Montgomery County Fire and Rescue Service
Montgomery County, Maryland

Post-Incident Analysis
Duplex Fire with Multiple Maydays
12012 Claridge Road
July 19, 2007

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Post-Incident Analysis—Claridge Road Fire

EXECUTIVE SUMMARY

On July 19, 2007 three firefighters from two different units sustained multiple injuries after falling through burned-out stairs while working at a duplex fire on Claridge Road. Victim #1 and Victim #2 were assigned to the first due tower company. Victim #3 was the small linesman on the first due engine. During the dispatch on the fire ground talk-group, the Emergency Communications Center reported that all occupants were out of the house. The first due engine and tower companies arrived simultaneously. The engine officer reported smoke showing from a two story single family dwelling and established command in the "attack mode." Within minutes a resident to the rear of the house advised the second due tower company that her "baby" was still upstairs. The second due tower officer reported this over the fire ground talk-group. The first due tower officer, familiar with the structure's lay-out, immediately proceeded to the stairs leading up. The officer of the unit, Victim #1, made about three steps up when the stairs began to give way. He could not hold on to the banister for long and fell into the basement. Victim #2 and Victim #3 fell into the same breach in the stairs. The officer of the first due engine sounded a Mayday on the fire ground talk-group, while Victim #1 attempted to call a Mayday on an unassigned talk-group. Crews operating on the scene were able to quickly access, assess, and extract the three firefighters from the basement. All three firefighters were transported to the burn center for treatment. All searches proved negative; there was no baby upstairs. Victim #1 remained hospitalized for an extended period of time. Two civilians were also transported to local hospitals for evaluations.

The authors of this Post-Incident Analysis applaud the quick calling of the Mayday by both E181's officer and AT18's officer. The fact that these two firefighters called a Mayday, combined with the lack of vocalized doubt among field personnel as to whether or not that was necessary, is evidence of a positive shift in attitudes. There should be a culture in this fire service where firefighters can call a Mayday without hesitation, and where they never get harassed, taunted or discouraged from doing so. What happened after this Mayday is the lesser problem. The fact that the Mayday was called in the first place is both commendable and encouraging.

The authors of this Post-Incident Analysis concluded that, to minimize the risk of similar occurrences, the Montgomery County Fire and Rescue Service should:

- Enforce existing policies and procedures;

- Enhance training on desired firefighter behavior after a Mayday; including but not limited to, calling a Mayday, radio use during a Mayday, and individual crew responsibilities during a Mayday;

- Develop a methodology to identify and counter impediments to the decision making process of firefighters during high stress situations such as Maydays;

- Reinforce through training the mastery of lower level skills as a method for freeing cognitive space for stressful situations, such as a Mayday;

- Review the utility of having units switch radio talk-groups during the initial stages of a Mayday;

- Encourage incident commanders to quickly lower their span of control by properly assigning functional branches, divisions or groups as appropriate;

- Reinforce through training basic firefighting skill sets to include searching behind or under the protection of charged hose lines and crawling in smoke conditions; and

- Accelerate the plan of staffing all Battalions with Command Aides.

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BACKGROUND

On July 19, 2007 at 04:32:11 hours, Box Alarm 18-03 was sounded for a reported house fire at 12012 Claridge Road in Wheaton-Glenmont. All but one of the dispatched units responded with at least the minimum staffing.

The officer on E181, running first due, called layout information while enroute. That information was acknowledged and repeated by the second due engine officer. This transmission was followed by the second vocal on the fire ground talk-group with a report of "…caller states every one is out of the house now…" Engine 181's officer then reported on the scene stating, "E181 on the scene side alpha two story single family home, we have smoke showing, send us the RID dispatch, I'll have command in the attack mode advancing a cross-lay through the front door, have 51 be my 2-out." Engine 51 did not acknowledge receipt of these instructions.

An adult female in the rear of the dwelling advised the crew of AT19 that, "…my baby is still in the upstairs." The officer of AT19 broadcasted this report over the fire ground talk-group. Seconds later Battalion Chief 4 arrived and assumed command of the incident.

The officer from AT18, having intimate knowledge of the structure, and hearing of the trapped baby, began immediately to run towards the stairway leading to the second floor of the dwelling. About three steps up the stair case he felt the stairs begin to give way. He attempted to hold onto the banister while yelling out for help. He soon realized that he could no longer hold on and fell onto the basement stairs directly below the stairs leading up. Right after the officer fell into the hole the second member of AT18 and one member from E181, rushing in with a charged hose line, also fell into the hole in the staircase, both landing on the basement stairs.

Witnessing the falls, the officer from E181 moved to the front of the house and sounded a Mayday on the fire ground talk-group. The officer from AT18 also attempted to sound a Mayday but his transmission is garbled and is transmitted over an unassigned talk-group.

Immediately after the Mayday was sounded, the crew of E211, who were in the process of laying a leader line to the corner of sides B and C, accessed the basement via an exterior entranceway on side C. They were met by the officer of AT19 and both entered the basement to check on the welfare of the Mayday crews. At the same time on Side B, the crew of E51 entered the first floor to search for the trapped baby. The officer of E51, upon hearing the Mayday, activated his Emergency Button (EB) in an attempt to get a radio message through to Command, adding to the confusion about which crews were in trouble. The officer of E251, upon hearing the Mayday, also entered the dwelling rather than report to Command for direction.

Command reacted to the Mayday by first seeking additional information from the officer of E181 and then ordering everyone but E181 and E51 (thinking that E51 was still the Stand-by Team) to switch to talk-group 7D. This order was followed by a call for E191 to

intervene as the Rapid Intervention Company (RIC) that went unanswered, then a request for the Emergency Communications Center (ECC) to send a second alarm and sound the IDAT. In the moments between making that request and the request being fulfilled, E191 calls command with a "priority message." ECC interrupts that priority message to sound an alert tone. Engine 191 is finally able to make the transmission and advised that the injured firefighters had been extricated.

Initial reports from the basement where the injured firefighters were found mentioned only two injured firefighters.

After E191 reported that the injured firefighters were out of the house, Command directed companies to the second floor of the fire building to complete the primary search and perform other fire ground duties. Soon thereafter the units noted that a total of three firefighters were injured and that the structure was actually a duplex and not a single family dwelling as first reported.

All three fallen members were walked out of the basement and transported to the local burn center. Two injured civilians were also transported to a local hospital. The primary search proved negative, and the incident was terminated without further complication. Of the three transported members, one was released the same day with burn injuries to his back. The second suffered significant orthopedic injury and the third suffered severe burn and orthopedic injuries.

WHAT HAPPENED DURING THE MAYDAY

Convergence is a well documented phenomenon in emergency services. It is what happens in the immediate aftermath of a critical incident when responders, no matter the training or permission level, self-dispatch to the rescue scene. Convergence is problematic for many reasons, not the least of which is the detrimental effect it has on the ability of the incident commander to maintain accountability of personnel operating at the emergency scene. The *SOP for Safe Structural Firefighting Operations* addresses convergence saying, "...units must …resist the urge to converge on the rescue scene." [5]

The Mayday occurred early in the incident at a time of transition between the initial SOP-driven operations under the command of the first due company and the coordinated actions of the box-alarm under the supervision of a command officer. When the Mayday was sounded the incident commander had yet to sub-divide the incident. At the time of the Mayday, his span of control included at least nine individual units and three command officers (nearly double the recommended span of control). Once the Mayday was sounded, there was an intense increase in both the emotional and operational demands of the incident. Command had not only the Mayday to consider but also the as-of-yet, unresolved report of a child trapped in an upstairs bedroom and a fire to fight.

Command acknowledged and reacted to the Mayday; however, it was at the expense of the search effort for the child and other fire ground duties. Command was unable to prevent or react to the convergence that occurred. Policy mandates that "units continue their assigned operation" to prevent missed assignments, like the search for a baby, from occurring.

When command asked ECC to sound the IDAT, which is the evacuation tone, and specified which units he wanted to switch over to talk-group 7D for continued operations, ECC did not sound the IDAT and most units did not make the switch to 7D. Multiple attempts to conduct a Personnel Accountability Report (PAR) on 7D were useless. Units who did not answer the PAR on 7D should have been declared a Mayday, by policy, and yet were not.

The officer from AT18, the first person to fall into the hole, attempted to call a Mayday unaware that his radio was tuned to an unassigned talk group. His message was so garbled as to be unreadable. There is evidence that his transmission on 7G was heard at the ECC, but there is no evidence that the ECC informed the incident commander of the transmission or of an attempt to establish and maintain contact with the downed firefighter. The tower officer did follow policy by activating his PASS alarm. The *SOP for Safe Structural Firefighting Operations* outlines six criteria for calling a Mayday including "personnel have fallen through a roof or floor and cannot be accounted for or have become injured." Clearly this criterion was met and the Mayday was sounded. The activated PASS made it easy for the rescuers to find the victims.

Unit reports and verbal testimony indicate that E211, E191, E251, AT 19, and RS29 each played some role in the removal of the victims from the basement level and that E51 made a rescue effort using an attic ladder from above. This commitment of units represents nearly every unit on the box alarm.

The second due engine was assigned as the Standby Team. Policy requires that the unit assigned as the Standby Team maintain that position while preparing to transition to their normal, policy-assigned, role. That transition should occur face-to-face once the 4th due is prepared for the RIC assignment, but the policy does make a provision of a radio transfer given unusual circumstances. Before the baby was reported trapped and the Mayday, but after they were assigned as the Stand-By Team, the second due engine was engaged in truck company functions in the front of the duplex.

Until the RIC is established, the Standby Team is the rescue team and should be poised for the rescue; in contact with the Initial Entry Team visually, verbally, or by radio at all times. They were not. By the time the Mayday occurred the Standby Team was already at the front door, intent on performing search and rescue. The RIC (4th due engine) was also prepared to act, although a formal transfer of duties had not occurred. The 3rd due engine is required to check the lowest level of a structure on their way to the most threatened exposure, which could explain their proximity to the Mayday firefighters in the basement. AT19 was performing the regular duties of the second due aerial device in the rear. E251 was the 5th due engine, and should have remained uncommitted until given

an assignment by command. Rather, they attempted to engage in the rescue effort and other tasks.

Once the Mayday occurred the second due engine moved into the house and quickly found the injured firefighters from his position at the base of the collapsed stairway. By policy , the action of the second due engine company, assuming that they believed that they had been replaced as the Standby Team, should have been to provide a back-up line to the first due engine. Actions under the Mayday should have been to place a hose stream between the fire and the Mayday firefighters. Rather than follow policy and lacking direction from Command, the officer of E51 initiated his own rescue plan. He attempted to call command, to request an attic ladder, but was unable to get through. He then activated his EB and by doing so granted himself the ruthless pre-emption feature of the 800 MHz radio. Having this ruthless pre-emption allowed the second due engine officer to talk over all units operating, including the Mayday firefighters and Command.

The ECC response to the Mayday was problematic. When command asked for the IDAT (the evacuation tone), the ECC provided a delayed sounding of an alert tone. It would have been acceptable if ECC did not sound the pre-alert, as required by policy, because command requested something different. But they did not even sound the tone that was requested. When command asked for units to switch to an alternate talk-group, the ECC was slow to act, and then announced the wrong units to switch over to 7D. Worst of all it is not clear that the ECC made an effort to notify command of the Mayday transmission made on 7G.

THE ROLE OF COMMAND

There is no denying that command presence plays a pivotal role in the outcome of routine events, and much more so for non-routine or high stress events. Command presence is an important quality for an effective incident commander, in that it inspires confidence in those that work with the commander, while providing the high level of strategic effectiveness." [3] Command presence is about being able to control the modulation of your voice, to manage complex incidents, and most importantly inspire confidence in the people under your charge.

The Incident Commander on this fire - at least the voice on the radio - was actually a Captain on the Battalion Chief's list, who was completing an internship with the regular Battalion Chief. Over the stress of a reported trapped child, multiple firefighters trapped, one EB activation, and a wide span of control, he managed to maintain a calm and rational voice on the air. He was able to ask clarifying questions of the officer calling the Mayday, and requested additional resources to support the rescue operation. While there were lapses in using the provisions of the policy and even though the rescue effort for the reported missing child was delayed when the firefighters went down, those situations were resolved. None of the lapses from command (i.e., asking for the IDAT instead of the pre-alert, missing some transmissions, allowing an unwieldy span of control and having

to deal with role confusion) had an impact on the nature, severity or duration of the Mayday.

It is clear that enough confusion and action was occurring on the fire ground that the two trained command officers had their hands full. The command team concept, here with two commanders, may prove to be a necessity in the early stages of a fast-growing or rescue-laden fire. A command aide would allow the first-in command officer to actually engage in critical thinking, incident size-up, and resource allocation and not on directions, driving, and collision avoidance. Given the amount of information that had to be processed and acted on in a such a compressed time frame, not having two people in the Command post may have led to a different outcome.

ANALYSIS OF THE INCIDENT

The *SOP for Safe Structural Firefighting Operations* is explicit about how firefighters should perform in the aftermath of a Mayday. It takes into account the tendency of crews towards convergence and puts strict measures in place to prevent it. Despite the explicit dictates of the policy, there was a point in this incident where nearly every unit on the box-alarm was involved in the Mayday in one way or another. After the Mayday was sounded, Command only called E51 and E191, and even though he did not explicitly assign either of those units to conduct the rescue, they both made transmissions to command from forward positions while working to make the rescue.

Command had a total over 20 individual resources engaged on the scene to manage the Mayday (1st alarm, RID, and additional command officers). When Command called for units to switch to an alternate talk-group he also asked for a second alarm. The additional resources he requested were placed on a third talk-group.

This is the second incident in the recent past where the attempt to switch units to an alternate talk-group during the initial phases of a Mayday has proven problematic. This migration seems to be too much for crews to process in the face of stressful or escalating events. It may also be asking too much of a single incident commander to simultaneously manage multiple talk-groups, an incident, and a Mayday.

Units not answering on 7D after two attempts should have been a Mayday even though this would have added to the stress of the incident. There seems to be a general lack of familiarity with the Mayday criteria, e.g., one unanswered call from command following a silent EB activation is a Mayday, where it takes two unanswered calls during the PAR to generate a Mayday.

The *SOP for Safe Structural Firefighting Operations* did not fail. It could not have failed because it was not followed by all of the crews attempting to rescue the Mayday firefighters. Fortunately, the failure to follow this policy did not have an impact on the nature, duration, or severity of the Mayday.

It is encouraging, commendable, and a good reflection of our policy and training that the two unit officers both called a Mayday. Having people quickly assess their situation, quickly realize that they will need help, and react by calling a Mayday is a great stride forward.

A Mayday is an emotional situation. Someone you know, whom you spend a third of your life with, is injured or trapped. As discussed earlier, the natural inclination is to quickly rush to the aide of your comrades. In this case even though individual units did not follow or await the orders of command before deploying, there was no adverse impact on the outcome of the incident. But does this mean that they did the right thing?

"Stress affects physiological, cognitive, emotional, and social processes, and these effects may have a direct impact on task performance." [4] Stressors on the fire ground can include, time pressure, task load, information complexity, and ambiguity. In the end, "when individuals face stressors that disrupt goal-oriented behavior, performance effects may include increased errors, slowed response, and greater variability in performance." [4] The department must seek to limit the impact of these types of negative performance effects.

The ECC personnel were exposed to the same stressors as all of the other personnel on the fire ground and perhaps more because they could not have a direct and personal impact on the outcome. Their remoteness can easily lead to a sense of helplessness. On the other hand their remoteness can provide a greater sense of situational awareness, as the telecommunicator is not exposed to the additional environmental inputs of the fire ground. ECC is generally in a good position to assist the Incident Commander, but strategies are needed to improve the interaction.

An incident commander, officer or even a firefighter has the liberty to deviate from the framework of the standard operating procedure if the following of that procedure is not the appropriate course of action for the given situation. There is a right time to deviate. However, the decision to deviate should be a conscious decision and one that is not taken lightly or driven by emotion. Being able to deviate should not be misconstrued as a carte blanche to do whatever one likes. The evidence in this case does not support the need for acting outside the scope of the policy.

It might be helpful to explore what *could have* happened during this Mayday. Command could have been delaying the entry of the RIC to ensure that they would not have fallen into the same hole as the initial companies. What if each crew that went to help also fell into the hole? What if the rescue had been more complicated than crews originally thought and all the available rescue resources were tied up in the rescue and then all ran low of air themselves at the same time? What if there really was a baby in the upstairs? What if the actual fire was more significant?

By self-dispatching to the rescue, crews exposed the incident system to more chaos-inducing input. The incident system that morning was successful, if success is measured

solely by the rescue of the downed firefighters. However, that system operated at the very edge of chaos, and thusly at the edge of collapse. Operating at the edge of chaos is not always a bad thing, almost all systems do it sometimes and innovation is bred at this edge. But during this fire there was no justification for the system to get that close to chaos.

If a Mayday situation could happen at a good time, having it happen with the box-alarm already on the scene along with most, if not all, of the RID was ideal. Having this resource rich environment should have allowed the fire department to continue its primary functions while still absorbing the additional flux caused by the Mayday. This situation would have played out quite differently had it happened in a more rural area of the County. Crews must make adjustments to strategy, tactics, tasks, and level of aggression when the situation dictates. If this was a 14 box and not an 18 box and help was 12-15 minutes away and not 2-3 minutes away, would the Standby Team been able to manage the rescue?

Convergence was a drain on available incident resources and was at least a partial factor in the delayed completion of the search for the reported victim and failed unit accountability. This convergence, which can be rightly called free-lancing, was highlighted by the actions of E251 as they, uncommitted by policy, rushed into make a rescue. Crew convergence on the rescue scene in the basement did not have a detrimental impact on the remainder of the incident (this time) but only because there was no baby trapped, the injured firefighters were not trapped in any way and the fire was essentially out.

Perhaps the critical question is why did the crews converge even though the policy forbids it? Was it because they were not familiar with the policy or did they not trust the other members of their incident team to manage the rescue? The underlying implication of self-dispatching is that the unit who self-dispatches either does not trust the others to conduct the rescue or feels that they must have some better way to make it happen.

It is difficult to criticize people for saving their co-workers. It is hard to encourage people to stand by and allow the system to work while their friend calls in the Mayday. But the policies exist for a reason; accountability, communication, and coordination are critical and cannot exist when individual crews set their own agendas independent of command. There are appropriate methods that crews can use to get the attention of command or even to prompt command towards a particular course of action, self-dispatch is not one of them.

Accuracy means hitting what you aim for. Precision means hitting what you aim for every time you aim for it. Getting it right in a limited sense and then only once, like at Claridge Road should not be the ultimate goal. The goal should be developing a system that can be both accurate and precise, allowing us to get it right more often than not, and because we are good, not because we are lucky.

OTHER FACTORS

Typically, when critical fire incidents are reviewed, scant attention is paid to some of the more relevant human factors involved in how the situation unfolded. The following discussion is not comprehensive; it only seeks to introduce some factors that while not commonly considered, could have played a role in the way events unfolded that morning.

Slowness

We simply should move more slowly, "…there is no argument against an *appropriate* fastness. The argument is against unreflective speed, speed at all cost…against speed as a virtue in itself: against the alignment of 'speed' with notions like efficiency, success, quality, and importance." [1] When a child is reported trapped in a house fire - that is a significant statement. But it should not prompt us to move so quickly that we forget to monitor conditions, sound floors, maintain orientation to exit points or crawl. Our efficiency and success in mitigating incidents is not about speed it is about doing the right thing at the right time in the right way. Sometimes we move faster than we can think. Until we can learn to slow down we will not be able to *consistently* act in appropriate ways.

Inter-crew communication

"Evidence is growing that nonstop talk is a critical source of coordination in complex systems that are susceptible to disasters." [6] Fire ground operations are certainly susceptible to disaster. There was a lot of talking on the radio that morning but not much communicating. Engine 51 activated his EB button to transmit information that was already known, the ECC stepped on E191's transmission, while failing to pass on critical information from 7G, and meanwhile no one knew that RS29, E211, and E251 were engaged. We must strive towards a system where people properly classify critical information, classify its priority to the mission objectives, and deliver that information in the proper format, at the proper time, to the proper people.

Decision Making Under Stress

After several critical incidents where crew decision making was faulted, the United States Navy commissioned a series of studies to develop solutions for aiding in decision-making under stress. [2] The program discovered many critical points about decision-making under stress and specifically cites firefighters as a target group. The program suggests the following as a way to reduce stress induced decision errors.

1. Workload reduction and automaticity

   This approach is based on the premise that practice in lower level skills may free cognitive resources for higher level decision making. In order words, if we teach people how to activate their EB button over and over in the proper way under the proper training conditions, when the emergency happens they will do that automatically. Activating the button automatically allows them to begin thinking about other things while that action is occurring.

2. Pattern recognition

Pattern recognition, or recognition-primed decision making, has been getting a lot of attention in the fire service in recent years. Paradoxically, the fire service is seeing fewer and fewer significant fires as time progresses. For pattern recognition to be effective it requires the decision maker to have seen the situation or, one like it, before, no matter if in real life or in training.

3. Training in team coordination and communication skills

This training is needed to ensure that relevant information is communicated to the right people at the right time in the right way.

CONCLUSIONS

On July 19, 2007, a critical incident occurred in the early stages of a house fire with a report of one trapped. Three firefighters fell through stairs, were injured and were rescued by the combined efforts of multiple units who disregarded policy in order to make the rescue. While the outcome of the rescue was successful, in that the firefighters were rescued, that rescue came at the expense of discipline, accountability, fire control, and perhaps most importantly the effective and timely search for a missing child. It does not matter that there was no child, there could have been one. It does not matter that there was not a significant fire, there could have been one.

If there can be encouraging and positive news from a Mayday declaration it is that firefighters did not hesitate to sound the Mayday. Unit officers, one a Mayday himself, and the other having witnessed a Mayday immediately began to follow through. Certainly our response to the Mayday was flawed, but again this is the lesser of two issues. Having firefighters willing and able to initiate the process is a huge first step. The importance of this step should not be lost.

Certainly there were many stress inducing factors present that morning including, but not limited to, a Mayday and a report of a child trapped: but they were are not enough alone or combined to justify a deviation from the *SOP for Safe Structural Firefighting Operations*. Surely there is a time to disregard policy and to work independently towards higher order objectives, but there is no substantial proof that this was such a time. At this fire a lack of familiarity with policy, poor mastery of basic skills, a failure to execute basic strategy and tactics, and a pervasive lack of operational discipline combined to create a dangerous situation. Luckily the rescue happened fast and disaster was avoided.

This fire has provided a platform from which to review the Mayday procedure against real life local experience. However, until that policy is reviewed and the necessary adjustments made, it is imperative that officers and firefighters take the time to learn and execute the policy. Being professionals, we should not allow adverse circumstance to knock us off our intended course of action. We should not let small problems interfere

with good execution of basic skills. When the emergency happens early in the morning a few short minutes from the fire station there is precious little time for thinking and that is where the knowledge, proficiency, and discipline deficits become glaring.

There will be a next time because this is a dangerous job and because it is obvious that firefighters are calling Maydays. The increase in Maydays may not be all negative, it may be that people are truly embracing the concept and calling Maydays that they would not have called before. We must continue to work towards reinforcing and encouraging this behavior, no matter how well or how poorly the system reacts in response to the Mayday call.

Hopefully the lessons provided in this discussion, combined with a lot of policy review and station level training will work to lessen the impact of the next incident.

RECOMMENDATIONS

Enforce existing policies and procedures

There were gross and unjustified failures to follow the *SOP for Safe Structural Firefighting Operations* on this incident. Until the tendency to free-lance has been reigned in we will not improve our chances and successful intervention during critical events. Failures at this incident included failure to:

- Properly act as the Stand-By Team
- Properly transition between the Stand-By Team and RIT
- Continue assigned operations after Mayday is called
- Sound a proper Mayday tone
- Await orders from command before deploying after Mayday
- Switch talk-groups as ordered
- Failure to maintain crew integrity

Enhance the training for firefighters on desired behaviors after a Mayday; including but not limited to, calling a Mayday, radio use during a Mayday, and individual crew responsibilities during a Mayday.

While the unit officer calling the Mayday did sound his PASS device he did not exhaust all available options to summon help via radio. Training should be conducted that reinforces the importance of knowing and exhausting ALL available options for summoning help.

Develop a methodology to identify and counter impediments to the decision making of firefighters under stress.

More research is needed into how firefighters make decisions, how policy impacts those decisions, and how to optimize the ability of firefighters to make good critical decisions under stress.

Reinforce through training the mastery of lower level skills as a methodology for freeing cognitive space for stressful situations, such as a Mayday.

Crews that know the *SOP for Safe Structural Firefighting Operations* are conditioned to follow it and who have a firm grasp on basic skills such as firefighter rescue, advancing lines, placing ground ladders, etc., will find that they do not have to "think" about these things during stressful events and will be better able to improvise and adapt to complex situations.

Review the utility of having units switch radio talk-groups during the initial stages of a Mayday.

The *SOP for Safe Structural Firefighting Operations* is clear that certain units should switch talk-groups when ordered to by command. The current leadership is clear in acknowledging that incident commanders have latitude to not do this if it will be

detrimental to the outcome of the incident, but something drives them to do this without regard for its impact. This can be remedied through training and a more thorough understanding of the policy and its origins.

Encourage incident commanders to quickly lower their span of control by assigning functional branches, divisions or groups as appropriate.

Even in the face of deteriorating circumstances, or perhaps more so then, it is critical for the incident commander to bring his/her span of control to a manageable level.

Reinforce through training the basic firefighting skill sets to include searching behind or under the protection of charged hose lines and crawling in smoke conditions.

When this Mayday occurred some basic skills were disregarded, including staying low in smoke, and sounding floors, stairs, and roofs to access their stability. These skill sets should be reinforced through training.

Accelerate the plan of staffing all Battalions with Command Aides.

The ability of an aide to lessen the task load and confusion in the initial stages of an incident cannot be disputed.

References:

1. Cilliers, P. (2006). On the importance of a certain slowness. *Emergence: Complexity and Organization.*

2. Cohen, M. et al. (1998). Critical thinking skills in tactical decision making: a model and a training strategy. *Decision Making Under Stress: Implications for individual and team training.* American Psychological Association. Washington, DC.

3. Daniels, D. (2005). Command presence. *Fire Chief*

4. Driskell, J. and Johnston, J. (1998). Stress exposure training. Decision Making Under Stress: Implications for individual and team training. American Psychological Association. Washington, D.C.

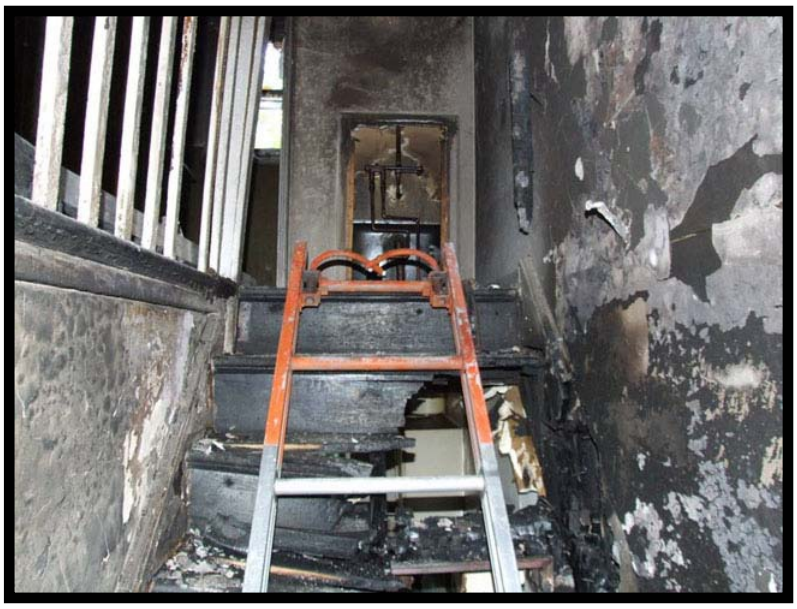
5. MCFRS Policy 24-07 AM. Safe Structural Firefighting Policy

Appendix A
Scene Photographs

Street Side View - SIDE A

Main Entrance - SIDE B

SIDE C

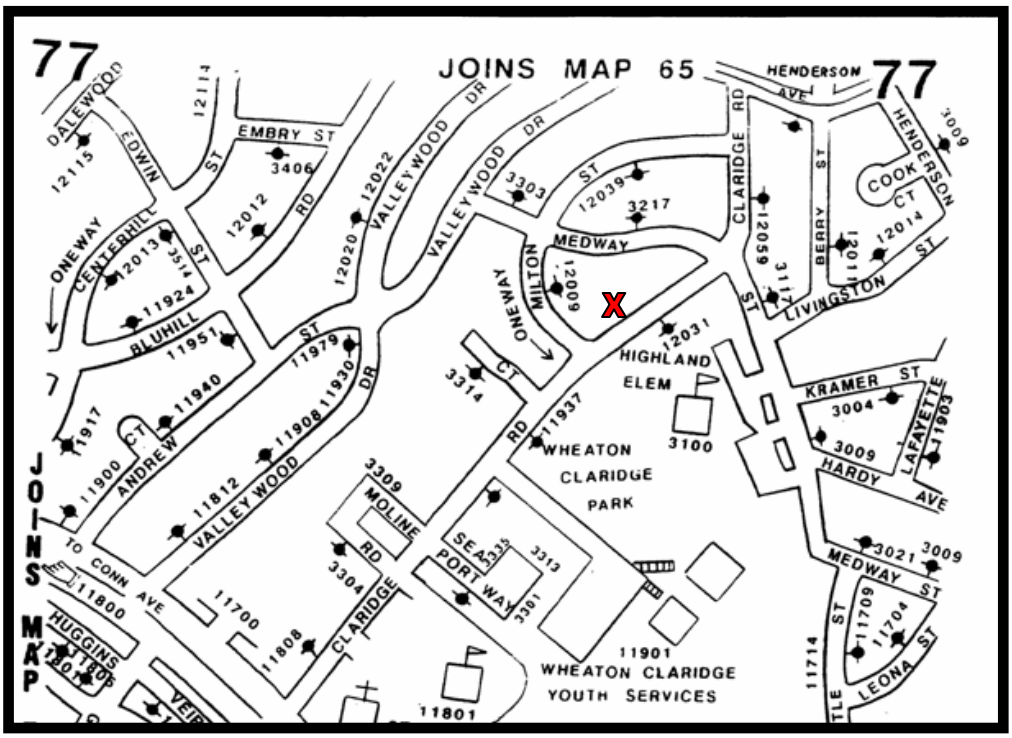


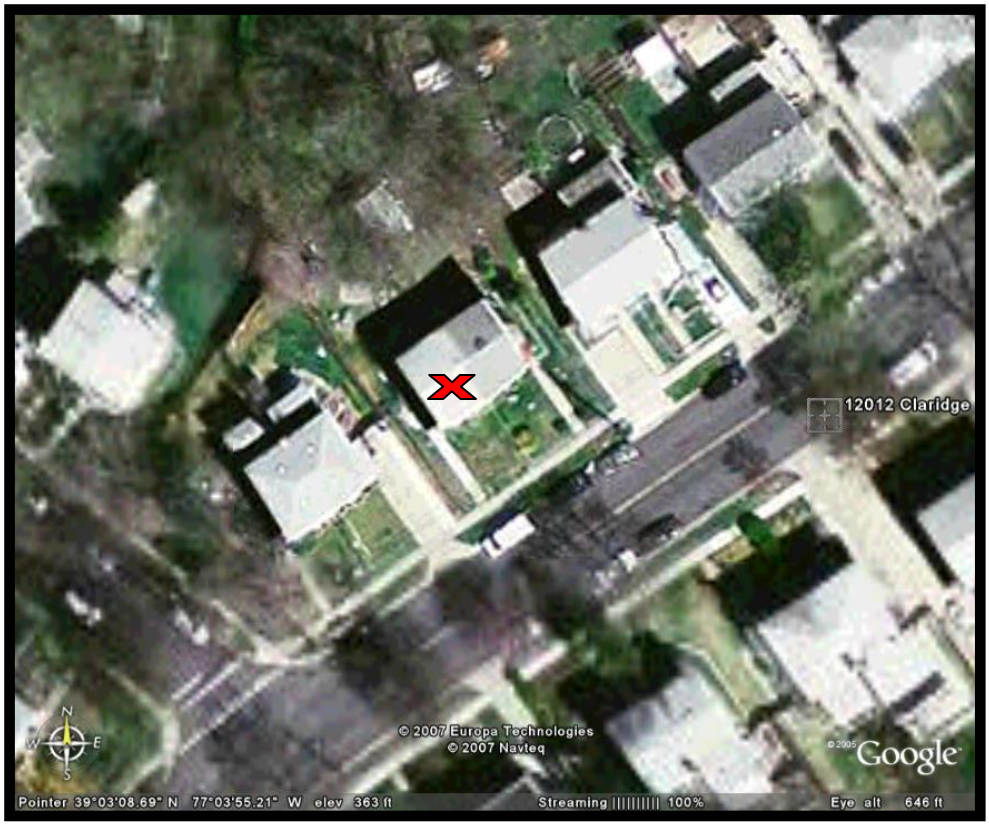
Burned Out Stairs

The bottom of the burned out stairs looking in from kitchen

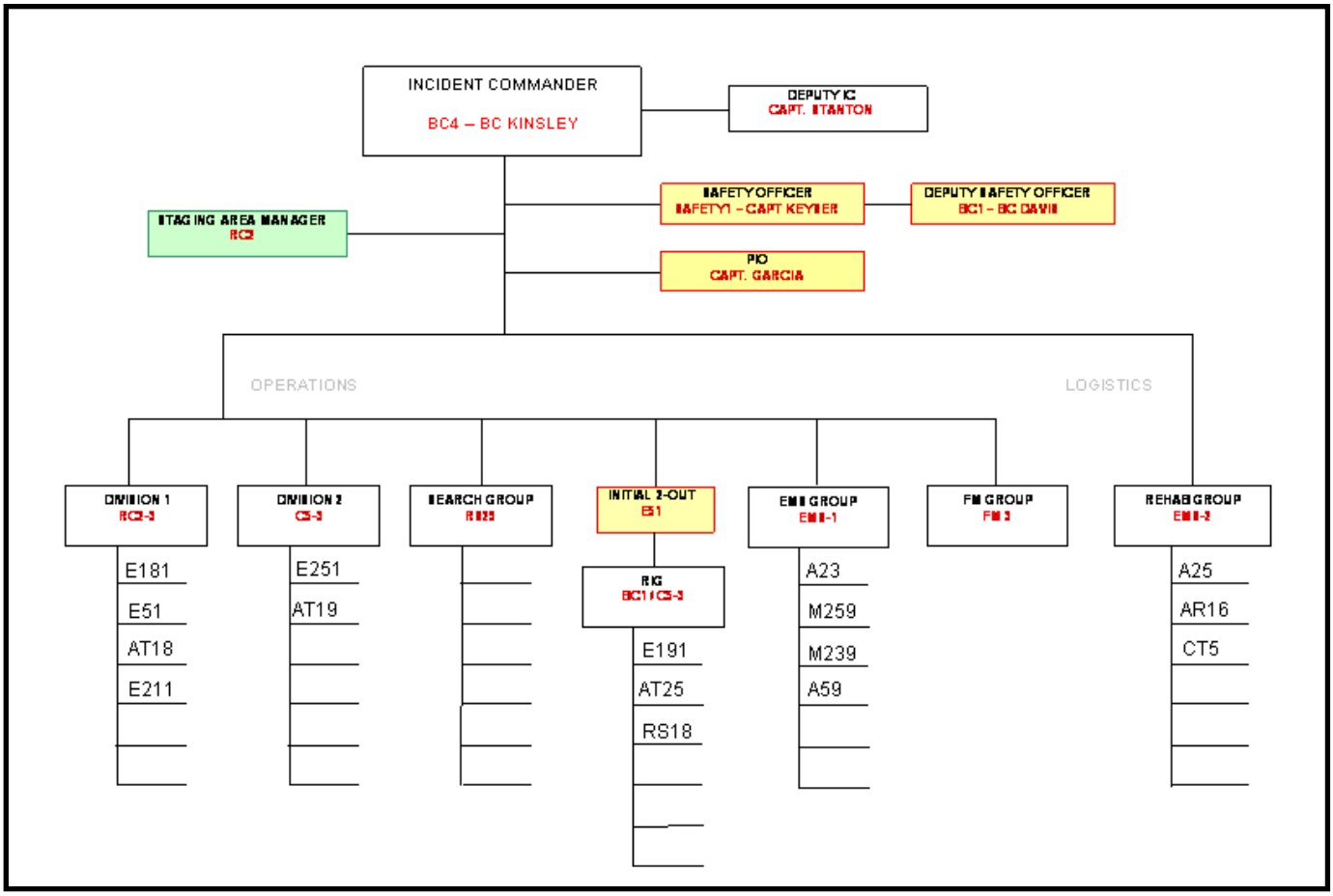
The burned out stairs at the point where crews fell in

Appendix B
Overhead Views





Appendix C
Incident Command Structure



Appendix D
Alarm Assignments

1st Alarm @ 04:33:44
E181
E51
E211
E191
E251
AT18
AT19
RS29
A25
BC4
BC1
RC2-3
C5-3

Rapid Intervention Dispatch @04:38:44
AT25
RS18
M259
C200
SAFETY1
EMS1

2nd Alarm @ 04:48:30
E161
E231
E541
E71
AT23
T3
M239
AR16
CT5
EMS2
RC2

Appendix E
Critical Incident Times

04:32:11	911 Call
04:33:44	Dispatch 1st Alarm
04:36:58	E181 on scene
04:37:28	AT18 on scene
04:38:29	E211 on scene
04:38:44	"E181 on the scene 2 story with smoke showing. E181 with attack command. Starting RID"
04:38:57	Rapid Intervention Dispatch
04:39:15	E51 on scene
04:40:13	RS29 on scene
04:40:26	A23 on scene
04:40:32	E191 (& AT19?) on scene
04:41:55	BC4 (& E251?) on scene
04:43:07	"AT19 reports a baby trapped on 2nd floor. BC4 assuming command"
04:43:51	"E181 Mayday"
04:46:15	BC1 on scene
04:48:30	Dispatch 2nd Alarm
04:49:48	"E181 Mayday report. E181-C fell through basement. Fire in the basement. RID reports they got FF out on side C"
04:52:52	EMS1 on scene
04:53:26	M239 on scene
04:54:04	"3 FF injured to the rear of E181"
04:56:47	"Search negative – Division 2"
05:00:56	"Search 1st floor negative – Division 1"
05:03:56	"Command update – fire in a duplex with a hole in the stairwell. A couple of FFs fell into the basement. FFs are out. Fire is knocked"
05:05:22	"Secondary of basement is negative"
05:21:01	M259 transporting to MedStar
05:21:16	A23 transporting to MedStar
05:23:49	M239 transporting to MedStar
05:36:08	A23 arrived at MedStar
05:36:17	M259 arrived at MedStar
05:47:42	M239 arrived at MedStar

Appendix F
Crew Actions - SOP for
Safe Structural Firefighting Operations

Unit	SOP Requires:	Crew Execution:	Were they in the right place?
E181	Fire floor	Crew in Mayday OIC signaled Mayday	Yes
E51	Stand-By Team, then backup 1st engine	Stand-By Team, then assisted Mayday crews from backup position	Yes - but left Stand-By Team position to perform SAR when "baby trapped" reported
E211	Side C, check basement, then floor above fire or exposure	Side C, checked below then assisted Mayday crews	Yes - but delayed in getting to the floor above fire and never checked exposure.
E191	Relieve Stand-By Team, then become the RIC	Acted as RIC, assisted Mayday crews	Yes - but transition to RIC did not occur face-to-face with Stand-By Team
E251	Report to ICP for assignment	Freelance	No
AT18	Fire floor	Crew in Mayday	Yes
AT19	Ladder side C, then floor above fire or exposure	Ladder Side C, then assisted Mayday Crews	No - should have gone to floor above fire or exposure with 3rd engine after ladders on side C
RS29	Search Utility Control	Assisted Mayday crews, until directed to search for "baby trapped" by Command	No - Their responsibilities were search and utilities
A23	Aide station	Aide station	Yes