



In-Station Training

TM 20-43 Basement Fire-Mayday!



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Training Code: TBD

Validated by:

Training Hours: 0.2

Purpose

I was at my daughter's house a few miles away from this fire when Worcester (MA) Firefighter Chris Roy lost his life. The next day, my granddaughter Lily told me that his daughter was her friend and asked me how her friend's dad could die in the line of duty. This is the second in a series of three 10-Minute Trainings examining this incident. If you have not completed 10-Minute Training 20-42, do so before completing this training. As you complete this 10-Minute Training think about Lily's question.

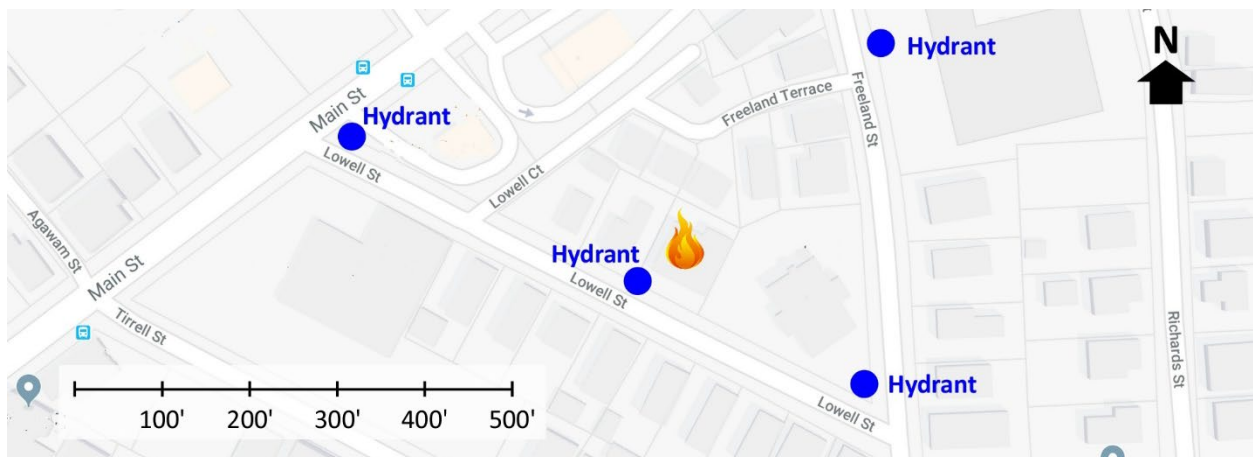
Learning Outcomes

Firefighters and fire officers respond effectively to rapidly worsening fire conditions or a Mayday from an individual or company operating at a structure fire.

Conducting the Drill

This incident involved a fire in the basement of the apartment building at 5-7 Lowell Street in Worcester, Massachusetts on December 9, 2018, at 03:15 (Sullivan & Wiley, 2018, Hanson, 2018). Review the map and photos (Figures 1-6) to gain an understanding of area and building involved.

Figure 1. Map of the Incident Area



Note: Adapted from Google. (2019). [Google map 5-7 Lowell Street in Worcester, MA].

<http://bit.ly/2EbLhOi>.

The closest hydrant is located on Lowell Street at the Alpha/Bravo corner of the fire building. Additional hydrants are at the ends of Lowell Street and on Freeland Street as illustrated in Figure 1.

The fire building is a three-story, wood (balloon) frame “H” shaped structure built in 1900. The building contains six dwelling units (three in each side of the “H” and two per floor) and a full basement.

Figure 2. Aerial View



Note: Adapted from Google. (2019). [Google aerial view, 5-7 Lowell Street in Worcester, MA]. <http://bit.ly/2Pxph2c>.

Figure 3. Alpha/Bravo Corner



Note: Adapted from Google. (2018). [Google street view, 5-7 Lowell Street in Worcester, MA]. <http://bit.ly/2B8yAAL>.

Figure 4. Side Alpha



Note: Adapted from Google. (2018). [Google street view 5-7 Lowell Street in Worcester, MA]. <http://bit.ly/2pywiZF>.

Figure 5. Alpha/Delta Corner



Note: Adapted from Google. (2018). [Google street view, 5-7 Lowell Street in Worcester, MA]. <http://bit.ly/2G7lesP>.

Figure 6. Side Charlie



Note: Adapted from Google. (2019). [Google 3d aerial view, 5-7 Lowell Street in Worcester, MA]. <http://bit.ly/2B9Ybcx>.

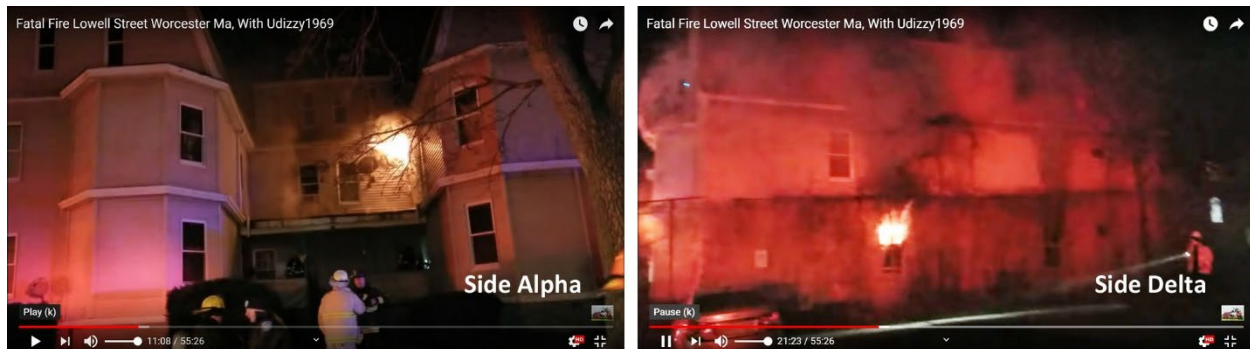
Companies operating at this incident quickly controlled a fire in the basement of 5 Lowell Street but discovered that the fire had extended into the interconnected basement and subsequently to floors one through three and the attic at 7 Lowell Street (Murray, 2019).

1. If your company was assigned to primary search and to check for extension on Floor 2 of the Delta 1 Exposure (7 Lowell Street), how would you go about this task? Specifically think about the sequence of task activity related to search as well as how and where you would check for extension. What communications and coordination would be critical to effectively performing this task?

There are several segments of incident video and audio that are essential to answering the following questions. However, watching the complete video and listening to the entire audio of radio traffic provides a better understanding of this complex incident and firefighter rescue operations.

Watch the following segments of the incident video (Udizy1969, 2018) [10:30 to 11:00](#) and [19:00 to 20:25](#) before answering the next two questions.

Figure 7. Developing Fire Conditions



Note: Adapted from Udizy1969. (2018). *Fatal fire Lowell Street Worcester Ma, with Udizy1969*. <http://bit.ly/2Np6HdH>

2. What is the significance of the location of the fire observed in these two video segments to the company or companies working on the second floor? What communication should take place between companies assigned to fire control or to check for extension and command when they discover fire in structural voids that is not quickly controlled?

3. At 20:25 in the video, companies have been operating in the offensive strategy for over 30 minutes. What critical fireground factors should command consider in determining if operations should continue in the offensive strategy versus shifting to a defensive strategy? Should a shift to defensive strategy be in Exposure Delta 1 (7 Lowell Street) or the entire building (5-7 Lowell Street)?

It is difficult to fully correlate the incident video and audio of radio traffic. However, the audio track begins shortly after command orders companies to “prepare to evacuate the building” at 20:31 in the video (Udizy1969, 2018). Central Whidbey Island Fire & Rescue (CWIFR) Standard Operating Guideline 4.2.5 Command Function 5-Communications (CWIFR, 2016a) differentiates between withdraw from the building, an orderly tactical withdrawal made when shifting to a defensive strategy and abandon the building which is an immediate exit (leaving anything behind that will not help with egress). CWIFR uses the term evacuation to identify removal of at-risk occupants from exposures.

Prior to listening to the incident audio, consider the following. If you have never experienced a Mayday (being unable to safely exit the hazard zone) or managed response to a Mayday, it is unlikely that you have a complete understanding of what the individuals involved in this incident were experiencing. Also consider the context of this fire department having lost six members in the December 1999 Worcester Cold Storage Fire and another member a December 2011 collapse of a three-story apartment building. Our purpose in examining the details of this incident is not to find fault, but to identify what we can do to reduce potential for Mayday events and to respond safely and effectively if such an event occurs.

Listen to the first five minutes of the [incident audio](#) (Broadcastify, 2018) which starts when Ladder 5 first reports that they cannot exit the building. Also watch the [incident video](#) (Udizy1969, 2018) from 22:21 to 27:45. This video segment corresponds to the first five minutes of the incident audio.

4. Who was trapped on Floor 2, what was the problem, where were they located, what were the conditions, what actions were they taking, what were their needs?

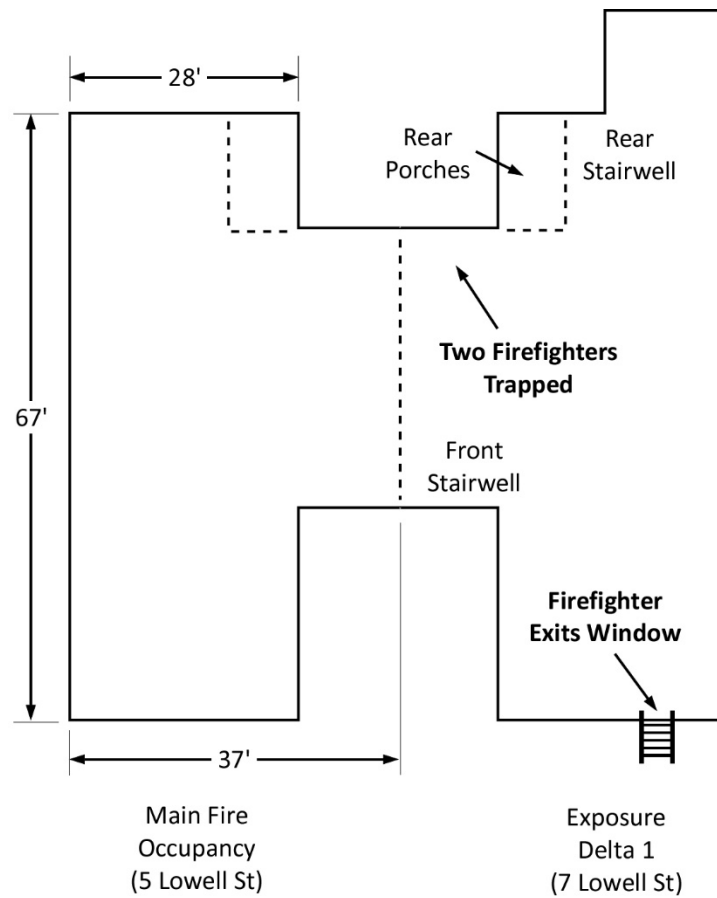
5. What actions did it appear were being taken to address the mayday? Recognize that there was quite a bit of face-to-face communication, so the incident video from Side Delta and incident audio provides a limited perspective on the totality of fireground operations.

6. How do communications practices outlined in Standard Operating Guideline 4.2.5 Command Function 5 Communications (CWIFR, 2016a) improve situational awareness and accountability for all companies and individuals operating in the hazard zone?

Mayday: Unlike other messages, a member with a Mayday does not need to clear command before transmitting the Mayday. Maydays are transmitted as a broadcast stating Mayday, Mayday, Mayday (three times) and then the message using the Mayday CAN format (Who, What, Where, and Needs). For example; “Mayday, Mayday, Mayday, Engine 53, ceiling collapse with one member trapped by the

suspended ceiling, air is at half, Floor 2 on Side Bravo, need an additional company with bolt cutters and the rescue air supply” (CWIFR, 2016)

Figure 8. Building Configuration and Location of Mayday Firefighters



7. Write two Mayday messages, one for a firefighter trapped on Floor 2 Side Alpha of Exposure Delta 1 and the second for two firefighters trapped on Floor 2 Side Charlie of Exposure Delta 1.

The **Help Order** is the sequence in which an IC or a Division Supervisor will try to assist a firefighter who is experiencing a Mayday (CWIFR, 2016b). This sequence is:

1. Communicating self-rescue techniques to the Mayday firefighter to assist with the rescue
 2. Using a Mayday firefighter(s) own company to assist with the rescue
 3. Using a company already located inside of the hazard zone to assist with the rescue
 4. Using an On-Deck company located outside of the hazard zone as a RIC crew
8. What self-rescue techniques may have been helpful to the firefighters trapped on Floor 2 of Exposure Delta 1 in this incident?
9. Could companies operating inside the hazard zone have assisted in rescue of the firefighters trapped on Floor 2 of Exposure Delta 1 in this incident? If so, how? How would this assistance have been impacted by the ICs intention to shift to a defensive strategy immediately prior to the Mayday.
10. What actions could on-deck companies be tasked with to assist in rescue of the firefighters trapped on Floor 2 of Exposure Delta 1?

Additional Learning: While you cannot replicate the stress of being trapped by fire extension and structural compromise, it is useful to practice Mayday communications (and self-rescue skills) in physiologically stressful conditions. Build Mayday communications practice into your physical training, transmitting Mayday messages using a portable radio after completing 10-15 minutes of cardio or circuit training while wearing a breathing apparatus and structural firefighting clothing.

References

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Appendix A-Radio Traffic Transcript

This radio traffic recording is from Broadcastify, a service that provides live feeds from public safety communications over the internet. Typically, the feed includes all radio channels or frequencies used by the agency (resulting in some degradation of the quality of the recording on a single frequency or channel). Some of the unintelligible communication may have been a result of this recording process, but much of it was due to the use of handheld radios and firefighters and officer working in breathing apparatus.

The following is a transcript from the first five minutes of radio traffic in this recording. It is important to note that many of the radio transmissions were listened to multiple times in order to determine what was being said (a luxury not available to the personnel operating at this incident).

Ladder 5, Division 2; Access on the front door is blocked, do not have an exit, cannot find our way out, need a line to keep the front stairwell clear.

[Division 2] OK we have some companies coming up after you. See if you can get to a window, start taking out a window.

Division 2 to the person on the second floor, can you get to a window on the A Side on the second floor?

Car 2 to Command; we're going to need a line on the Delta Side it starting to run right up the side of the building.

[Command] Ya, received.

Ladder 4 to Command.

[Command] Go ahead.

Ladder 4 to Command.

[Command] Unintelligible Ladder 4.

[Ladder 4] We have companies stuck second floor "B" Side, we have no exit.

[Command] Unintelligible A Side windows.

Rescue to Command we're going in the rear entrance going to the second floor.

[Command] Standby, standby!

Command to 400 (Ladder 4 Officer), standby to do a PAR [personnel accountability report].

[400] Received

[Command] Companies on the second floor there's a ground ladder at the front of the building.

Command from Fire Alarm; Unintelligible PAR.

Command unintelligible.

Command from 400.

[Command] 400, we're going to do a PAR for everybody on the fireground, go through all the companies.

403 (a Ladder 4 firefighter) is on the second floor.

Command unintelligible.

Ladder 5 to firefighter unintelligible

[Command] All companies maintain radio, OK let's maintain communications.

Command to Ladder 5.

Ladder 5 unintelligible.

[Command] Ladder 5 do you have PAR.

Ladder 5 unintelligible.

Unintelligible.

Unintelligible.

Ladder 4 to 403 (Ladder 4 firefighter).

Ladder 5 to inside of the building we have ladders at two windows on the A Side of the building.

Mayday, Mayday firefighter can't get out, we are in unintelligible.

Unintelligible.

Washington Command unintelligible we need a ladder to the rear of the building we have them in the C Side out the window.

Unintelligible back here.

[Unknown] Ladder 7 is coming with a ladder

[Unknown] Check the floor, sound the roof with the ... were on the second, B Side.

[Unknown] Ladder 5 activate your PASS [personal alert safety system] alarm

Ladder 4, Command; we need to find some guys.