

Running head: MASTERING THE MAYDAY

Mastering the MAYDAY:

When seconds count, can you be counted on?

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Certification Statement

I hereby certify that this paper constitutes my own product, that where the language of others is set forth, quotation marks so indicate, and that appropriate credit is given where I have used the language, ideas, expressions, or writings of another.

Signed _____

Abstract

MAYDAY! MAYDAY! MAYDAY! These chilling words are a firefighter's worst nightmare. Whether you are on the inside calling the MAYDAY or on the outside commanding a MAYDAY call, you know seconds count, every second. The next actions you take are truly a matter of life or death. The problem is West Bend Fire Department personnel have very limited experience or training in calling or handling a MAYDAY situation. Therefore, the purpose of this applied research project was to determine and correct deficiencies that exist in how West Bend Fire Department personnel request and respond to a MAYDAY call. Descriptive research was used to answer the following research questions: a) What experience do the West Bend Fire Fighters have in calling or handling MAYDAY situations?, b) What are the current protocols and are they effective and utilized?, c) What changes should be made to the current protocols and/or training?, d) What type of follow-up or evaluation could be used to ensure changes are effective? Internet searches detailing all the aspects of the MAYDAY call, from preventing the MAYDAY, calling for the MAYDAY, and commanding the MAYDAY, were utilized during the research process. Department questionnaires were sent to general and command staff members to determine their MAYDAY experience. Department records were queried for information pertaining to training classes both inside and outside the department. The results indicated that members have very little experience in the MAYDAY process. To further complicate matters, no real operating guidelines or training takes place. Recommendations would be to accept and implement the new Washington County MAYDAY Procedure, train on this new procedure annually, ensure all personnel complete the IAFF Fire Ground Survival Awareness Course, and implement a formal fire critique procedure.

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Mastering the MAYDAY: When Seconds Count, Can You be Counted On

"MAYDAY, MAYDAY, MAYDAY, Tower 512 bucket (NOTE: "Bucket" is the firefighter who rode the jump seat), I'm trapped inside, I don't know where I am, I'm somewhere in the stairwell, I need someone to come get me out!" These were the final words of Fire Fighter Kyle Wilson from Prince William County, VA, Department of Fire & Rescue. Fire Fighter Wilson died in that stairwell on April 16, 2007. (Through The Smoke: Firefighter Trapped - A MAYDAY and a LODD). Chilling words for anyone who ever rushed into a burning building as others were rushing out.

Unfortunately across America this scenario is being played out again and again. Line of duty deaths (LODD) for American fire fighters still hovers around one hundred and close calls in the thousands. The first line of defense against a LODD is not being placed in that position, however, if you are in the life or death scenario, a firm grasp of everyone's role in a MAYDAY situation is crucial.

The purpose of this applied research project was to determine if the members of the West Bend Fire Department are equipped to handle a MAYDAY situation. If not, then it must be determined what needs to be done to make sure we are equipped for this fire scene emergency. The questions that guided the research were: a) What experience do the West Bend Fire Fighters have in calling or handling MAYDAY situations?, b) What are the current protocols and are they effective and utilized?, (c) What changes should be made to the current protocols and/or training?, and d) What type of follow-up or evaluation could be used to ensure changes are effective?

Questionnaires completed by West Bend Fire Department personnel were used to gather internal data for the first research question. Descriptive research was then used to gather both current in-house protocol and additional protocol information from outside the department. Additional descriptive research was then conducted to determine if additions/corrections were needed as well as follow-up procedures.

Background and Significance

The West Bend Fire Department (WBFD) is located in southeast Wisconsin, about 30 miles north of Milwaukee. Forty full time and 15 part time firefighter/paramedics operate out of three stations and cover a population near 40,000. The coverage area for both fire and emergency medical service (EMS) spreads out over 40 square miles (West Bend, Wisconsin, 2011). The WBFD coverage area includes the City of West Bend, and parts of the town of West Bend and the town of Barton. Although a relatively small department, WBFD is the largest and busiest department in Washington County.

The mission of the West Bend Fire Department is “Planning to Protect...Acting to Save” (West Bend, 2010). During 2010, the West Bend Fire Department responded to a total of 2,696 calls. Of those calls seventy-five were for actual fire calls. Eleven civilians were injured as a result of those fires as were seven firefighters. Of the seven firefighters injured, four injuries resulted on the same call (West Bend Fire Department, 2011). Of the seventy-five actual fire calls, there were zero MAYDAY requests.

Although calling a MAYDAY in the West Bend Fire Department is a rare occurrence, MAYDAY calls across the nation constantly occur. One of the best resources for researching MAYDAY calls is the website *FirefighterCloseCalls.com*. The website contains first hand fire

fighter accounts of close calls from areas all around the country. As of the writing of this paper, 323 close calls in which a MAYDAY was issued are recorded on this website (STRUCTURAL Fire Fighter Close Calls, 2011). In 2011 alone, 85 MAYDAYS were recorded. Some of these MAYDAYS were successful, far too many were tragically unsuccessful, unsuccessful because of how they were handled.

It is never certain that how a MAYDAY is handled directly relates to the success of the MAYDAY situation. A MAYDAY can be handled “by the book” and still result in tragedy. Often times the MAYDAY can go exactly as planned. Examples of situations where MAYDAYS were handled correctly can be found in articles all over the *FirefighterCloseCalls.com* websites. The July 13, 2010, this posting from an anonymous firefighter detailed the events on a MAYDAY call that went right:

At that point we knew we were disoriented and we needed help to get out. My partner and I got together in the kitchen and called a MAYDAY. I gave our location in the building as well as the first floor location. Almost immediately we heard the RIT coming up the porch stairs. They entered the building under extreme heat and zero visibility. We could hear them coming and yelled back and forth until we could see their hand lights. They escorted us out of the building. (Goldfeder, Firefighter injured during structure fire rescue, 2010, p4)

However, not handling a MAYDAY correctly, may severely limit the possibility that the trapped or down firefighter will make it out alive. The following recounts the details of what happened during the day on July 3, 2010, when tragedy played out for a small volunteer fire department in Texas. The National Institute for Occupational Safety and Health (NIOSH) report stated “they

became disoriented in the thick smoke, lost the hoseline and called a MAYDAY that was not heard and acted upon.” The report went on to say “The victim was found the next morning” (The National Institute for Occupational Safety and Health, 2011, ¶1).

Just three weeks later an eerily similar situation unfolded in Connecticut. The NIOSH (2011) report from the July 24, 2010 incident, stated:

While pulling walls and the ceiling on the 3rd floor, smoke and heat conditions changed rapidly. Victim #1 transmitted a MAYDAY (audibly under duress) that was not acknowledged or acted upon. Minutes later the incident commander ordered an evacuation of the 3rd floor. As a fire fighter exited the 3rd floor, Victim #1 was discovered unconscious and not breathing, sitting on the stairs to the 3rd floor.

Approximately 7 minutes later, Victim #2 was discovered on the 3rd floor in thick, black smoke conditions. Both victims were removed by the rapid intervention team (RIT) and other fire fighters who assisted them. Both victims were pronounced dead at local hospitals (¶1).

The NIOSH (2010) report concluded that two contributing factors to this double line of duty death was “*Failure to effectively monitor and respond to MAYDAY transmissions*” and “*Less than effective MAYDAY procedures and training*”. The report went on to state that two key recommendations as a result of this tragic fire were to “*Ensure that radio transmissions are effectively monitored and quickly acted upon, especially when a MAYDAY is called*” and “*Ensure that MAYDAY training program(s) and department procedures adequately prepare fire fighters to call a MAYDAY*” (National Institute for Occupational Safety and Health, 2011). These are serious consequences as a result of serious shortfalls.

Therefore, the intent of this research is to eliminate these serious shortfalls by determining if the firefighters and command officers within the West Bend Fire Department are truly prepared to handle a MAYDAY emergency. If not, why not. Changes, whatever the research determined them to be, need to be made and need to be made now before one of our own does not go home.

The research and ultimately the recommendations within this document is directly related to the National Fire Academy's Executive Leadership course's overall course goal, "...develop the ability to conceptualize and employ the key processes and interpersonal skills..."(United States Fire Administration, 2011). These abilities and skills that were learned as a result of this course were utilized as research was conducted and recommendations were developed.

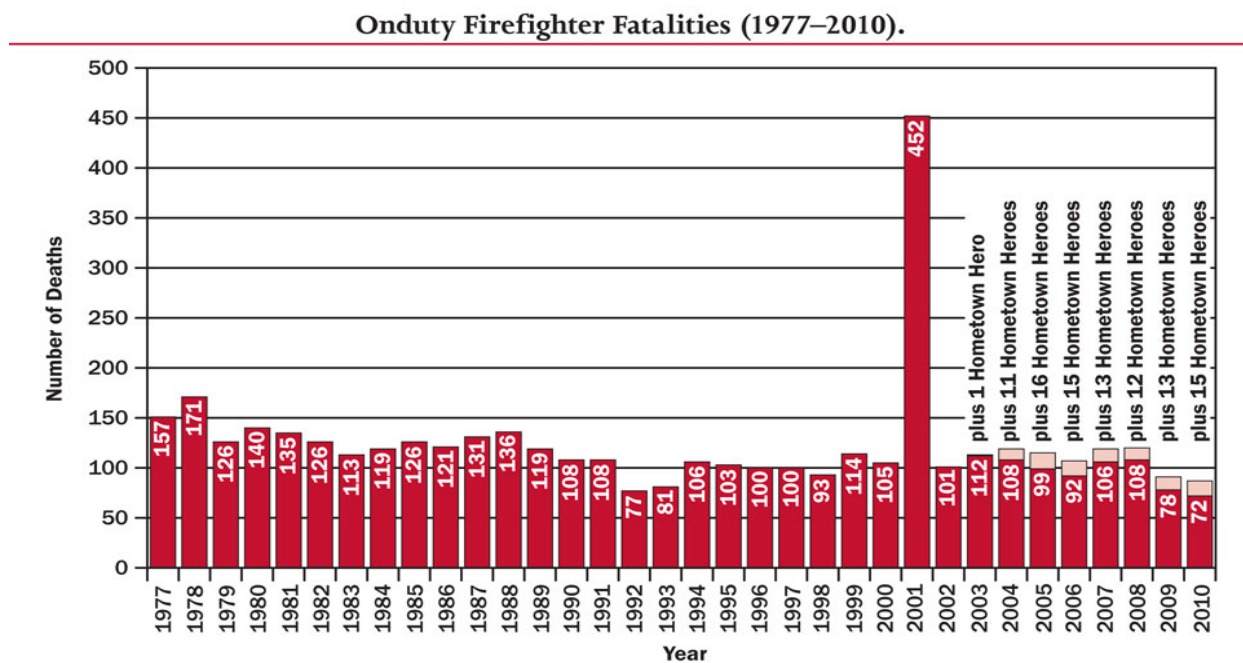
The goal of this research paper was in direct correlation with the United States Fire Administration's strategic goal: "Reduce risk at the local level through prevention and mitigation" (United States Fire Administration, 2010). One of the ways to reduce the risk to firefighters is to implement and train on a sound MAYDAY policy and ensure that everyone knows their role.

Literature Review

MAYDAY! This is a term we are accustomed to hearing. The ship gave a MAYDAY call when the engines died, or the airplane sounded a MAYDAY before it crashed. We in the fire service dread the day when we hear that word over our radios. The word MAYDAY is derived from the French word *m'aider* which means: "come help me!" (Dictionary.com Unabridged.) That request, *come help me*, is what we the fire service must do flawlessly. The steps we take in those precious seconds and minutes following the MAYDAY call often times determines if everyone goes home.

Reducing firefighter’s line of duty deaths has been the number one priority of the fire service for many years. Countless studies, training programs, and even the fire culture itself have placed an emphasis on reducing the number of line of duty deaths. At first glance it appears to be working. This graph depicts the fire service LODD trend (United States Fire Administration, 2011):

Figure 1



Eighty-seven firefighters paid the ultimate price during 2010. Fifteen of the deaths were classified as Hometown Heroes, meaning the firefighters died of heart attacks or strokes within 24 hours after responding or training.

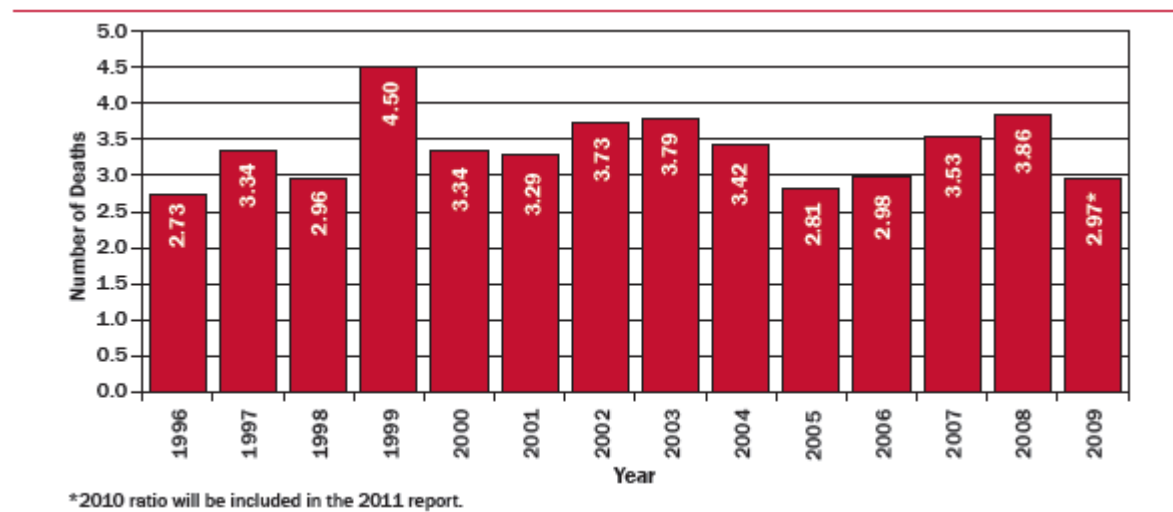
To gain an even closer look at the importance of the MAYDAY, duty deaths were broken down by type of duty. Twenty –two of the eighty-seven deaths occurred during fire ground operations. This is where the MAYDAY would have or should have occurred. That is 34% of the

all 2010 firefighter fatalities (United States Fire Administration, 2011). Those twenty-two fallen firefighters' deaths are the type of line of duty deaths that this research paper targeted. These types of deaths must not and should not occur in our community or elsewhere.

To further determine if true progress has been made in reducing firefighter deaths, the comparison was made to the actual number of structure fires we responded to and the related line of duty deaths. The National Fire Protection Agency has concluded that the rate of firefighter deaths at structure fires in the late 1990s was roughly the same as the rate in the late 1970s. Since 1999, however, the death rate at structure fires has dropped steadily, to approximately 4.0 deaths per 100,000 structure fires over the last three years (2004 through 2006), while the number of structure fires has plateaued (National Fire Protection Association, 2007). The following chart demonstrates that trend has continued in recent years, with 2009 continuing the downward trend (United States Fire Administration, 2011).

Figure 2

Firefighter Fatalities per 100,000 Fires



So while the fire service can take pride that progress has been made by reducing both

firefighter deaths and the amount of structure fires, work is still left to be done to further reduce or eliminate the Line of Duty Death. Stressing firefighter safety and survival may be that link. Two major players in fire fighter safety and survival are the International Associations of Fire Chiefs (IAFC) and the International Association of Firefighters (IAFF). These two power houses combined to create five keys to fire ground survival contained in the online IAFF program entitled, IAFF Fire Ground Survival Awareness Course (IAFF Firefighters, 2010) The key points to the course are:

- **Preventing the MAYDAY:** situational awareness, planning, size up, air management, fitness for survival, defensive operations
- **Being Ready for the MAYDAY:** personal safety equipment, communications, accountability systems
- **Self-Survival Procedures:** avoiding panic, mnemonic learning aid “GRAB LIVES” — actions a fire fighter must take to improve survivability, emergency breathing
- **Self-Survival Skills:** SCBA familiarization, emergency procedures, disentanglement, upper floor escape techniques
- **Fire Fighter Expectations of Command:** command level MAYDAY training, pre-MAYDAY, MAYDAY and rescue, post-rescue, expanding the incident command system, communications

The IAFF online course covers all of these items to prepare not only firefighters but also command officers in the proper execution of a MAYDAY situation.

Should we then be satisfied that we as a fire service are doing all we can or should do to

prevent LODD? After all, line of duty deaths are decreasing and programs are in place for the handling of the MAYDAY. The answer must be NO. Fortunately the solution to reducing and hopefully eliminating the LODD is not foreign to firefighters. It is prevention. From the first day of recruit school, firefighters are taught that prevention is our number #1 job. The same can true in the elimination of MAYDAY calls and the tragic events that sometimes follow.

There are two keys to preventing the MAYDAY. The first aspect of this prevention is situational awareness. Rich Gasaway, a retired fire chief and firefighter with more than 30 years experience in the fire service believes situational awareness is the key to preventing the MAYDAY, "Situational awareness is a responsibility of firefighters and commanders alike. Being aware of the conditions, surroundings and fire behavior are the most important elements of keeping safe and avoiding MAYDAYs and the deployment of Rapid Intervention Teams. (RIT)" (Ballam, 2011).

Chief Gasaway believes there are three key steps to maintaining control and situational awareness (Ballam, 2011):

- 1) Keeping aware of the "clues and cues," like changes in smoke conditions, water supply situations, collapse dangers, exposure, etc.
- 2) "Comprehension" of those signs.
- 3) "Projecting" or predicting the future based on the available information.

These three steps - clues and cues, comprehension, and projecting, if constantly reviewed and evaluated will assist the incident commanders and firefighters in preventing the MAYDAY.

The other aspect of avoiding the MAYDAY is reevaluating the risks we are taking.

Retired Fire Chief Howard Hill states there are three keys to every fire risk analysis (Hill, 2011):

- 1) Risk a lot to save a lot. Keep significant risk to members limited to potential life-saving situations.
- 2) Risk a little to save a little. Reduce and minimize the inherent risk of routine activities.
- 3) Risk nothing to save nothing. No risk to the safety of members is acceptable when there is no possibility of saving life or property.

These three key points should be the basis of all fire ground decisions. Where we get into trouble is when we have tried to figure out what the acceptable amount of risk is, or what benefit we were in search of.

The easy answer to what is the acceptable amount of risk is that we save lives and will do whatever it takes to save that life, even if that means we sacrifice our own life. The International Association of Fire Chiefs has developed Rules of Engagement for Firefighter Survival. These rules assist in the incident commanders' decision making process. They are intent on keeping firefighters safe. The rules are as follows (International Association of Fire Chiefs, 2010):

- Size-Up Your Tactical Area of Operation.
- Determine the Occupant Survival Profile.
- DO NOT Risk Your Life for Lives or Property That Can Not Be Saved.
- Extend LIMITED Risk to Protect SAVABLE Property.
- Extend Vigilant and Measured Risk to Protect and Rescue SAVABLE Lives.
- Go in Together, Stay Together, Come Out Together.

- Maintain Continuous Awareness of Your Air Supply, Situation, Location and Fire Conditions.
- Constantly Monitor Fireground Communications for Critical Radio Reports.
- You Are Required to Report Unsafe Practices or Conditions That Can Harm You. Stop, Evaluate and Decide.
- You Are Required to Abandon Your Position and Retreat Before Deteriorating Conditions Can Harm You.
- Declare a May Day As Soon As You THINK You Are in Danger.

These rules of engagement are not without controversy. Rule #2 deals with a survival profile, also known as *survivability profiling*. What survivability profiling does is force the incident commander to not only determine if there are victims suspected or known to be trapped, but more importantly is there a reasonable assumption that they may still be alive.

One champion of survivability profiling is Stephen Marsar, a captain in the Fire Department of New York. Marsar (2010) defines survivability profiling as:

...the art of examining a situation and making an intelligent and informed decision based on known events, or circumstances, to determine if civilians can survive existing fire and smoke conditions and to determine whether to commit firefighters to life-saving and interior operations. (¶ 2)

Not everyone agreed that survivability profiling is right for the fire service. John Halbrock stated his disagreement this way, “I would rather rely on a skilled trained firefighter, who can employ initiative, rapid decision-making, and implementation of long practiced skills than write off a victim’s survivability without at least giving that person some benefit of doubt” (Halbrock,

2011).

Christopher Brennan continued the descent against survivability profiling by stating (Brennan, 2010):

I would say that while our objective must be to make the building behave and control the fire to create a relatively safe environment for our personnel, that in the face of a believable report of a trapped occupant that we must enter the building and search. That is why we are firefighters. (¶ 12)

Brennan went on to further challenge the survivability profile by adding “...our mission is to save lives and property. If you have a building that is still salvageable, or you have a stated victim in the building then we should be aggressively attacking the fire to save the victim and the property” (Brennan).

Up to this point the research was focused on preventing the MAYDAY. But what happens when the prevention failed us and we find ourselves in the MAYDAY situation. Having a MAYDAY plan or operating guideline and training on this plan is the key to surviving the MAYDAY. “Being ready for a MAYDAY (mentally and physically), self-rescue and self-survival training and methodologies are mission critical when engaging in structural firefighting operations” stated Christopher Naum (2011). Too often however, a MAYDAY procedure or plan is either not in place or not followed. The National Institute for Occupational Safety and Health (NIOSH) has identified the top five causal factors of firefighter deaths on the fireground as follows (Kastros, 2011):

1. Improper risk assessment (poor size-up).

2. Lack of incident command.
3. Lack of accountability.
4. Inadequate communications.
5. Lack of SOGs or failure to follow established SOGs.

Ironically, the first four factors should be incorporated into the fifth factor. It is this fifth factor then that this research is aimed at preventing. A complete standard operating guideline (SOG) incorporates everyone's job during a MAYDAY situation. The first factor is educating the firefighter on when to call the MAYDAY. A very simple rule for firefighters to follow when deciding to call a MAYDAY is: "... if you think you may be in trouble, you probably are in trouble and should initiate a MAYDAY" (DeStefano, 2011).

The IAFF Fire Ground Survival manual (IAFF Firefighters, 2010), contains the five trigger points for firefighters to call a MAYDAY. These trigger points are: lost or missing member, SCBA malfunction or large loss of air, member seriously injured or incapacitated, member trapped or entangled, or finally, any life threatening condition that cannot be resolved in 30 seconds.

When firefighters find themselves in one of these situations, a MAYDAY must then be called. Two things now need to happen. The first is that the firefighter that is in trouble must go into survival mode. Kevin Wilson (Wilson, 2011) provided firefighters with 12 tips for self survival:

- 1) Turn on all flashlights, if possible. Point them toward the ceiling to distribute light (spotlight effect), or turn them off and on (strobe light effect). Lie prone near a wall if unable to escape.

2) Try to get heard. Use your radio.

3) Activate all members' PASS alarms. The PASS alarm should be silenced only in the following circumstances:

- Temporarily turn it off when it interferes with radio or verbal communications.
- The RIT team will silence the PASS alarms to acknowledge your location.
- Intermittently silence the alarm when instructed by RIT or incident command because the alarm is interfering with operations—the noise is echoing in large rooms, for example.

4) Try tapping. The downed firefighters slowly tap three times as loudly as possible (SOS). RIT slowly taps two times as loudly as possible to search and/or acknowledge the location of the downed firefighters.

5) Attempt to find a wall you can breach, a window from which you can bail, or a door from which to exit. Inform Command of your location and status.

6) Find a hose (forward lay). If possible, locate a hose and follow it out, or drag the hose around to find a wall, a door, or a window for quicker escape (female coupling leads to the engine, male coupling leads to the nozzle). Inform the IC of your location and status. Slide down the hose, if appropriate.

7) If possible, breach the floor. If successful, use rope, hose, or webbing and a tool to descend to a safe refuge area. Inform Command of your location and status.

8) If possible, breach a wall to escape deteriorating conditions and enter a safe refuge area. Inform Command of your location and status.

9) If possible, use a rope bag and a tool, a piece of furniture, or close the door with rope in the jamb (as an anchor) to rappel out the window to a safe refuge area. Inform the IC of your location and status.

10) If possible, locate a window with a ladder (bail out feet or head first). Inform Command of your location and status.

11) If possible find a window, place one leg and one arm inside the window (as an anchor), and hang out the window over the sill. Inform Command of your location and status.

12) If possible, find a window, use your SCBA as an anchor in the lower corner of the window, and hang out the window. Inform Command of your location and status.

These tips should be practiced and committed to memory long before the firefighter finds them in a MAYDAY situation.

A common theme in the above tips is the procedure to inform command of your location and status. There are several mnemonics that can be used to help the firefighter help the incident commander initiate their rescue. Mnemonics such as **LUNAR**: (L-location, U-unit number, N-name, A-assignment, R-resources); **HELP**: (H-handle, E-equipment, L-location, P-problem); **LIP**: (L-location, I-individual(s), P-problem); or **CLAN**: (C-conditions, L-location, A-apparatus, N-name) must be ingrained in each firefighters' mind so that when they find themselves in that MAYDAY situation, it is second nature and can be recalled without hesitation or thought.

The final piece of a complete MAYDAY operating procedure is the incident commander's role in the MAYDAY. The IAFF's Fire Ground Survival manual (IAFF Firefighters, 2010) states there are three things that a firefighter expects from command when they call a MAYDAY:

- **Listening:** so the IC can hear the call for help.
- **Acting:** sending RIC quickly to locate and remove the distressed fire fighter.
- **Responding:** providing appropriate medical care to the distressed fire fighter.

The methods in which these responsibilities are carried out are described by Wilson (2011) in these eleven points:

- Acknowledge the MAYDAY.
- Clear the channel, and switch all other units to another frequency.
- Conduct LUNAR checklist (Location, Unit, Name, Air, Resources).
- Activate RIT to last known location.
- Assign other RIT.
- Inform dispatch of MAYDAY, and call for additional alarms.
- Assign a Rescue Group supervisor.
- Change fireground operations to benefit the downed firefighters.
- Conduct a roll call/PAR.
- Assign an aide for Command/IC.
- Consider risk vs. benefit of all fireground operations.

Each and every one of these points is a crucial step for the incident commander. Miss one and tragedy lurks.

In summary, this literature review reinforces the message that the fire service must continue to strive for zero firefighter deaths. In order to accomplish this, comprehensive training on situational awareness, firefighter safety and survival, and incident command training must take place prior to the emergency. If we continue to be reactive instead of proactive, we will continue to bury our own, and the battle cry *that everyone goes home* will continue to fall on deaf ears.

Procedures

The procedures used for this research paper consisted of developing four focused research questions: : a) What experience does the West Bend Fire Fighters have in calling or handling MAYDAY situations?, b) What are the current protocols/procedures and are they effective and utilized? (c) What changes should be made to the current protocols/procedures and/or training?, and d) What type of follow-up or evaluation could be used to ensure changes are effective? These four research questions then served as the basis for information gathering thorough questionnaires and literature review.

The research for this Applied Research Project (ARP) traced back to the Learning Resource Center (LRC) located on the grounds of the National Fire Academy (NFA) in May of 2011. Past Executive Fire Officer Applied Research Projects (ARPs), articles, documents, and trade journals were reviewed and studied over the following months. Numerous internet searches were conducted with follow up evaluations of the located materials. Reports from the fire department's record information system were used to generate reports as they pertained to the number of structure fires and injuries and deaths of both civilian and firefighters.

The first step in the process was developing the ARP proposal and obtaining approval from the assigned evaluator. This proposal contained the problem and purpose statements that this project would address. Also included in this proposal were the research questions that guided the project.

The first area of research focused on the experience West Bend firefighters have in calling for a MAYDAY. This research was conducted through an online survey emailed to the forty career firefighters. They were given three weeks to respond. The questionnaire entitled “Calling the MAYDAY” (Appendix A) contained the following questions pertaining to their MAYDAY experience:

5. Have you ever found yourself where you believed you were in a MAYDAY situation?

- Never
- 1-5 MAYDAY situations
- More than 5 MAYDAY situations

6. Of those MAYDAY situations listed in question #4, how many times did you Actually call the MAYDAY?

- I have never been in a MAYDAY situation
- Every-time I was in a MAYDAY situation
- Some of the times I was in a MAYDAY situation
- None of the times I was in a MAYDAY situation

7. Why did you not call the MAYDAY?

- Never been in a MAYDAY situation
- I have always called for the MAYDAY when in that situation
- My circumstances improved and I was no longer in a MAYDAY situation
- I believed I could get myself out of the MAYDAY situation

- Did not know how/when to call a MAYDAY
- Other, please specify

It also provided information on the firefighters' confidence in the Command Staff's ability to handle a MAYDAY call by asking the following question:

8. How well do you believe your department's command staff would handle a MAYDAY call?

Not very well	Not well	OK	Well	Very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

The second online questionnaire entitled “Command Staff MAYDAY” (Appendix B) was emailed to the chief, battalion chiefs, and acting battalion chiefs. These chiefs had two weeks to complete the questionnaire. This questionnaire dealt with the chief's experience and comfort level in taking command of the MAYDAY call by asking the three questions:

6. How well do you believe would command a MAYDAY call?

Not very well	Not well	OK	Well	Very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

7. Have you ever commanded a MAYDAY situation?

- Never
- 1-2 MAYDAY situations
- 3-4 MAYDAY situations
- More than 5 MAYDAY situations

8. Of those MAYDAY situations listed in question #7, how did your command of the MAYDAY go?

- I have never commanded MAYDAY situation
- MAYDAY was unsuccessful
- MAYDAY was successful but could have been handled better
- MAYDAY was successful and handled well

Data for the second research question, “*What are the current protocols and are they effective and utilized?*”, began with an in-house review of the current MAYDAY procedures available to the West Bend Fire Department. This included a review of the department’s current standard operating guideline, SOG 07-01, *Communications* (Appendix C). Additional guidelines reviewed were the Washington County Operational Guideline 001 *RIT Operations* (Appendix D), and the Washington County draft version of *MAYDAY Operations* (Appendix E). In-house training record reports were also compiled to determine the amount and frequency of MAYDAY training classes.

In addition, the two surveys referred to previously, “Calling the MAYDAY” (Appendix A) and “Command Staff MAYDAY” (Appendix B) were also used to determine if fire personnel thought they had too little, enough, or too much MAYDAY training. The general staff questionnaire included these training questions:

2. How well do you know your department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

3. How many times a year do you train on your department's MAYDAY protocol?

Don't train on it annually	1	2	3	4 or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How do you feel about MAYDAY training?

- Not enough MAYDAY training
- The right amount of MAYDAY training
- Too much MAYDAY training

The command staff questionnaire inquired about these training questions as they pertained to command's role in a MAYDAY situation:

3. How well do you know your department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

4. How well do you know your command role in the department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

5. How do you feel about "Commanding a MAYDAY" training?

- Not enough command MAYDAY training
- The right amount of command MAYDAY training
- Too much command MAYDAY training

The third area of research dealt with what changes should be made to the current guidelines and training. The questionnaire for both the general and command personnel solicited suggested improvements for both the training and/or the MAYDAY SOG:

9. In order to improve your department's MAYDAY response, what actions should be taken?

- MAYDAY response is good, no changes needed
- More MAYDAY training on current MAYDAY SOG
- New MAYDAY SOG needed
- New MAYDAY SOG needed AND more MAYDAY training

Question #10 on both surveys allowed the respondents the opportunity to type in comments or suggestions they might have had:

10. Please add any comments you have about the West Bend Fire Department's MAYDAY policy.

General firefighting and command experience was also gathered by the questionnaire. Question #1 from the *Calling the MAYDAY* questionnaire (Appendix A) and question #1 and question #2 from the *Commanding the MAYDAY* questionnaire (Appendix B) were asked but the data was not used in this research project.

In addition to the information gathered from the questionnaires that were completed by both the firefighters and command staff of the West Bend Fire Department, sample MAYDAY operating guidelines were obtained through internet searches. These guidelines were reviewed for best practices and successful implementation. Also, firefighter self survival tips and training courses materials were acquired using the internet as well as the Washington County Fire

Training Officer's Association and their related contacts.

The final research topic dealt with obtaining information to develop some type of follow-up or evaluation that could be used to ensure the department's MAYDAY guidelines are effective. Once again, the internet proved to be a valuable resource. Numerous searches such as *evaluating your MAYDAY* and *successful MAYDAYs* provided some concrete examples on how and why your MAYDAYs should be reviewed and critiqued. In addition, the *Firefighter Close Call* internet reporting system provided insight on what went right and what did not go right on numerous fire calls.

During the research and development of this research document, several assumptions were realized. The first major assumption was that all of the literature and articles that were reviewed and cited was unbiased, true, and factual. It was also assumed that the questionnaires that were sent out and completed by the career firefighters and command staff were based on the respondents being truthful to the best of their knowledge.

Limitations for this project were that not all of the career members of the West Bend Fire Department filled out the questionnaire. The second limitation that had to be considered was that the firefighter injury information in the fire department's in-house record keeping system contained incomplete and sometimes absent information. This data was considered too vague for this report and was not included. The final limitation is that the in-house record keeping system only dates back to 2005. Therefore training records could only be compiled from 2005 to the present.

Results

The ultimate purpose of this applied research project was to determine and correct deficiencies that exist in how West Bend Fire Department personnel request and respond to a MAYDAY call. The research used to complete that purpose yielded the following results.

To compile results for the first research question, *what experience do the West Bend Fire Fighters have in calling or handling MAYDAY situations*, an on-line questionnaire (Appendix A) was sent to all career members of the West Bend Fire Department. Thirty-two members out of the forty members, or 80%, responded to the questionnaire. All of the questions to this online questionnaire plus the results are located in Appendix F.

According to question 5, twenty-two firefighters have never found themselves to be in a MAYDAY situation. That indicates roughly two-thirds of the fire department have no experience in calling a MAYDAY. Ten respondents stated they have been in one to five MAYDAY situations. Of the ten respondents who found themselves in a MAYDAY situation, five did not call for the MAYDAY, one stated some of the times a MAYDAY was called, while three others stated they always called for the MAYDAY (question 6). The responses from those that did not call the MAYDAY or sometimes did not call the MAYDAY (question 7), were that three of them stated their circumstances improved, while two stated they believed they could get themselves out of the MAYDAY, one stated he was new to the job and had no MAYDAY experience, and one stated he was knocked out. Twenty-seven firefighters (question 8) also believe that the command staff would handle the MAYDAY ok (13), well (13), or very well (1). Five stated not very well (1) or not well (4).

To continue with determining what MAYDAY experience the members have, the second

online questionnaire, Command Staff MAYDAY (Appendix B) was emailed to the chief, battalion chiefs, and acting battalion chiefs to determine their command experience at a MAYDAY situation. Ten members out of the twelve members, or 83%, responded to the questionnaire. All of the questions to this online questionnaire plus the results are located in Appendix G.

Of the ten command staff respondents, eight stated they have never commanded a MAYDAY situation, while two stated they have commanded one or two MAYDAY situations (question 7). Those two stated that while the MAYDAY was successful, they believed it could have been handled better (question 8).

The next research question, *what are the current protocols and are they effective and utilized*, required a review of the current guidelines that are in place. Also explored was whether or not the members were knowledgeable in these guidelines. In the current Suggested Operating Guidelines (SOG) for the West Bend Fire Department there is no mention of the word MAYDAY. In SOG 07-01, *Communications* (Appendix C), there is a section on emergency traffic. It states:

- 1.14 Emergency Traffic. The term “emergency traffic” will be used by any unit encountering an immediately perilous situation and will receive the highest communications priority from the Dispatcher Center, Command and all other units. Units may initiate Emergency Traffic by contacting the Dispatcher Center.
(p.6)

The only other guideline that was located is the Washington County draft version of *MAYDAY Operations* (Appendix E). This draft guideline was crafted by the Washington County Fire

Training Officer's Association and is awaiting approval from the Washington County Fire Chief's Association. Once this approval from the chiefs' association is gained, it will be presented to each county fire department for training and implementation.

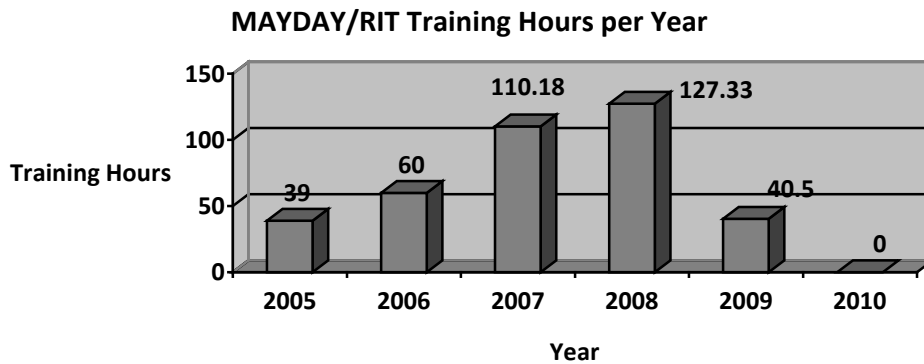
For the second part of this research question, *are they effective and utilized*, the questionnaire (Appendix F) was used to determine if the current protocols were being used during training and if needed would the members be able to utilize the department's MAYDAY procedure. According to question 2, fifteen of those responding stated they know the MAYDAY policy a little, while ten stated they knew it, and four stated they knew it well. In addition, three stated they don't know it. Question 3 asked how often do you train on MAYDAY procedures, nine respondents stated not annually, twenty stated annually, and three stated twice annually. To conclude the training questions, question 4 asked how members feel about MAYDAY training. Thirty stated not enough MAYDAY training and two stated the right amount.

On the command side of the MAYDAY procedure the questionnaire (Appendix G) produced the following results. On the subject of how well does the command staff know the MAYDAY policy (question 3); two know it a little, five know it, four know it well, and one knows it very well. The next question (question 4), asked how well do you know command's role in the MAYDAY policy. Two stated they know it a little, six know it well, and three know it very well. Question 5 dealt with how command staff felt about MAYDAY training. All ten respondents stated the department does not train enough on MAYDAY.

Internal record keeping was examined as the final piece of this research question. Unfortunately, no data has been kept on when MAYDAYs have been called. Fire critiques have taken place after all structure fires, but no notes from these critiques are taken and therefore not

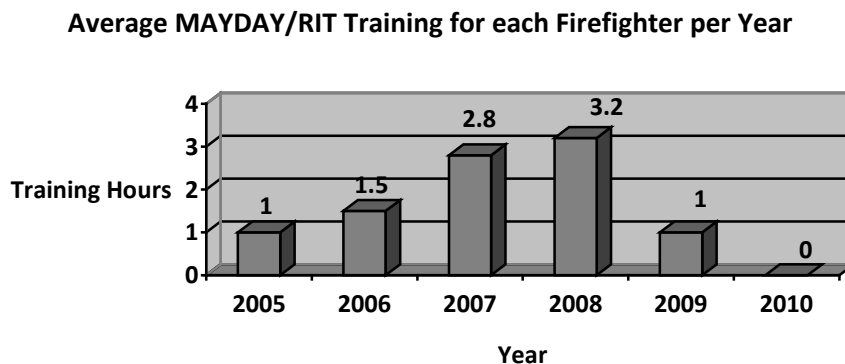
published. Research of the MAYDAY training records indicated that there is not a training category for MAYDAY training. According to training notes, rapid intervention team (RIT) training is used as the MAYDAY training. The total hours of RIT training per year breaks down like this:

Figure 3



In order to get a better understanding of how much MAYDAY training each career firefighter receives on an annual basis, the total number of RIT training hours from the above chart is averaged for each of the forty career members of the department.

Figure 4



The third research question dealt with what changes should be made to the current protocols and/or training. Again the general questionnaire (Appendix A) and the command staff questionnaire (Appendix B) were utilized. The questionnaires asked what actions should be taken to improve the departments MAYDAY response. The respondents to the general MAYDAY question 9 revealed that two stated no changes were needed, twenty-four would like more training on current SOG, one would like a new SOG, and five stated more SOG training and a new SOG. On the command side of the questionnaire (Appendix G), nine stated more training on current SOG, and one replied new SOG and more command training.

Both questionnaires did allow the respondents to add comments that they had about the West Bend Fire Department's MAYDAY policy. Here are the results:

- We need more training and better radios.
- The MAYDAY SOG should be the same as the County MAYDAY SOG.
- I believe that there is some confusion in the department ranks due to the recent changeover in the radio system and the new MABAS procedures. A thorough review of the SOG and some hands on or tabletop training would be greatly appreciated.
- Same as everything else - too bogged down with day to day stuff and not enough staffing to train on all the things we need training on. Not enough emphasis on training from staff and fellow firefighters. Not enough enthusiasm from entire department for training unless it's play time.
- Haven't had cause to use it, but I feel it would work as planned. I do believe more

training is required for increased confidence.

- The problem that I see happening is with our radio communications.
- We should probably retrain on it since we have new radios and relatively new MABAS procedures and there may be confusion regarding which frequency to use.
- The policy is fine. It is the radio system that I worry about.
- MAYDAY SOG is standard however more issues are with the radio system.
- I believe the department's current MAYDAY policy works well, and as a firefighter I feel safe. However, if new information is available for a better/safer system, we should investigate it.
- MAYDAY needs to be re addressed since the new radio system has been put in service which should have been done prior to it going in service.
- Policy is good training is par.
- Currently working on County wide policy with training to be scheduled.
- I think that we as firefighters get complacent in thinking that we will never have to use a MAYDAY call. Any training that you do on MAYDAY situations is beneficial whether you like it or not.

The command questionnaire yielded the following comments:

- My role is to help establish the policy and provide resources required for training

and implementation.

- Need to get a county wide policy and incorporate new radios into the protocol.
- Unsure of my/our ability to properly coordinate a multi-jurisdictional or multi departmental MAYDAY action in light of the MABAS program.
- High Priority, High Risk, extremely low incidence, SOG can be standardized but, very situational, dependant on many factors as to response.
- I feel more training would be very helpful. Once a year should be minimum.

The last aspect of third research question was to review guidelines that pertained to the MAYDAY call. Review of the NFPA 1561, (National Fire Protection Association, 2008), revealed 15 actions that should take place once a MAYDAY is called:

1. Immediately request additional alarms.
2. Assign an ambulance company to the operations (ALS or BLS).
3. Implement level 2 staging.
4. Commit the RIT.
5. Change the plan to a high priority rescue effort.
6. Initiate fireground accountability (PAR).
7. Withdraw companies from unstable areas.
8. Assign a chief officer to the rescue sector.

9. Assign a safety officer to the rescue efforts.
10. Assign a back up RIT.
11. Expand the command organization.
12. Request technical rescue team / special equipment.
13. Monitor all incident radio channels.
14. Open/unlock all doors if appropriate.
15. Ventilate, maintain tenability/lighting.

The final research question, *what type of follow-up or evaluation could be used to ensure changes are effective*, was answered through an internet search. The best way to follow-up on what went right and what did not is to perform a post incident critique. A valuable handbook on critiques is available from the United States Fire Administration (United States Fire Administration, 2008). Included in this report is the need for critiques as well as sample policy and procedures. These post incident critiques provide an essential tool for the evaluation of a MAYDAY call. In addition, notes from these proceedings can be filed and used for future references.

Discussion

The inspiration for this research project was the result of the author reading too many National Institute for Occupational Safety and Health (NIOSH) reports on firefighter deaths. Although the number of line of duty deaths has dropped from one hundred twenty in 2008, to eighty seven in 2010 (United States Fire Administration, 2011) we as a fire service must not

stand pat. Too often these NIOSH reports stated that the MAYDAY call was not heard or not acted upon. This cannot continue to happen. MAYDAY procedures must be practiced and committed to memory so that every firefighter that enters a burning building is protected against the unthinkable.

According to the International Association of Firefighters (IAFF Firefighters, 2010), the key to any MAYDAY is the prevention of the MAYDAY. This goes back to the old saying that *an ounce of prevention is worth a pound of cure*. Situational awareness, proper size up, air management, and physical fitness are all keys in the prevention stage. The first one, situational awareness, can be broken down into three components (Ballam, 2011): clues and cues, comprehension, and projecting. Clues and cues are items such as changes in smoke conditions, water supply situations, collapse dangers, and exposure. Comprehension is the understanding of these clues and cues and what they mean to both the firefighters and commanders. And finally we must take this information and use it to project or predict the future. These are lessons that must be taught in the class room and experienced on the streets. West Bend is no different. Without a concrete training plan we lack the well trained and experienced firefighter that can take those signs and comprehend the dangers that are present, as well as predict what lies ahead.

Probably one of the most controversial aspects of the MAYDAY prevention is the risk assessment. Hill (2011) stated there are three key factors in a risk analysis: risk a lot to save a lot, risk a little to save a little, and risk nothing to save nothing. Seems pretty simple, however, this topic has huge controversy. Unfortunately, we have no hard and fast rules for defining terms like *a lot of risk or save a little*.

Marsar (2010) is a champion of survivability profiling. He basically states that if fire

conditions are not conducive to sustaining life, no interior attack should be made until fire conditions are safe for firefighter entry. Here is where the dissenters take issue by stating, “I would rather rely on a skilled trained firefighter, who can employ initiative, rapid decision-making, and implementation of long practiced skills than write off a victim’s survivability without at least giving that person some benefit of doubt” (Halbrock, 2011). Other such as Brennan (2010) went on to say, “...that in the face of a believable report of a trapped occupant that we must enter the building and search. That is why we are firefighters.” While there are no easy answers for such a critical step in the prevention of a MAYDAY, continuing the path of little training with inadequate MAYDAY operating guidelines will only increase the risk to our firefighters.

If the MAYDAY prevention has failed and the firefighter is in a perilous situation, everyone involved must be ready to act. These actions must be based on a sound MAYDAY procedure that has been memorized and trained on. Too often however, a MAYDAY procedure or plan is either not in place or not followed. Kastros (2011) has identified the top five causal factors of firefighter deaths on the fireground according to NIOSH:

1. Improper risk assessment (poor size-up).
2. Lack of incident command.
3. Lack of accountability.
4. Inadequate communications.
5. Lack of SOGs or failure to follow established SOGs.

Number 5 on this list is crucial, and the internal data revealed that no such policy exist in the West Bend Fire Department. Just one paragraph buried in the West Bend Fire Department’s Communications SOG 07-01 (Appendix C) deals with a firefighter asking for emergency traffic.

Without a comprehensive MAYDAY SOG that covers the first four, the West Bend Fire Department is set up for failure.

With or without a MAYDAY policy in place, the first part of a MAYDAY is up to the firefighter. The firefighter needs to call the MAYDAY. The IAFF's Fire Ground Survival Manual (2010) lists five MAYDAY trigger points: lost or missing member, SCBA malfunction or large loss of air, member seriously injured or incapacitated, member trapped or entangled, or finally, any life threatening condition that cannot be resolved in 30 seconds. DeStefano (2011) made it even simpler when he stated "... if you think you may be in trouble, you probably are in trouble and should initiate a MAYDAY". This is not the case in West Bend. Unfortunately, the internal department questionnaire on calling a MAYDAY revealed that out of the ten department members who found themselves in a MAYDAY situation, five did not call for the MAYDAY (Appendix F).

Once a MAYDAY is called, the next few minutes are crucial. The downed or trap firefighter must now take life saving steps. Wilson (2011) developed twelve steps for survival that must be committed to memory if the downed firefighter has any chance to survive. One of the first steps is contacting command with critical information. Numerous mnemonics can assist our firefighters in remembering what information must be relayed to command. Mnemonics such as **LUNAR**: (L-location, U-unit number, N-name, A-assignment, R-resources); **HELP**: (H-handle, E-equipment, L-location, P-problem); **LIP**: (L-location, I-individual(s), P-problem); or **CLAN**: (C-conditions, L-location, A-apparatus, N-name) must be ingrained in each of West Bend's firefighters' mind so that it is second nature and can be recalled without hesitation or thought. This comes with training. Internal record keeping indicated that this training is very sporadic in the West Bend Fire Department. Four out of the last six years, each career member of

the department averaged 1.5 hours or fewer hours annually. This includes 2010 when there was no MAYDAY training at all. The remaining two years consisted of 2.8 and 3.2 hours annually. This is far too few training hours for such a crucial topic.

Command's role in a MAYDAY is vital. Listening, acting, and responding are the key components of commanding the MAYDAY (IAFF Firefighters, 2010). Wilson expanded on the components when he described the fire commander's eleven points of responsibility. Each and every one of these points contains crucial elements that are necessary to ensure that a MAYDAY situation will not end in tragedy. Nine of West Bend's command staff stated they knew their role well or very well, while 2 stated they only knew it a little. Knowing your role a little is not acceptable when lives of firefighters are on the line.

In conclusion, our department has been fortunate to not have any line of duty deaths in this author's twenty plus years on the job. However, what is troubling is that while the West Bend Fire Department has no formal MAYDAY policy in place, 43% of the questionnaire's respondents stated they know the policy well or very well. MAYDAY policy and training must be in place and must not be left to chance. The department as a whole must take advantage of the fact that 91% of the members believe the department needs more MAYDAY training. Training that one day may save their life.

Recommendations

Every year firefighters die performing the tasks they were trained to do. Some die driving apparatus to or from a call, some die while traveling to the station. Many die from medical problems or illnesses. Still others die on the fire ground, fighting the fire or searching for victims. Far too many lives are lost. Something must be done, and done now.

This research paper set out to determine and correct deficiencies that exist in how West Bend Fire Department personnel request and respond to a MAYDAY call. The research revealed so much more. The West Bend Fire Department has very little experience in calling or handling the MAYDAY. Some of that is due to that fact we don't call a MAYDAY when we should or we lack the training on how to carry out a MAYDAY call. We lack a comprehensive MAYDAY procedure and concrete training to reinforce that procedure. All these deficiencies must be corrected and corrected now. With this in mind, the author makes the following recommendations:

- 1) Push for the Washington County MAYDAY Procedure (Appendix E) to be approved by the Washington County Fire Chief's Association and implemented.*

With no comprehensive MAYDAY procedure in place, the West Bend Fire Department must apply pressure for this document to be implemented. It contains many of the crucial parts that experts believe need to be addressed. Items such as when to call for a MAYDAY, what information should be relayed to command, and what to do while waiting for your rescue are all included in this guideline. In addition, command's response and NFPA 1516 recommended actions for responder rescue are also listed.

- 2) Comprehensive and in-depth training on the new Washington County MAYDAY Procedure (Appendix E).*

Training must take place on this new procedure. In the beginning, annual training will not be enough. This procedure contains too much information to be covered in one class. The instruction should be broken down into several components. Table top exercises can be utilized to get all personnel familiar with the new procedure. Various buildings should be acquired

whenever possible to be used for the practical training. All personnel should learn both the firefighter side of the MAYDAY as well as the command side of the MAYDAY. This will ensure that both sides realize what can be expected of the other.

3) *All personnel should complete the IAFF Fire Ground Survival Awareness Course.*

This is an all inclusive course and is available on line though the International Association of Firefighters web site. An in-depth look at Preventing the MAYDAY, Being Ready for the MAYDAY, Self-Survival Procedures, Self-Survival Skills, and Fire Fighter Expectations of Command would provide each firefighter, no matter what rank or skill level, the tools needed to survive a MAYDAY call. Since this is an online course, firefighters would be able to complete this course on their own. Competency testing would then be conducted during monthly station drills.

4) *Implement a formal fire critique procedure.*

The West Bend Fire Department should implement the procedures for a formal fire critique as outlined in the United States Fire Administration report entitled Special Report: The After-Action Critique: Training Through Lessons Learned. Although the department currently does perform after incident fire critiques, the loose nature and lack of formal record keeping prevents these from becoming sound training tools. Proper documentation would allow for other shifts to learn from the actions that took place during that incident.

These recommendations are made with one thing in mind, bringing everyone home safe. It is the responsibility of each and every one of us to make sure that this happens. We must leave nothing to chance. We must provide our firefighters and command staff with all the tools and training possible to prevent tragic line of duty deaths.

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Appendix A

Calling the MAYDAY Questionnaire

1. How long have you been in the fire service?

- Less than 1 year
- 1 - 9 years
- 10 - 19 years
- 20 + years

2. How well do you know your department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

3. How many times a year do you train on your department's MAYDAY protocol?

Don't train on it annually	1	2	3	4 or more
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. How do you feel about MAYDAY training?

- Not enough MAYDAY training
- The right amount of MAYDAY training
- Too much MAYDAY training

5. Have you ever found yourself where you believed you were in a MAYDAY situation?

- Never
- 1-5 MAYDAY situations
- More than 5 MAYDAY situations

6. Of those MAYDAY situations listed in question #4, how many times did you actually call the MAYDAY?

- I have never been in a MAYDAY situation
- Every-time I was in a MAYDAY situation
- Some of the times I was in a MAYDAY situation
- None of the times I was in a MAYDAY situation

7. Why did you not call the MAYDAY?

- Never been in a MAYDAY situation
- I have always called for the MAYDAY when in that situation
- My circumstances improved and I was no longer in a MAYDAY situation
- I believed I could get myself out of the MAYDAY situation
- Did not know how/when to call a MAYDAY
- Other, please specify

8. How well do you believe your department's command staff would handle a MAYDAY call?

Not very well	Not well	OK	Well	Very well
<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

9. In order to improve your department's MAYDAY response, what actions should be taken?

- MAYDAY response is good, no changes needed
- More MAYDAY training on current MAYDAY SOG
- New MAYDAY SOG needed
- New MAYDAY SOG needed AND more MAYDAY training

10. Please add any comments you have about the West Bend Fire Department's MAYDAY policy.

Appendix B

Command Staff MAYDAY Questionnaire

1. What is your command position within the WBFD?

- Chief
- Battalion Chief
- Acting Battalion Chief
- Other, please specify

2. How long have you been in a command position (Chief, Battalion Chief, Acting Battalion Chief)?

- Less than 1 year
- 1 - 9 years
- 10 - 19 years
- 20 + years

3. How well do you know your department's MAYDAY policy?

- | | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Don't know it | Know it a little | Know it | Know it well | Know it very well |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

4. How well do you know your command role in the department's MAYDAY policy?

- | | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Don't know it | Know it a little | Know it | Know it well | Know it very well |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

5. How do you feel about "Commanding a MAYDAY" training?

- Not enough command MAYDAY training
- The right amount of command MAYDAY training
- Too much command MAYDAY training

6. How well do you believe would command a MAYDAY call?

- | | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Not very well | Not well | OK | Well | Very well |
| <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 |

7. Have you ever commanded a MAYDAY situation?

- Never
- 1-2 MAYDAY situations
- 3-4 MAYDAY situations
- More than 5 MAYDAY situations

8. Of those MAYDAY situations listed in question #7, how did your command of the MAYDAY go?

- I have never commanded MAYDAY situation
- MAYDAY was unsuccessful
- MAYDAY was successful but could have been handled better
- MAYDAY was successful and handled well

9. In order to improve your command at a MAYDAY response, what actions should be taken?

- Command of a MAYDAY is good, no changes needed
- More MAYDAY Command training on current MAYDAY SOG
- New MAYDAY SOG needed
- New MAYDAY SOG needed AND more Command MAYDAY training

10. Please add any comments you have about your command role in the West Bend Fire Department's MAYDAY policy.

Appendix C

WEST BEND FIRE DEPARTMENT SUGGESTED OPERATING GUIDELINES

Chapter: Response Guidelines
 Section: 07 Subsection: 01
 Subject: Communications

Date: 10/15/96
 Page 51 of 8
 Revised Date: 03/27/2011

- 1.14 Emergency Traffic. The term “emergency traffic” will be used by any unit encountering an immediately perilous situation and will receive the highest communications priority from the Dispatcher Center, Command and all other units. Units may initiate Emergency Traffic by contacting the Dispatcher Center.

Example:

“West Bend Engine One with emergency traffic”

The Unit will transmit their message.

Command will repeat the message one time

THE RADIO FREQUENCY ABSOLUTELY BELONGS TO ANY UNIT GIVING THE “EMERGENCY TRAFFIC” CALL

1.15 Radio Code

- A. Plain language will be used during radio communications
- B. Commonly used plain language terms
 - 1. Acknowledge page
 - 2. Enroute
 - 3. On scene
 - 4. All clear
 - 5. Under control
 - 6. Loss stopped
 - 7. Returning to station
 - 8. Available

1.16 Radio Procedures

- A. Short - Specific. Before transmitting know what you are going to say; don’t make it up as you go along. Choose precise terms to communicate the desired message as clearly and briefly as possible without wasting airtime.

Appendix D

WASHINGTON COUNTY FIRE DEPARTMENTS

OPERATIONAL GUIDELINES	SOG NUMBER: WC.001	FIRE ACCREDITATION NUMBER:
SUBJECT:	EFFECTIVE DATE:	DISTRIBUTION:
Rapid Intervention Team	March 25, 2004	ALL WASHINGTON COUNTY FIRE DEPARTMENTS
	LAST REVISION DATE:	
	None	

I. SCOPE:

The scope of this policy is to protect department members in case of a structural collapse or other life-threatening incident.

II. PURPOSE:

The purpose of the Rapid Intervention Team (R.I.T.) is to provide rapid rescue for structural firefighting crews operating at an emergency scene. The Incident Commander (I.C.) is responsible for establishing the R.I.T. Team during the first alarm assignment of every structural incident. The R.I.T. Team shall stay as a team until such time as the I.C. releases them from their assignment.

III. TERMINOLOGY:

I.C. – Incident Commander

R.I.T. – Rapid Intervention Teams

P.A.R. – Personnel Accountability Report

MAYDAY – A priority radio message that has absolute priority. All radio traffic must cease until the priority transmission has been given and acknowledged.

IV. POLICY:

The R.I.T. Team shall consist of one (1) officer and three (3) firefighters. The officer is responsible for assembling the minimal equipment required. A company assigned to the R.I.T. Team must report to the I.C. with the minimal equipments listed below. The R.I.T. Team cannot be used to relieve another crew unless a replacement team (R.I.T.) has been established. The tools and water supply needed by the R.I.T. Team is dependent on location, conditions, extent and involvement of the incident. **The R.I.T. officer will constantly evaluate conditions and monitor all radio communications.**

Minimal Equipment:

1 Officer (Team Leader), 3 firefighters	Hose line
S.C.B.A./face-piece (each member).	Spare air bottle (2216 psi.)
S.C.B.A. – complete with face piece or RIT bag	Rope 100 ft. minimum
Irons (flat head axe/Halligan tool)	Hand lights
Thermal Image Camera (if available)	Stokes Basket (if available)
Orange Tarp (tool placement)	2 Portable radios

Based on a size up by the R.I.T. officer, other equipment needed may be, but not limited to, folding ladder, saws, spanner belt, or any additional equipment needed and preplan of the building if available.

If the I.C. or a Sector Officer receives a “MAYDAY” message from a firefighter(s), or loses radio contact with a crew, the I.C. will immediately request a P.A.R. of all crews operating on the fire ground. If a crew cannot be contacted they are to be considered “lost”. Command will:

1. Send the R.I.T. to the last known location of the missing firefighter(s).
2. Request “MAYDAY” and broadcast that firefighter(s) is/are missing. Every effort shall be made to locate and remove the missing member(s).

Fire ground priorities will shift to locating and removing the lost firefighter(s). Firefighting operations that are controlling the fire shall not be compromised.

By order of:

WCFCFA President/Date

WCFTOA President/Date

Appendix E

WASHINGTON COUNTY FIRE DEPARTMENTS

OPERATIONAL GUIDELINES	SOG NUMBER:	FIRE ACCREDITATION NUMBER:
SUBJECT:	EFFECTIVE DATE:	DISTRIBUTION:
Mayday Operations	LAST REVISION DATE:	ALL WASHINGTON COUNTY FIRE DEPARTMENTS
	None	

I. SCOPE:

The scope of this policy is to assist the Incident Commander initiate “MAYDAY” operations in the event of a report of a lost or trapped firefighter.

II. PURPOSE:

The purpose of the MAYDAY SOG is to provide the framework for lost or trapped fire companies or individual firefighters to call for a “MAYDAY”, the information required in the MAYDAY and actions to take while waiting for the R.I.T. What actions are required for the Incident Commander (I.C.) to designate a Rescue Sector including a Command Officer in charge of Rapid Intervention Team (R.I.T.) operations, assign radio frequencies for the Rescue Sector, and the continuing fireground operations. Call for additional resources necessary for effective rescue operations.

III. TERMINOLOGY:

I.C. – Incident Commander
 R.I.T. – Rapid Intervention Teams
 P.A.R. – Personnel Accountability Report
 MAYDAY – A priority radio message that has absolute priority. All radio traffic must cease until the priority transmission has been given and acknowledged.

IV. POLICY:

LOST OR TRAPPED FIRE FIGHTERS ACTIONS

Individual fire fighters must not delay reporting to Command if they become lost, trapped or in need of assistance.

Company officers must also not delay the reporting of lost fire fighters or inability to complete accountability reports.

MAY-DAY RADIO MESSAGE

The term MAYDAY will be reserved ONLY to report lost or trapped fire fighters.
Any member may use MAYDAY to report a lost or trapped fire fighter
Any report of MAYDAY will receive priority radio traffic followed by the emergency traffic tone.
The term emergency traffic will be used to report other emergencies.
To initiate a MAYDAY, the radio message; MAYDAY, MAYDAY, MAYDAY, will be used:

MAYDAY Information:

Who are you?

Name, Unit Number (Fire Department and apparatus assignment)

Where are you?

Floor; Sector

What was your last assignment?

Roof Ventilation; Interior Attack

What is the problem?

Trapped, Lost, Low Air

Waiting for RIT:

The firefighter (crew) will activate their PASS devices – maximize sound
Turn on their flashlight – wave to attract attention, shine on ceiling/floors
Use a tool to make tapping sounds on air tanks or floor or walls
Conserve air supply;
Move to a horizontal position
Eliminate unnecessary talking & physical activity

COMMAND RESPONSE TO A MISSING FIRE FIGHTER

Do not abandon fire fighting positions
Provide reinforcements

INITIATE A RESCUE SECTOR or BRANCH FOR RIT OPERATIONS

(Must be accomplished very rapidly)

Rescue Operations will remain on the current Fireground Frequency (eg MABAS Red)
Fireground Operations will move to another designated frequency (eg MABAS White)

Numbers in parenthesis refer to actions recommended for responder rescue operations from NFPA 1561 (A.5.1.6)

Commit the RIT	(4)
Change the plan to a high priority rescue effort	(5)
Initiate fireground accountability (PAR)	(6)
Immediately request additional alarms	(1)

CALL FOR NEXT LEVEL MABAS BOX

- Expand the Command Organization (12)
- Assign a Chief Officer to the Rescue Sector (8)
- Assign a Safety Sector to the rescue efforts (9)
- Assign an ambulance company to the operations (ALS or BLS) (11) (2)

- Implement Level 2 Staging (3)

RESCUE SECTOR CHIEF ACTIONS

- Coordinate and control the search efforts
 - Assign a back-up RIT (10)
 - Open / unlock all doors if appropriate (15)
 - Ventilate, maintain tenability / lighting (16 & 17)
 - Monitor structural stability of the building
 - Withdraw companies from unstable areas (affected areas) (7)
 - Request Technical Rescue Teams / Special Equipment (if necessary) (13)
 - Monitor all incident active radio channels (14)

CANCELING THE MAYDAY

Only the IC can Cancel a MAYDAY

Must have a complete PAR
Rescue Sector Chief must validate the PAR and recommend Canceling the MAYDAY

By order of:

WCFCA President/Date

WCFTOA President/Date

Appendix F

Results (in parentheses) for
Calling the MAYDAY Questionnaire

1. How long have you been in the fire service?

- Less than 1 year (0)
- 1 - 9 years (2)
- 10 - 19 years (14)
- 20 + years (16)

2. How well do you know your department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input checked="" type="checkbox"/> 1 (3)	<input type="checkbox"/> 2 (15)	<input type="checkbox"/> 3 (10)	<input type="checkbox"/> 4 (4)	<input type="checkbox"/> 5 (0)

3. How many times a year do you train on your department's MAYDAY protocol?

Don't train on it annually	1	2	3	4 or more
<input type="checkbox"/> (9)	<input type="checkbox"/> (20)	<input type="checkbox"/> (3)	<input type="checkbox"/> (0)	<input type="checkbox"/> (0)

4. How do you feel about MAYDAY training?

- Not enough MAYDAY training (30)
- The right amount of MAYDAY training (2)
- Too much MAYDAY training (0)

5. Have you ever found yourself where you believed you were in a MAYDAY situation?

- Never (22)
- 1-5 MAYDAY situations (10)
- More than 5 MAYDAY situations (0)

6. Of those MAYDAY situations listed in question #4, how many times did you actually call the MAYDAY?

- I have never been in a MAYDAY situation (23)
- Every-time I was in a MAYDAY situation (3)
- Some of the times I was in a MAYDAY situation (1)
- None of the times I was in a MAYDAY situation (5)

7. Why did you not call the MAYDAY?

- Never been in a MAYDAY situation (23)
- I have always called for the MAYDAY when in that situation (2)
- My circumstances improved and I was no longer in a MAYDAY situation (3)
- I believed I could get myself out of the MAYDAY situation (2)
- Did not know how/when to call a MAYDAY (0)
- Other, please specify (2)

8. How well do you believe your department's command staff would handle a MAYDAY call?

Not very well	Not well	OK	Well	Very well
<input type="checkbox"/> 1 (1)	<input type="checkbox"/> 2 (4)	<input type="checkbox"/> 3 (13)	<input type="checkbox"/> 4 (13)	<input type="checkbox"/> 5 (1)

9. In order to improve your department's MAYDAY response, what actions should be taken?

- MAYDAY response is good, no changes needed (2)
- More MAYDAY training on current MAYDAY SOG (24)
- New MAYDAY SOG needed (1)
- New MAYDAY SOG needed AND more MAYDAY training (5)

10. Please add any comments you have about the West Bend Fire Department's MAYDAY policy.

#	Response
1	We need more training and better radios
2	The MAYDAY SOG should be the same as the County MAYDAY SOG
3	I believe that there is some confusion in the department ranks due to the recent changeover in the radio system and the new MABAS procedures. A thorough review of the SOG and some hands on or tabletop training would be greatly appreciated.
4	Same as everything else - too bogged down with day to day stuff and not enough staffing to train on all the things we need training on. Not enough emphasis on training from staff and fellow firefighters. Not enough enthusiasm from entire department for training unless it's play time.
5	Haven't had cause to use it, but I feel it would work as planned. I do believe more training is required for increased confidence.
6	The problem that I see happening is with our radio communications.
7	We should probably retrain on it since we have new radios and relatively new MABAS procedures and there may be confusion regarding which frequency to use.
8	The policy is fine. It is the radio system that I worry about.
9	MAYDAY SOG is standard however more issues are with the radio system.
10	I believe the department's current MAYDAY policy works well, and as a firefighter I feel safe. However, if new information is available for a better/safer system, we should investigate it.
11	MAYDAY needs to be re addressed since the new radio system has been put in service which should have been done prior to it going in service.
12	Policy is good training is par.
13	Currently working on County wide policy with training to be scheduled.
14	I think that we as firefighters get complacent in thinking that we will never have to use a MAYDAY call. Any training that you do on MAYDAY situations is beneficial whether you like it or not.

Appendix G

Results (in parentheses) for
Command Staff MAYDAY Questionnaire

1. What is your command position within the WBFD?

- Chief (1)
- Battalion Chief (3)
- Acting Battalion Chief (5)
- Other, please specify (1 –safety officer)

2. How long have you been in a command position (Chief, Battalion Chief, Acting Battalion Chief)?

- Less than 1 year (0)
- 1 - 9 years (5)
- 10 - 19 years (5)
- 20 + years (0)

3. How well do you know your department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1 (0)	<input type="checkbox"/> 2 (2)	<input type="checkbox"/> 3 (5)	<input type="checkbox"/> 4 (2)	<input type="checkbox"/> 5 (1)

4. How well do you know your command role in the department's MAYDAY policy?

Don't know it	Know it a little	Know it	Know it well	Know it very well
<input type="checkbox"/> 1 (0)	<input type="checkbox"/> 2 (1)	<input type="checkbox"/> 3 (6)	<input type="checkbox"/> 4 (3)	<input type="checkbox"/> 5 (0)

5. How do you feel about "Commanding a MAYDAY" training?

- Not enough command MAYDAY training (10)

- The right amount of command MAYDAY training (0)
- Too much command MAYDAY training (0)

6. How well do you believe would command a MAYDAY call?

Not very well	Not well	OK	Well	Very well
<input type="checkbox"/> 1 (0)	<input type="checkbox"/> 2 (1)	<input type="checkbox"/> 3 (6)	<input type="checkbox"/> 4 (2)	<input type="checkbox"/> 5 (1)

7. Have you ever commanded a MAYDAY situation?

- Never (8)
- 1-2 MAYDAY situations (2)
- 3-4 MAYDAY situations (0)
- More than 5 MAYDAY situations (0)

8. Of those MAYDAY situations listed in question #7, how did your command of the MAYDAY go?

- I have never commanded MAYDAY situation (8)
- MAYDAY was unsuccessful (0)
- MAYDAY was successful but could have been handled better (2)
- MAYDAY was successful and handled well (0)

9. In order to improve your command at a MAYDAY response, what actions should be taken?

- Command of a MAYDAY is good, no changes needed (0)
- More MAYDAY Command training on current MAYDAY SOG (9)
- New MAYDAY SOG needed (0)
- New MAYDAY SOG needed AND more Command MAYDAY training (1)

10. Please add any comments you have about your command role in the West Bend Fire Department's MAYDAY policy.

#	Response
1	My role is to help establish the policy and provide resources required for training and implementation.
2	Need to get a county wide policy and incorporate new radios into the protocol
3	Unsure of my/our ability to properly coordinate a multi-jurisdictional or multi departmental MAYDAY action in light of the MABAS program

4	High Priority, High Risk, extremely low incidence, SOG can be standardized but, very situational, dependant on many factors as to response.
5	I feel more training would be very helpful. Once a year should be minimum.