the windward side of the house. The firefighter repeatedly questioned this order, as he knows that this would create a huge introduction of air into the second floor. He finally broke the second floor window.

The conditions on the second floor instantly turned into a superheated and dark environment. The heat drove the firefighters to the floor. At this point, the chief, without knowing the location of the men inside, ordered a firefighter to operate a handline into this fire room, further forcing the heat and steam on the men. They were forced to abandon their lines and make a hasty exit of the house. Once out, the captain found that he was missing 2 of his men. These men were fortunately located quickly upon searching the first floor.

In this case, there were no injuries to any brothers and the house was saved. The fire was contained to the room of origin with some extension to the attic and hallways. However, the poor fireground decision making could have cost a life. If the crew had been at the doorway of the fore room there is no doubt that, they would have been caught in a fireball.

**Lessons Learned**

Proper incident command training - including the roles and responsibilities of the chief, company officers and firefighters in the strategy/tactics process.

Communication from command to interior requesting status of progress rather than just assuming what is happening.

Train and educate regarding basic vent techniques.

Train and educate on the dangers of operating in high wind conditions.

Have some sort of personnel accountability system in place.

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**05-396**

**Event Description**

Working structure fire from lightning strike, heavy fire in second floor area. Engineered lumber/truss roof in structure. Roof on main section of house collapses, command orders evacuation and upon completion of evacuation, begins aerial operations from 2 units. After 5-10 minutes of 1,000 gallons per minute from each aerial, command orders cessation of aerial attack and without assessing safety or stability of partially collapsed structure, orders personnel back to interior attack.

This is a regular problem in the County; ordering personnel out due to collapse and/or deteriorating conditions, use of aerial master streams and then ordering personnel back into compromised structure.

ICS command structure was virtually non-existent.

**Lessons Learned**

No lessons were learned by command structure as this is not viewed as a problem. There needs to be a priority placed on firefighter safety and awareness of the danger to firefighters of operating in a structure which has partially collapsed or been exposed to elevated master streams without conducting a safety assessment by trained construction knowledgeable personnel.

Our company was second alarm mutual aid on this call. It was a neighboring town, same type of demographics, responsible for command.

ICS components need to be fully implemented, not just the Incident Commander and Accountability Officer.

## Review Questions

**1. _____ is the backbone of any operation.**

- **a. Personnel**
- **b. Proper equipment**
- **c. Dispatch**
- **d. Command**

**2. Explain the importance of why Command must receive a clear and complete L.U.N.A.R report.**

_____
_____
_____
_____
_____
_____.

**3. List 3 post-rescue operations that Command must consider**

- **a. _____**
- **b. _____**
- **c. _____**

**4. In order to maintain control, the IC expands the Command Structure under the following three sections**

- **a. _____**
- **b. _____**
- **c. _____**