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CHARLOTTE FIRE DEPARTMENT

# LIBERTY ROW FIRE AFTER ACTION REPORT

INCIDENT # 23-0147427

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# CHARLOTTE FIRE DEPARTMENT LIBERTY ROW FIRE AFTER ACTION REPORT

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**INCIDENT # 23-0147427**

# EXECUTIVE SUMMARY

*PREPARED BY  
DEPUTY CHIEF PETER J. SKERIS, CFD*

## EXECUTIVE SUMMARY

The following executive summary was completed with input from those members on-scene and external SMEs to depict an accurate account of the events of May 18, 2023 while under no time-sensitive deadline, and in climate-controlled conditions. The units that operated under high stress showed true dedication and commitment to saving lives and property. Their actions saved others, saved multiple properties, and resulted in few injuries to civilians and firefighters. This report is designed for all of us to learn valuable lessons, evaluate our response, and to ensure our future success.

## INCIDENT SUMMARY

At 0902 on May 18, 2023, the Charlotte Fire Department was dispatched to 7741 Liberty Row Drive for a reported trailer on fire in the parking deck. The trailer was not attached to a vehicle. The units dispatched were Battalion 5, Engines 02, 12, 14, and Ladder 16. At 0907, Ladder 16, under the command of Captain Brian Benson, arrived reporting heavy smoke showing and requesting an upgrade to a working fire. The additional units were BC01, E43, Rescue 10, and Safety 1. Ladder 16 entered off Piedmont Row Drive onto Barclay Downs Drive (see photo 1). Ladder 16 established Command and Barclay Downs became the Alpha ("A") side of the incident. The fire was around a trailer designed to spray insulation within a 7-story mid-rise building under construction, with the 2 bottom floors being concrete, and the top 5 floors being uncompartimentalized wood framing. (See photo 2). While locating the fire and ensuring the construction crews had evacuated, 2 workers were discovered unaccounted for. They were reported to be on the 4th floor. In reality, this was the fourth residential floor which corresponds to the sixth floor of the building.

*Despite valiant efforts Demonte Sherrill and Ruben Holmes would perish in this fire.*

What followed, and detailed within this report became one of the largest fires in the recent history of the Charlotte Fire Department reaching 5-Alarms.

## EXECUTIVE SUMMARY

### THE TIMELINE OF DISPATCH AND ALARMS

0902: Initial Alarm- Battalion 5, Engines 2, 12,14 and Ladder 16

0907: Working fire- Battalion 1, E43, R10, Safety 1

0908: Ladder 1, 2 were added as a special call

0909: 2nd Alarm- Car 2, Car 10, Car 20, Battalion 7, Engines 20, 24, 39, Ladder 24 and Tower 26

0911: Hazmat 13, Engine 32, Ladder 32, and Car 901 were added as a special call

0920: 3rd Alarm: Car 1, Car 4, Battalion 3, Engines 19, 17, 10, and Ladder 4

0931: 4th Alarm: Battalion 8, Engines 3, 4, 5 and Ladder 3

0956: 5th Alarm: Battalion 4, Engines 11, 28, 15 and Ladder 27

### THE BUILDING

The building was under construction and designed to be a 7-story 239-unit luxury apartment building (photo 3, 4, 5) of podium construction, consisting of a 5-story wood frame apartment over 2-story concrete parking garage. An overview would show the building was to be in the shape of a W. The building was approximately 355' long and 120' deep. It was framed, but with no compartmentalization. Therefore, no sheetrock or other barrier existed to prevent unimpeded fire growth. An exact duplicate building, in nearly the exact stage of construction, was located across Liberty Row Drive approximately 60' away.

Side Alpha: Barclay Downs Dr. (near 4801)

Side Bravo: Liberty Row Dr

Side Charlie: Fairview Rd

Side Delta: Parking Deck

### LOCATION OF THE FIRE

The fire was originally located in and around a mobile trailer housing a generator and supplies for spray foam insulation. The trailer was staged on the ramp between the ground level and level 2 near the Alpha side of the building.

## EXECUTIVE SUMMARY

### WEATHER

The weather at the time of dispatch was partly sunny with a reported high of 68F with winds from the Southeast at 13-14 mph and 61% humidity. The highest temperature of the day was 81F, with humidity dropping into the mid-30% range.

### INITIAL ACTIONS (NOT ALL ENCOMPASSING)

*For full account see Chapter One: Strategical and Tactical Operations Analysis*

Ladder 16 arrived and initially made attempts to:

1. Locate the fire.
2. Ensure workers were evacuated.
3. Locate and rescue the two known missing workers. (Placement of a 40' ground ladder)
4. The master stream was operated on the Alpha side.

Engine 14 established a water supply on Barclay Downs and hooked into the FDC (Fire Department Connection) (although they were told it was operational, it was not.), and supplied Ladder 16.

Engine 12 took their hose bundles into the lower deck and stretched to the standpipe. (It again was non-operational).

Engine 2 located on the Charlie side and supplied Ladder 2.

Ladder 2 positioned in the Bravo side roadway between the fire building and the Bravo Exposure around the tower crane. Once the decision was made to abandon L-2 due to the high potential for collapse the aerial stream was focused on the tower cranes steel structure.

Ladder 1 was positioned in the driveway at the Bravo/Charlie corner and operated their master stream. The crew took the construction stairs up and into the building to attempt a rescue before being evacuated due to a rapid change in fire conditions. L-1 would ultimately call a May-Day but was able to self-evacuate.

## **EXECUTIVE SUMMARY**

### **LESSONS LEARNED/RECOMMENDATIONS**

**(SUMMARY - MORE DETAILS CAN BE FOUND IN CHAPTERS 1-4)**

- Implementation of Command Aide/Field Technician.
- Provide training on Command Post operations and securing.
- Staff Field Communications Unit (Field Comm) and provide training on its operations.
- Reduce the ability for companies/units to self-dispatch.
- Enter buildings with navigation aids. (Search rope or handline)
- Fireground communications
- Crew Complacency
- Calling the Mayday
- Communications Center (ALARM) staffing and use of the administrative line
- Develop a SOG (Standard Operating Guidelines) for mutual aid (operations and requesting)
- Include Telecommunicators in MAYDAY training.
- Develop a SOG that dictates the use of the ALARM administrative phone line.
- Develop a SOG that establishes a communications method between ALARM and the EOC (Emergency Operations Center).
- Develop (research/purchase) technology solutions that enhance unit/area tracking and citywide coverage.
- Consider the development of a consolidated CFD/CMPD/CMED dispatch center

### **CHAPTERS:**

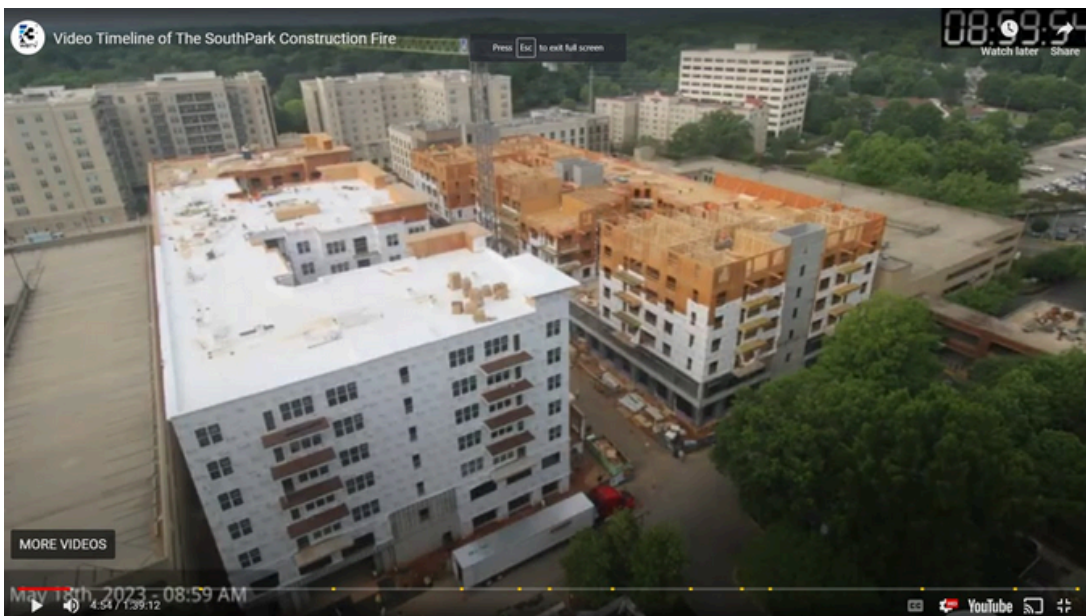
- 1: Strategical and Tactical Operations Analysis
- 2: MAYDAY/RIC Overview
- 3: Fire Investigation Taskforce Report
- 4: Fire Communications Response Report

## EXECUTIVE SUMMARY

PHOTO # 1



PHOTO # 2





## EXECUTIVE SUMMARY

PHOTO # 3

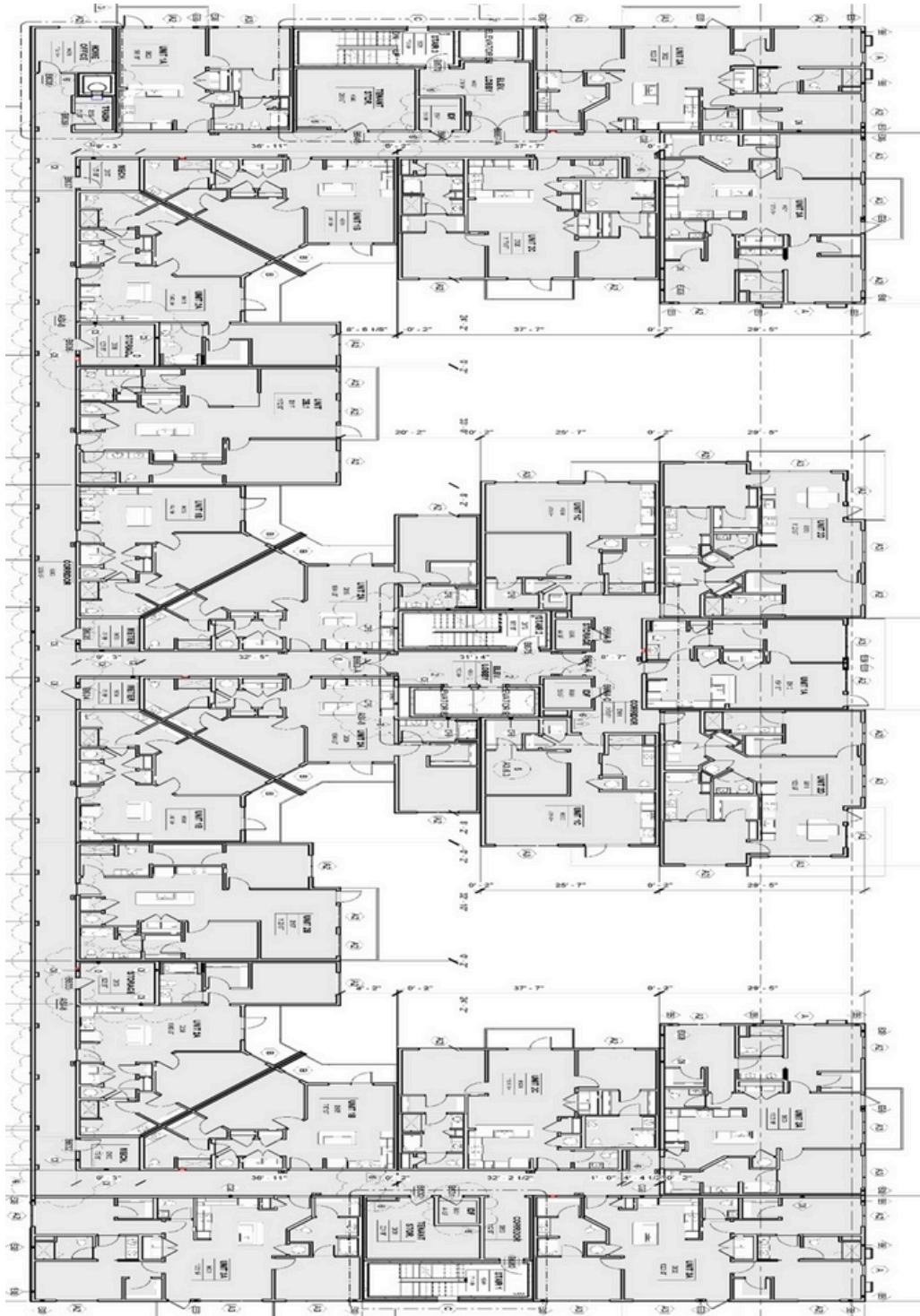


PHOTO # 4



# EXECUTIVE SUMMARY

PHOTO # 5



# **CFD TERMINOLOGY**

## INTRODUCTION

The fire service uses a variety of terms and acronyms in day-to-day operations. This chapter is intended to provide clarity regarding terms utilized throughout the additional chapters of this report.

## TERMINOLOGY

ALARM	CFD COMMUNICATIONS CENTER
BC	BATTALION CHIEF
C	CAR
E	ENGINE
EOC	EMERGENCY OPERATIONS CENTER
FDC	FIRE DEPARTMENT CONNECTION
FIELD COMM	FIELD COMMUNICATIONS UNIT
L	LADDER
R	RESCUE
TW	LADDER TOWER

## CAR ASSIGNMENTS

C01	FIRE CHIEF
C02-C04	DEPUTY CHIEFS
C06-C10	DIVISION CHIEFS
C13-C19	ADMINISTRATIVE STAFF CHIEFS/CAPTAINS
C20-C21	HEALTH & SAFETY DIVISION
C200 SERIES	TRAINING DIVISION
C300 SERIES	FIRE MARSHAL'S OFFICE
C500 SERIES	EMERGENCY MANAGEMENT (CMEMO)
C600 SERIES	COMMUNICATIONS DIVISION
C700 SERIES	LOGISTICS DIVISION
C800 SERIES	FIRE INVESTIGATION TASKFORCE/FITF
C900 SERIES	SPECIAL OPERATIONS DIVISION

**CHAPTER ONE**  
**STRATEGICAL AND TACTICAL**  
**OPERATIONS ANALYSIS**

*PREPARED BY M.H. WILSON, BATTALION CHIEF (RETIRED, CFD)*

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

### INCIDENT SUMMARY

The incident at 7741 Liberty Row Drive occurred on the morning of 18 May 2023. The incident is categorized as a Type 3 incident under FEMA's incident command system. Additionally, the incident can be categorized as extremely low frequency in occurrence but severe in impact. The fire involved a building under construction that was rapidly fully involved resulting in the deaths of two construction workers and the complete destruction of the building of origin as well as multiple exposures sustaining damage from radiant heat as well as flying brands from the thermal column that was created. Four Charlotte firefighters were almost lost in rescue attempts for the two construction workers. Two ladder trucks were left unserviceable with another engine apparatus sustaining damage. The impact of the incident negatively affected the SouthPark community for several days.

### CHARGE AND PURPOSE

I was contacted by the CFD Deputy Chief of Operations on behalf of the Chief of Department and asked to study the incident operations and provide a "lessons learned" document. This document will identify successful tactics and strategies as well as areas to focus training and identify areas that improvements could be made for future incidents of this type. There were no restrictions or conditions placed on my research or findings.

### METHODOLOGY

Research included a physical trip to survey the site, interviews conducted either telephonically or in person of key personnel that answered the alarm, reviews of CFD procedures and response efforts, and a comprehensive presentation by the Fire Investigation Division with accompanying surveillance camera video from the time the fire was discovered by construction personnel.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

### INCIDENT SYNOPSIS

The building of origin was a seven-story approximately 355' by 120' in dimension. The building was in the wooden frame phase of construction with no windows or doors yet finished. There was only one wooden stairwell in existence located on the Charlie side of the building. This meant that any access to upper floors on the Alpha side (where the fire started and where first arriving fire companies reported to) had to be done by aerial or ground ladder. The reach of the longest ground ladder is 40', which may not reach the 4th floor depending on grade and placement. The fire pump and standpipe system were not in service at the time of ignition, although first arriving Ladder 16's officer was informed by the construction foreman that it was.

The fire, of undetermined ignition source, began at a construction apparatus used to spray insulation during the building process. The location of the spray apparatus was interior of the building and close to the Alpha/Delta corner. The fire was accelerated by combustible materials used in the spray process, and impossible to confine due to the open construction phase.

Surveillance camera footage shows construction workers reacting to the fire's origin at 08:55 hours. Footage also indicates that unsuccessful attempts to fight the fire with portable extinguishers occurred. The first 911 notification to Fire Alarm was received at 09:02 hours, 7 minutes after the discovery of the fire. Companies were dispatched at 09:02 hours, with Ladder Company 16 arriving at 09:07 hours.

From ignition, the fire communicated unimpeded throughout the structure with only brief and partial extinguishments affected by aerial master streams. There were little or no physical barriers to confine the fire or slow its progress, unlike one would encounter in a finished structure. Additionally, there were no building systems intact that firefighters normally depend on when operating at multi-story buildings. Using the National Fire Academy's formula to determine fire flow required for a given space, 355' X 120' divided by 3 yields a need for 14,200 gallons of water per minute to extinguish 1 floor of involvement at this structure. Exacerbating

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

the rapid flame spread was the existence of a 14mph wind at the time of the fire that rendered 1000 gallon per minute master streams less than effective.

Had all pumping apparatus been flowing their master streams at capacity even in the opening minutes of the operation, it is likely that it would not have even been close to the fire flow required to extinguish the fire.

Extinguishing efforts were further hampered by the discovery that two construction workers were trapped on the 6th floor, and the crane operator (who chose to stay his post to provide a rescue platform for workers), was trapped in his apparatus, unable to descend due to the smoke and heat.

Additionally, it was necessary to direct fire streams on to exposures including adjacent buildings, the crane itself, and fire apparatus. This was executed successfully with few exceptions. It is quite remarkable that a sister building in the same phase of construction sustained only topical thermal damage from radiant heat. Ladder Company 2's relentless efforts to keep their master stream trained on the exposed steel superstructure of the crane likely prevented the failure of the steel.

Once the firefighters were forced to abandon the rescue attempts; and themselves declared "mayday", and once the crane operator was able to descend, the fire became fuel regulated and diminished as the building was consumed.

## INITIAL OPERATIONS

Ladder Company 16 encountered "volume driven smoke" and initiated offensive operations as well as requesting an additional alarm be struck and requested the hazardous materials team. The MSDS data on the burning spray materials was not produced. The officer assigned to Ladder 16 that morning was familiar with the hydrant system as they had flowed them earlier in 2023. The officer also had experience with the construction industry and understood the urgency in accounting for all of the workers as well as ensuring the evacuation was complete.



## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

Ladder 16's officer reported that about the time of the 5th Battalion Chief's arrival the smoke gained velocity and turned black. Battalion 5 chief assumed command of the incident and Ladder 16 reported two workers trapped on the 4th floor and deployed a 40' three-section ground ladder to attempt a rescue. Due to uneven terrain and the fly section pawls not locking on the ground ladder, Ladder 16 had to descend the ladder and attempt to re-deploy it.

Ladder 16's officer moved to the aerial of Ladder 2 instead of the ground ladder, but the crew was able to re-set the 40' and ascend. With Ladder 16's officer on the aerial of Ladder 2, and one firefighter on the 40', the third Ladder 16 firefighter made it close enough into the building to see the two trapped workers. It was then that the pressurized smoke turned into a fireball and the order to evacuate was given. Ladder 16's firefighter was able to dive out onto the 40' and slide down into the waiting arms of the Ladder 16 firefighter on the ladder. Both descended along with the officer (from Ladder 2's aerial) and assessed for injuries (there were none).

It is at this point that the responding Division chief assumed command and issued the order for the evacuation tones. The Battalion 5 chief was reassigned as the search and rescue group supervisor, and soon after reassigned as the division A supervisor.

There is little evidence of an ICS being formed at this point; officers reported that they did not know what group or division they were assigned to or even what the geographical designations of the building sides were. Further investigation yielded that these designations were made, but the radio did not function, or the channel was so overwhelmed that the information was not broadcast. This was exacerbated by a personnel accountability report being conducted, further tying up the tactical channel. Companies simply responded to the call for PAR in no particular order making it difficult to track their actual status.

CFD Tac 501.04 is clear that a PAR is to be conducted by radio or face to face with the accountability officer or incident commander and that each division or group supervisor is responsible for tracking companies assigned to him or her. It is not possible for an individual incident commander to be involved in this tactical function and still maintain strategical awareness.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

Despite the immediate focus on life preservation mandated by the accounting of the workers and reports of two trapped on the 4th floor, efforts at an offensive attack were initiated by Engine Company 12 by utilizing the non-existent standpipe system. Engine 12's officer reported that he and his crew were able to get within sight of the fire, but their hose packs were useless without the standpipe.

Also, it is from Engine 12's officer that one of the first reports of inability to communicate on the portable radio. He had to exit the IDLH and doff his SCBA mask in order to communicate but was not acknowledged.

Returning to the offensive attack, Engine 12 attempted to stretch an attack line from Engine 2. At this point Engine 12's officer reported that "the sound was so loud he could not even communicate face to face with his firefighters". The officer did not hear the order to evacuate or the evacuation tones. Conditions deteriorated rapidly, and out of options, Engine 12 self-evacuated.

### **MAYDAY<sup>1</sup>**

While the initial operations were being conducted on the Alpha side and the incident commander was attempting to organize resources and account for personnel, Ladder Company 1 which had spotted on the Charlie side of the fire building asked for and received permission to attempt the rescue of the two trapped workers on the 6th floor. Leaving the FF/Engineer to setup the aerial and prepare for deploying a master stream, Ladder 1's officer and two firefighters ascended the construction scaffold/stairs and made their way to the sixth floor to begin the 300+' trek to get to the Alpha side.

Making a tactical judgement call not to deploy the search rope he carried with him ("the floor was wide open and visibility was good"), the officer led his crew close enough to hear the two victims. At this point, conditions deteriorated so rapidly that Ladder 1 had no alternative but to turn back. It was during their retreat that the PAR was called for and Ladder 1 responded in the affirmative, not yet knowing their exit would become involved in fire.

<sup>1</sup>CHAPTER TWO IS THE SEPARATE MAYDAY/RIT REPORT COMPLETED BY BC BOBBY CASH

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

Upon this turn of events, Ladder 1's officer used his portable to send a mayday alert, forcing the incident commander to react accordingly and re-prioritize incident strategy and resources. Rescue Company 10, who was assigned to rescue the crane operator was now redeployed to rescue Ladder 1. Meanwhile, Ladder 1's FF/Engineer was sweeping the Charlie side of the structure with the aerial master stream in order to facilitate his company's escape.

Ladder 1's officer told Rescue 10 to enter the stairwell beside where Engine 2 was spotted. Unbeknownst to the officer, Engine 2 had been moved from its original location for being in too close proximity to the fire building. Rescue 10 was confounded by this and made attempts to verify the location, but heavy radio traffic continued to make communications difficult.

Ladder 1 was able to make their way to an exterior opening and look down on Tower Ladder 26 and her crew, but he could not get their attention either via the radio or hand signals to send their aerial so they could exit. Fortuitously, the member of Ladder 1 now almost out of air found the way back to the construction stairwell and Rescue 10 actually met Ladder 1 on their way out.

Rescue 10 was then re-deployed to return to the crane operator.

## DEFENSIVE OPERATIONS

With the mayday resolved and Rescue Company 10 executing a plan to extricate the crane operator, efforts focused on protecting exposures and flowing as many master streams as possible. There were some master stream devices serving combination nozzles, and even set on the straightest stream, reports were that the stream was turning to steam before reaching the fire. Research indicates that a separate radio channel was designated for the rapid intervention team operations, and the crane operator was communicating with Rescue 10's officer via construction radio. A division C appeared to organize organically with safety officers initially establishing it then being relieved by subsequent arriving ranking chiefs. After two or three collaborations between the incident commander (Division 1) and the Chief of Operations, the operations chief assumed

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

command of the incident. Division 1 then served as an aide to the incident commander. There are other reports of subsequent arriving officers attaching themselves in the aide role to supervisors and command.

### STAGING

Staging was established before the 2nd alarm companies arrived by an officer from the Training Division. The officer reported that he was confused as to the location of the command post, but chose to shut down the intersection at Tyvola Road and communicated that as the staging location to Fire Alarm.

Besides the RIT group being assigned its own radio channel, staging was apparently the only other function assigned a separate radio channel. The officer further reported that companies did well checking in, and he kept a written list of companies and resources as he deployed them.

He did not, however, record where the resources were deployed. This was largely due to the rapid growth of the incident and resources barely arriving in staging before they were put to work. Additionally, Fire Alarm would request companies from staging to respond to other calls for service that may have been related to the primary incident but geographically distal. Designating a large area was very beneficial, but the officer reported that he could have certainly used an assistant staging area manager. He also stated that he was initially unclear as to the geographical designation of the fire building and had difficulty following the ICS groups and divisions formed. As the resources were depleted, staging transitioned to collocate with rehab.

### INCIDENT COMMAND

Per CFD Tac orders, command was established by the first arriving company, assumed by the first arriving battalion chief, transferred to the ranking division chief, and subsequently transferred to the Chief of Operations. An offensive strategy was quickly confounded by the extreme fire growth and imminent rescue attempts of the workers, and then Ladder 1's mayday situation. Although the appropriate succession of command occurred, the incident commander was quickly overwhelmed with

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

addressing tactical issues and was unable to establish the support sections that are crucial to managing an incident of this magnitude.

Those support sections are Planning, Logistics, and Finance/Admin. Although Finance/Admin could have been established late in the incident, the absence of Planning and Logistics meant a deficiency in tracking resources, preparing for operational periods, and incident communications.

A Type 3 incident such as this requires a fully expanded ICS; with Operations being established to execute the tactics that Command has established. The Operations section chief manages the branches, groups and divisions that perform the tactical functions.

The Incident Commander would then have the ability to form the Planning and Logistics sections, and engage with the command staff (public information officer, safety officer, and liaison officer).

The Incident Commander and section chiefs must have aides and/or assistants and in some cases, deputies in multi-operational period incidents.

It is not possible to have formal communications with more than 5-7 subordinates, as span of control is quickly eroded. An example operations section for this incident would have established at least three branches (fire, rescue, RIT) with each branch organizing appropriate divisions or groups.

With so many individual staff chiefs and chiefs not normally assigned to operations responding, there exists a great resource to be tapped for the ICS positions formally referred to. The key is that these individuals must be assimilated into the ICS structure that has been established. "Freelancing" chiefs and captains most certainly are well-intentioned, but cause chaos and confusion by bypassing the established chain of command. Almost each individual interviewed for this project related a story of being given orders by more than one or two chief officers that were in conflict with their established chain of command. If a ranking officer arrives on scene and is not content with the present strategy or operation, that chief must

## **STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS**

assume command of the incident and make adjustments. If a ranking or other officer arrives at the incident and does not take command, they should report to staging just like all other resources and be deployed from there.

### **COMMUNICATIONS<sup>2</sup>**

Communications are critical at all incidents, especially one of this magnitude. Formal communications (orders being issued, progress reports, urgent reports), must be separate from informal communications (admin or informational) by utilizing separate channels or talk groups. If Operations has functional or divisional branches formed, it is desirable to assign each branch its own channel. This requires section chiefs, branch directors and the Incident Commander to monitor multiple radio channels.

This cannot be done and maintain situational awareness. Branch directors, operations section chiefs, and the Incident Commander must have aides monitor, filter by formal or informal, and respond to radio transmissions. Responding a fully staffed Field Comm Unit with ICS trained personnel as soon as a 2nd alarm is sounded would significantly minimize communications issues. Members could develop a communications plan on scene and implement it based on the ICS structure established. This would be the beginning of the communications unit assigned to logistics in a multi-operational period incident. A communications plan must be initiated as soon as possible to minimize the need for tactical resources to switch radio channels in an IDLH atmosphere.

The question of Ladder 1's officer not depressing the emergency button on his portable is in hindsight a judgement call under mayday conditions that was correct if for no other reason than the company survived physically unscathed. If the system still works as it did before I retired, depressing the E-button switches the radio to an emergency channel that can be monitored by the RIT team. It is speculation as to what difference this would have made but having a mayday situation on its own channel is desirable.

<sup>2</sup> CHAPTER FOUR IS THE SEPARATE COMMUNICATIONS REPORT COMPILED BY HOMELAND SECURITY-CISA.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

### COMMAND POST

The command post must be secured and unmolested by all, but the essential personnel assigned to it. This is also true for operations and branches. Several Members interviewed reported citizens, construction workers, and others approaching the command post and making inquiries and requests.

While the need to be responsive to citizens' concerns and coordinate with other agencies is very important, a commander or operations section chief cannot manage tactical operations and respond in such matters. This is the function of the liaison or public information officers on the command staff.

### COMMAND AIDES

The requirements to monitor multiple radio channels, secure the command post, track resources, maintain situational awareness, and initiate the planning process early in an incident of this magnitude is far more than a single chief officer can accomplish. The solution in the traditional American Fire Service is the assignment of an aide to each on-duty battalion chief. Many metro fire departments assign an aide to division and deputy chiefs as well.

The absence of command aides or chief's aides greatly diminishes the ability to manage type 4 or greater incidents. Although type 4 and greater incidents are less frequent, our existence is predicated on the fact that these incidents have and will occur and we must be prepared to respond with the greatest ability to minimize their impact.

Without the preferred addition of the position of command aide, the resource that can be drawn to fulfill this function are the fire companies themselves. A fire company can be requested from staging to be a command post company; bringing a captain, three firefighters, and four portable radios to meet the needs of the incident commander, operations chief, or branch director.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

### SAFETY

Firefighter safety is an oxymoron. Personal protective gear is limited in its capabilities, and operating in an IDLH atmosphere that is rapidly deteriorating is inherently not safe. It can, however, be done with threat minimization and constant risk versus gain contemplations.

The attempts to rescue the trapped workers were valorous and intrepid. Tragically, they were unsuccessful but worthy of the risk. The successful rescue of the crane operator required Members to operate at extreme risk but the outcome was worth it.

There were several reports of Members not wearing appropriate personal protective equipment (PPE) while operating apparatus. This has been an issue since the creation of PPE. The Department has in place solid procedures and consequences for failing to don appropriate PPE.

It is obviously unreasonable to expect FF/Engineers to operate pumps and aerial devices in full PPE, but they must take the seconds necessary to don at least thermal protection from radiant heat. Truthfully, the fire will remind personnel of the level of PPE they should utilize. Injuries sustained for lack of proper PPE are unacceptable, but the best monitor in this regard is the individual company officer. It is the company officer that must be depended upon to instill compliance by training before an incident and held accountable for failures during and after. It is also the company officer that must correct the action at time of occurrence, not the safety officer on the command staff. The incident safety officer must issue the safety message that is approved by the incident commander, but the company officer must ensure compliance.



## **STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS**

### **AFTER ACTION CRITIQUE**

Conceding that this fire was insurmountable from the arrival of the first fire company, there are several positive lessons that can be reinforced and relied on for future operations.

### **STRATEGY**

Although the default approach of the Department is an offensive attack to prioritize the saving of life and stabilizing the incident, it was recognized early-on by company and battalion commanders that this was at best a defensive operation even with a compulsory rescue attempt. Even so, resources were appropriately deployed with the greatest emphasis on saving lives.

From my review of operations, it is clear to me that the commitment and ultimate sacrifice of Ladder Company 2's apparatus was essential in protecting the exposed steel crane superstructure and the successful rescue of the operator.

### **TACTICS**

Spotting apparatus at the corners of a building anticipating a collapse was key in preventing the loss of the apparatus.

Exposure protection was extraordinary considering the proximity and combustibility of structures on all sides of the fire building.

The great majority of the time that master fire streams are deployed, the intent is to deliver the greatest amounts of gallons of water per minute to the seat of the fire and/or to keep an exposure wet to prevent heat transfer from radiation. There are situations where combination nozzles are desirable on master stream devices; dispersing vapor clouds, applying foam, and mass decontamination are examples. But these situations are not as common as defensive fire attack.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

A solid cylinder of water at 80psi nozzle pressure from a smooth bore nozzle attached to a stream straightener provides the greatest advantage in attempting to quench the fire. All fire streams begin to break apart at a certain distance; and although straight streams from combination nozzles are traveling at a higher velocity, they are still broken streams from the nozzle. There were reports of straight streams from combination nozzles turning to steam before reaching the fire or were deflected by the wind.

Attempting to relocate fire apparatus that is connected to a supply line and then reestablishing the supply line and developing a fire stream is labor intensive, time consuming, and requires the interruption of what may have been an effective fire stream. Consideration should be given to stretching a line from another apparatus to keep the threatened rig wet, as an exposure would be protected. Of course, this tactic will not protect the apparatus from collapse; at which time a risk versus gain assessment must be made in relocating the apparatus.

### LEADERSHIP

Avoiding mayday situations while completing the mission is always preferable. The reality is that even with the best procedures, equipment, and tactics, firefighters operate in an atmosphere of chaos and are vulnerable. When the situation presents itself, the company officer's leadership skill is key in the survival of the company.

The officer of Ladder Company 1 displayed calm and calculating countermeasures when the conditions turned. He had a plan, a backup plan, and a last resort. There was no panic or confusion in his voice or his actions. He was able to communicate his plans to his crew and lead from the front. His actions and the actions of his company under extreme conditions should be studied by every firefighter survival student and company officer candidate that attends the Fire Academy. His competence and confidence are what brought Ladder 1 back to quarters intact.

The officer of Ladder Company 16 displayed solid leadership and kept the incident priorities in order when overwhelmed by an impossible situation.

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

The Acting Division Chief that assumed command was forced to shift strategies and was somehow able to come back with an appropriate action at each turn in the incident.

My research did not yield any reports of deficiencies in leadership at the tactical levels of command.

### COMMUNICATIONS

The Achilles Heel of almost every operation is communications. On going training must be conducted in operations and Fire Alarm as to the difference between formal and informal incident communications, and the proper application of each. Radio discipline for all parties must also be included in the training. A stronger effort to have a communications plan developed for the incident early instead of later should be addressed. Managing the number of resources required for this type of incident requires more than one radio channel.

### COMMAND

The addition of the position of command aide, staffed by an officer (relief captain, lieutenant) would meet the need of the command and operations function and also be a training platform for future chief officers. Duties and certifications should include complete NIMS ICS certifications, emergency vehicle operations, communications equipment operations and setup, and must come from operations personnel.

The Training Academy could be directed to research and develop a block of in-service training for all companies in the duties and functions of a "command post" company. Topics would be the same as implementing command aides.

Self-dispatching operations personnel, regardless of rank, are well intentioned and a valuable resource. However, they must report to staging for assimilation and assignment to the established incident command

## STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

system. The only exception to this should be a ranking superior officer that intends to assume command of the incident. Additionally, when an incident commander is relieved, he/she should be immediately reassigned to another function or returned to staging.

### CONCLUSION

When an organization whose primary mission is to save lives and property experiences any incident where lives and property are lost, it must study the operations and note things that worked and things that can be fine-tuned in order to be made better. That is the purpose of this document.

The fire at 7741 Liberty Row Drive on 18 May is similar to an incident involving a plane crash or mass transportation accident; impossible to get ahead of and an extreme threat to responders and citizens. The fact that incidents like this do not occur frequently denies us experience that can only be overcome with training and redoubled efforts to evaluate our procedures and response criteria.

As tragic as this fire was, the potential for far greater loss existed and was prevented by the actions of the men and women of the Charlotte Fire Department that travelled in harm's way that morning, and continue to do that each day to save the lives and property of the citizens of the City.

### RECOMMENDATIONS

- Implement the position/rank of Command Aide. The position should be assigned to all operations battalion and citywide tour commanders. Qualifications/certifications should include but not be limited to ICS 300-400, Operations Section Chief, EVOC, communication systems operations, fluency in Tablet Command and conventional command white boards utilized in the command vehicles, certification to operate mobile command post and mobile operations vehicles.

### STRATEGICAL AND TACTICAL OPERATIONS ANALYSIS

- Provide an in-service block of training for all companies in establishing and securing the command post and operating communications.
- Staff Field Communications and provide for them the training, equipment, and response criteria to develop communications plans for all multi-alarm and special incidents. Communications plans can be developed ahead of the occurrence for specific incidents and multi-alarms and then implemented early on to minimize communication problems.
- Affect two culture changes:
  - Section chiefs and branch directors must be unsaddled with the complication of directly operating communications devices. There must be aides to filter and respond to direct communications and differentiate between formal and informal communications.
  - Self-dispatched companies, staff officers, non-operations resources and chiefs are valuable resources that can contribute to the successful resolution of any incident, but they must report to staging unless they have a specific assignment directly from command. The only chief officer that should go directly to the command post is one that intends to relieve the current incident commander and assume command. This will minimize freelancing of individual resources as well as conflicting or divergent tactical and strategical orders.

**CHAPTER TWO**  
**MAYDAY/RIC**  
**OVERVIEW**

*THE FOLLOWING CHAPTER WAS PREPARED BY  
BATTALION CHIEF BOBBY CASH, CFD*

## MAYDAY/RIC OVERVIEW

**DATE:** 05/18/2023

**INCIDENT:** #23-0147427

**ADDRESS:** 7741 LIBERTY ROW DRIVE

**WEATHER:** WARM AND SUNNY

### **TIMES:**

- Dispatched: 09:02:49
- On-Scene: 09:07:21
- L16 urgent message: 09:14:51
- L01 MAYDAY declared: 09:31:38
- L01 MAYDAY cleared: 09:38:52

### **RESOURCES:**

- 1ST Alarm: BC05, BC01, C10, E12, E14, E02, E43, L16, L02, L01, R10, SFT01, HM13, FITF03
- 2nd Alarm: BC07, E20, E24, E39, L24, E08, REHAB01, FITF 05, TW26
- 3rd Alarm: BC03, E19, E17, E10, L04, L32, HM32
- 4th Alarm: BC08, E03, E04, E05, E06, E32, L03
- 5th Alarm: BC04, E11, E15, E28, L27
- Additional Resources: BC02, Cars 01, 02, 04, 07, 08, 13, 14, 15, 16, 19, 20, 202, 205, 209, 300, 309, 311, 350, 502, 600, 711, 800, 900, 901, 902, 904, FITF 01, FITF 02, FITF 05, R11, D10, STK10, Engines 02, 16, 22, 24, 26, 31, 33, 40, 42, 65, 72, 73, 74, 75, 76, 81, 83, 84, L31

**Building Construction:** Platform type construction; Two-story Type I parking deck with five-story Type 5 construction above

**Conditions Upon Arrival:** Ladder 16 reported heavy smoke showing from the parking deck area, declared the working fire, and established command. Due to the construction type, L16 requested two additional ladder companies while lines were stretched. E14 established a water supply and attempted to locate the FDC. E12 attempted to locate the standpipe connection. Due to intensifying smoke and heat, a second alarm was struck. Subsequent companies stretched additional lines and performed searches.

## MAYDAY/RIC OVERVIEW

### INCIDENT SUMMARY

While en route, Alarm advised that there was a trailer on fire in the parking deck area. A second caller reported a fire at the new construction site. L16 arrived, established command, struck the second alarm, and began making assignments for arriving companies. The fire progressed vertically from the parking deck area into the unprotected, wood frame portion of the building. Fire progression outran CFD efforts due to the lack of temporary fire protection features and the unprotected wood throughout the upper five floors. There were reports of construction workers missing. Searches were attempted via interior stairs, ground ladders, and aerial ladders. L16 experienced a close call while attempting to find the reported missing workers. Shortly thereafter, L01 issued a MAYDAY. This report will provide a glimpse of the close call but will give a thorough review of the MAYDAY situation. The report will contain company interviews, building diagrams, pictures, etc. to delve into what was experienced that day. Members from the affected companies will provide “lessons learned” and allow us to learn from their near miss.

### TIMELINE

This timeline is provided to set out, to the extent possible, the sequence of events that occurred up to, during, and the clearing of a MAYDAY call from Ladder 1. Some of the times are approximate and were obtained from review of CAD notes and fireground recordings from CFD Alarm. In some cases, the times may have been rounded to the nearest minute, and not all events have been included. The timeline is not intended, nor should it be used, as a formal record of events.

0906 Hours

L16 arrives, reports heavy smoke showing, and establishes Command

0908 Hours

Command requests two additional ladder companies

0909 Hours

Command requests a 2nd alarm



## **MAYDAY/RIC OVERVIEW**

0913 Hours

BC05 assumes Command. L16 reports that they feel heat but cannot locate any fire

0914 Hours

L16 relays an urgent message about two people trapped on the sixth floor

0916 Hours

L01 speaks to a worker and gets an understanding about where to access the upper floors. L01 reports to Command that they are heading to the floor 6 to search for the two missing workers

0918 Hours

L16 attempts to enter the building via a 40' ground ladder. One FF had to evacuate the floor and dive back onto the ground ladder due to changing conditions

0920

Car 10 assumes Command

0922 Hours

Command orders an evacuation of the building (PAR is initiated)

0927 Hours

L01 reports being PAR via radio

0931

L01 issues a MAYDAY call

0935 Hours

L01 reports that they are looking at the top of Tower 26

0937 Hours

L01 FF locates a stairwell

0938 Hours

L01 crew exits the structure

## **MAYDAY/RIC OVERVIEW**

**The following was submitted by Captain Brian Benson (L16-A):**

“On Thursday, May 18, 2023, at approximately 0900 Ladder 16 was dispatched with other units to 7741 Liberty Row Drive for a report of a vehicle fire. Information was given enroute that there was a trailer in a parking deck that was on fire. Ladder 16 arrived on scene and entered the location from the Piedmont Row Drive South side of the structure. Ladder 16 was directed to the Barclay Downs side of the structure by several individuals waving. Ladder 16 stopped at the Liberty Row and Barclay Downs corner of the structure. Ladder 16 established command and began to work towards locating the seat of the fire.

Upon arrival I observed heavy smoke conditions coming from the parking garage area of the structure on the southeast corner (Alpha side). There was no visible fire upon arrival. My initial observation of the smoke indicated that the smoke was volume driven. The smoke was gray and brown in color. At the time of my arrival the smoke was emitting mainly from the openings for the parking garage entrance at the Alpha/Delta corner. After approximately 2 to 3 minutes the color of the smoke changed from gray and brown to black. The smoke still appeared to be volume driven with no heat conditions observed but was starting to emit from windows on the third floor at the A/D corner. As smoke conditions changed, I requested that Alarm transmit a working fire assignment for a mid-rise building. On the Alpha side of the structure at the A/D corner there were two large door openings with no doors installed yet. Firefighter II Sherrod Coates and FFI Chris McMillan entered the parking garage through the large door opening on the left. This door was later learned to be a long hallway that ran from the Alpha side to roughly the middle of the structure at a “T” intersection where an elevator shaft was located. At the “T” intersection, to the left was a hallway leading the exterior on the Bravo side. The right of the intersection was the parking garage area where the trailer was located. FFII Coates advised that he was not able to locate the seat of the fire. FFII Coates reported heavy smoke conditions with little to no heat conditions.

Upon arrival of Engine 12 and Engine 14 I requested that the captain of Engine 12 try to locate the superintendent in charge of the construction site as he made his way to the command post at the A/D corner.

## MAYDAY/RIC OVERVIEW

I instructed Engine 12 to lay a supply line into Ladder 16, and Engine 14 to lay a second supply line for the FDC. Engine 12 approached from the Piedmont Row Drive South side, and Engine 14 approached from the Barclay Downs side. Engine 12 Captain Matthews found the Superintendent and brought him to my location at the A/D corner. I asked the Superintendent to perform a head count of his employees, and if there were any MSDS on site for the material in the trailer. I also asked the Superintendent, in the presence of Engine 12 Captain Matthews if the FDC was connected and functional. The Superintendent stated that the FDC was connected and functioning. At that time instructed Engine 12 to enter the structure for fire suppression efforts.

After contacting the Superintendent, smoke conditions continued to increase, however the smoke remained volume driven. At this time, I requested a Second Alarm be transmitted and to have a HazMat unit assigned to the call. Battalion 5 arrived on scene and was given a report face-to-face at which time Command was transferred. At the same time as Command being transferred, I observed that the volume of smoke had drastically increased and was being to emit from most if not all openings of the second floor. The smoke continued to remain volume driven with no notable heat conditions. At approximately 0922 while Ladder 16 and Ladder 2 were attempting to access the victims from the Bravo side, smoke conditions went from volume driven to heat driven. In the next two seconds the fire flashed over on the second floor of the structure.”

*Note that there were no pictures for the near miss involving L16. Nobody on scene was taking pictures yet. L16 experienced a near miss due to rapidly changing conditions. Reach out to that crew with any questions.*

### **The following was submitted by Battalion Chief Eric Withers (BC01-A):**

“As I reflect on May 18, 2023—The Liberty Row fire I cannot help but go back to the heroic actions that I witnessed on this date. I’m proud of the men and women who performed, and it never can be expressed enough by me to them about their courage and selflessness acts. Our firefighters and telecommunicators did an extraordinary job for this fire and everything it produced. It is my hope that reading this will provoke conversation that leads to training—at the company level, battalions and department. Training is and will always be the foundation to our success.

## MAYDAY/RIC OVERVIEW

For this date, I was riding C10 and not in my normal assignment of B-01. I carry my portable radio regularly to listen to calls being dispatched, etc. When this call was dispatched, I was on the apparatus floor with a few others and went to the MST to read the notes. This behavior is normal if I hear a 'working incident' and I'm close to the CPU, but the uncertainty of this call was different. After reading the notes I started my response non-emergency, waiting on the first apparatus to arrive and size-up the incident. L16 arrived and when he finished his size-up, I checked enroute on 'conference' and started an emergency response. While enroute and a few blocks out, I noticed smoke in the horizon but nothing that was really alarming.

On arrival I pulled up to what will be later determined as the C side of the structure. I turned left onto Liberty Row from Fairview and was immediately met with workers blocking the road. Their backs were turned to me with their phones out and their eyes taking in moments of the fire. When I got to the building, I recognized the following- 100+ workers in the streets; podium building under construction; smoke was moderate to heavy on floors 1 and 2, but light on floor 3 and greater; fire visible on floor 1 at what will be called the C/D corner; and E02 arriving as the lone fire apparatus from this position.

Immediately, I pulled up the map to see where Chief Brown was located. The map determined he was on the opposite side of the building at Piedmont Row Drive South. The construction fence was blocking access on Liberty Row Drive South which split the two buildings, so I had to go back out to Fairview Rd. and come around to join Chief Brown in the parking lot of Piedmont Row Drive South. When I finally got around to side A of the building, I identified the following- Very few workers; smoke conditions were a lot different, in that, heavy smoke on floors 1 and 2, but smoke was much greater on floor 3 with no visible flame.

From my initial approach and personal size-up, I thought to myself that we had a fire that warranted an offensive attack and search for victims. Fire was visible on the first floor of a non-combustible floor and it appeared the wooden floors were non-threatened. By the time I got around to where Chief Brown and command was located, I knew this was going to eventually be a defensive fire. I stepped out of the car with the intent to

## MAYDAY/RIC OVERVIEW

take command. We were ten minutes into the fire with two victims unaccounted for and potentially more inside the structure, and we had not located the fire nor put handline(s) in place. Needless to say, internal alarms were sounding as time increased without having a location of the fire. Chief Brown was still inside his car when I walked up and told Tim I was going to take it and move him forward to Search/Rescue Group Supervisor. I think I told him we are looking for two victims and gave him a run-down of companies I was giving him to start the aggressive search. I took command and moved to the back of the Tahoe to begin using the 'white board' for accountability.

I assumed command over the radio and attempted to begin organizing companies along with giving a handful of assignments out. I was at the back of the car trying to capture companies and their assignments as well as their locations on the fire ground. I was multitasking as this was occurring as well as reading the building and planning our next moves. I remember focusing on the building as I was looking around at companies who were on-scene. My thoughts were to pull back to a defensive posture, but I knew we had a window of opportunity and firefighters who were with me in taking the risk to save a life. I remember telling myself as I continued to scan for hazards that the building and its conditions will let me know when it is time to cease efforts with any type of rescue. Keep in mind that I had just came from an area that we would know as the C side where there were ~100+ subcontractors walking away from the buildings.

The conditions in the building did change. It went from smoke on floors 1 and 2 to fire showing from the windowless openings. The changeover to fire did not occur instantaneously but it was rapid. I remember it moving from opening to opening. When this occurred, smoke condition also changed, and conditions became more intense. I knew at this point our time occupying the building was over. This moment was also the first time that I accepted we were not going to be able to retrieve the two unaccounted victims. Conditions now warranted a defensive position for obvious reasons. It was ordered to evacuate the structure and stand by for a PAR.

## MAYDAY/RIC OVERVIEW

After we pulled out and collected a PAR, the incident command structure changed to divisions for the three sides of the building that we were going to attack with large master streams. We also had exposures that I was concerned with and was developing a plan to capture and protect these from the transfer of heat to include embers. The main incident objectives included the rescue of the crane operator along exposures and confinement of the fire. Or so I thought...

When the order was given to evacuate the structure, ample time was given before a PAR was initiated by Alarm. It was my decision to give the PAR to Alarm, and to communicate a report of accountability on personnel or a company. Alarm done a very good job handling the PAR, but our members didn't conduct the PAR the way we train. The PAR was out of control and unprofessional. In my 24 years with the fire department, I have never heard companies just call over the radio their company number without being asked first. We also had useless information during what would be a critical component of the incident which I participated in and allowed. At some point I had to tell all over the radio to cease radio traffic and for Alarm to finish the PAR. I mention this to identify our short comings and to also set the stage for the MAYDAY.

When the firefighter keyed up the radio, I immediately recognized the vibra-alert which signifies low air to the user and in this case to everyone on-scene. I found it odd or out of place considering everyone was out of the building. When I heard the voice I knew it was Captain Watts, and when I heard the word—Mayday, my heart literally fell to my ankles. Captain Watts was calling the Mayday for him as well as the crew of L01. Captain Watts provided Location and Unit in his first call for assistance. During his +/- 10 second transmission, I believe that every thought and feeling that resonates with the safety and survival of a firefighting crew or Mayday flashed before me. My very first thought was disbelief just for a split second- I remember telling myself this can't be happening. This thought rapidly went to being mad and frustrated. I think this can speak for itself, but I was also mad at Captain Watts and L01. There were a few other thoughts that many would find irrelevant so I will share with you my final thought. The last thought took me back to the third-floor landing at Gaston College and Breathing Equipment School. Often I will play the role of the RIC Group Supervisor for the final drill to help with the drill. I went back to

## MAYDAY/RIC OVERVIEW

what I know or the reps in training (Recognition Prime Decision Making) which put me in position to be successful with this Mayday.

First, I knew through his voice the unit, name, and assignment just from giving him permission to enter and make an attempt for the rescue. I was looking for Location, Unit, Name, Assignment and Resources—the key fundamentals that Dr. Burton Clark identified with his ‘Calling the Mayday’ drill. I even knew L01 was on the sixth floor at one time, but I wasn’t about to start RIC without knowing for certain their location in the building. The building was too big and conditions were such where risks need to be calculated, not reckless. I asked for his location a second time and only heard they were on the sixth floor. It was a quick thought about sending crews to the sixth floor, but the thought was quickly erased when I considered a well-known LODD fire that occurred in the late 90’s. The building, equipment, and circumstances are different, but oddly enough, I didn’t want to send someone without a specific mission or purpose. I asked a third time, and only received about the same information. The fourth and final time I tell Captain Watts I know you are on the sixth floor but what side of the building are you located. It is at this point I hear through the vibra-alert that he is on the C side and near the stairwell where E02 is set-up. At this point RIC is started, but at the same time L01 finds the stairwell and walks out of the building. I requested RIC to stay engaged with the Mayday until the firefighters from L01 were out of the building. This included entering and traveling inside the building if necessary until the company was intercepted by the RIC companies. L01 was able to self-extricate and RIC confirmed before the Mayday was cancelled through Alarm.”

### **The following was submitted by Captain Mike Watts (L01-A):**

“On May 18th I heard in the captain’s office, a vehicle fire box go out. I went to the computer and saw that it was a vehicle fire in a parking deck. I told my crew to get on the truck to ride that way in case it went working. I noticed that Ladder 16 was on it, Tower 3 was on another call, and I cannot recall if Ladder 2 was on a call or not. With the notes given, something told me this was going to be a working fire. Car 10 left the station ahead of us with lights and sirens. As we drove the call was upgraded to a working fire. With Car 10 still in sight, I called on the radio and asked Battalion 5 for permission to add as the second Ladder for a commercial building fire.

## MAYDAY/RIC OVERVIEW

The request was approved by command, and we made our way. I pulled up the map and gave directions to my driver. I then looked at the scene to see where our best access was and where L1 would need to position. The call was upgraded to a Second Alarm while we were en route. When we got to Fairview Road, Ladder 2 was in front of us. We entered the scene with L2 onto Liberty Row from Fairview. They made their way down the alley between the buildings, and we stopped at what would become the CB corner of the structure.

After we got off the truck, FF Pettit grabbed a construction worker and asked where the stairs were. The worker led us to the stairwell door that was behind an 8ft chain-link fence with vinyl decals over it and we headed up. I stopped the crew and told them to mask up on the second floor due to smoke conditions in the stairwell. I called command on the radio to notify him that we had found the stairs and were heading up to the 6th to locate the victim. Command said 10-4 and we headed up. Once we reached floor 4, the smoke started to lighten up. When we got off on 6, there was good visibility and no smoke where we were at. The hallway we took from the stairwell door was straight for about 20 feet, then left for another 40 to 50 feet to the corner of the hallway. We turned right to start down the long hallway and for another approximately 50 feet conditions were clear. Then I realized smoke was at eye level, so we started duck walking and then were on our knees due to low-no visibility. We crawled for a few more feet and I thought I heard someone yell as the evacuation order was given, I slowed to a stop and as the radio traffic ceased, I heard a person yelling "Help" directly in front of me. I told my crew I heard someone yell, and to push a little further before turning back. We pushed 20 or so feet and all three of us heard "Help me!" directly ahead. The crew kept pushing down this long hallway going toward the voices. When we stopped, I pushed out about 20 feet past my crew so I could hear better. I banged my Halligan on the floor three times as hard as I could and yelled "Fire Department where are you" and then held my breath. I immediately heard "Help me Help me" and then a noise that sounded like someone banging on the floor and wall. At this point, I knew we could not go any further, my crew and I banged our tools and yelled and waited a few seconds to see if the victim could come to us. The voice sounded like they were close, but I knew that sound probably traveled far due to the lack of contents in the structure and the current phase of construction. At this point I told my crew to head back



## **MAYDAY/RIC OVERVIEW**

and out. We did a 180 turn and kept on the right-side wall. While crawling quickly down the hall, I heard alarm say "Ladder 1 PAR." I reached up in stride and clicked my MIC and said "PAR." I kept moving forward and at some point, I came off the wall to feel the opposite side of the hallway which was studs with OSB on the inside of the apartment, with my crew directly behind me staying on the right-hand wall. I felt a break in the studs that was wider than a doorway and recognized this as a hallway back to the stairs. I turned left and crawled forward at a quick pace, my crew still behind me at the entryway. I crawled until my head ran into a wall. I felt to my right and felt a wall, felt to my left and found a wall, and quickly realized I was in a dead-end hallway and not the stairwell hallway. This moment I screamed "F\*\*k!" I knew at this moment this was my only chance to get out my frustration as I did not want my crew to witness this. I knew that I would have to keep a cool head once I got back to them so we could keep working to find a way out. I met Pettit at this entry and said, "This isn't it, it's a dead end." At this point, Pettit yelled "F\*\*k." This was also the only moment that Firefighter Pettit showed any glimpse of frustration out loud. He stayed calm and kept working and kept moving forward. At this point we started moving on the exterior wall and kept going towards the stairwell. Pettit checked a room to the left and I followed with Tom in tow. We piled in the entryway of this room, and I pulled the TIC up to check the room. I wiped my facepiece, then the TIC, and by the time I had wiped the TIC I had to re-wipe my facepiece. After 3 or 4 attempts to look through the TIC, I put the screen to my facepiece and just went with that. I could see the patio burning and a white screen on all window openings and balcony. I turned around and said, "We're not going that way" and we returned to the exterior wall. Tom started vibing while we were in that room. It was at this point that I put my hand on my mic and rehearsed in my head what I was going to say. Pettit said to me "we probably need to call a MAYDAY." I said to Pettit, "I'm already on it." I took a breath, squeezed the MIC, heard the chirp and said, "MAYDAY MAYDAY MAYDAY, Ladder 1 crew, 6th floor, were low on air, we need two RIT packs and help with a way out." While doing this, Pettit was coaching Tom through his breathing and had crawled a few feet away and started breaching a wall. I then remember answering command who asked for a better location, I replied, "We entered the stairwell where Engine 2 is parked." At this point I crawled to my crew and started breaching the wall next to Pettit.

## MAYDAY/RIC OVERVIEW

I hit the wall with the ADZ/Spike end of my Halligan twice and it bounce off. I turned the tool around and my forks punched through. I used the forks to chop across and then down and then punched through with the other side of the Halligan. We looked out and could see a parking deck that was too far to bail out to. In my mind I thought, this hole is our last resort if we cannot find a better way out in a few minutes. I looked at the size and noticed it was 16 inch on center and the hole was about 20 inches tall. My plan was that we could take our packs and helmets off, Tom and Pettit could take one last breath of air, swim through hole headfirst and I would push them out. Then I would follow. I knew this had to be the last option as we were on the 6th floor and our rope would not get us to the ground. This would leave us hanging there waiting for a ladder, or we would have to untie the knot at the end of the line and fall the last 1.5 to 2 stories. After the hole was breached, I started vibing. I kept Tom behind me and started down the exterior wall towards the stairs, while Pettit pushed on ahead on the same wall. I wanted to keep good orientation on the wall and the hole we just made in case we needed it. I kept a bit slower pace since Tom was already vibing for a bit and wanted to make sure he conserved his air. I then heard a tool banging on the floor and thought at first the RIT team had found us. At this time, I activated my pass device, and we started crawling towards the banging. I saw a flashlight swinging and thought I saw a white shield, again thinking this was the RIT team. We got into a room with almost no smoke but had been charred by fire where I saw Pettit and realized it was him banging his tool. The room was clear enough and so the crew and I unclipped our regulators, trying conserving as much air as we could. I looked down and saw Tower 26 and called on the radio "Tower 26, get the bucket in the air, I'm staring at the top of your truck, we're on the 6th floor, come get us." I heard no response, and the bucket was not moving. I saw an Engine 11 Captain Shield looking up as well. As I keyed up to call again Pettit threw a chunk of drywall out, that struck the ground between the E11 Captain and Tower 26. No one noticed so I called again. "Tower 26, I'm staring at the top of your truck, get the bucket to the 6th and come get us." At this time Pettit had stepped back into the hallway and moved towards where he though the stairs were. We knew we were close as we were in the corner apartment and knew the stairs were on this wall. I had my Halligan in my hand and was about to throw it out towards Tower 26. This was the heaviest thing I had, and I knew would be the loudest noise to garner attention. At that moment Pettit tapped me on the

## MAYDAY/RIC OVERVIEW

shoulder and said, "I found the stairs, let's go." I grabbed Tom, we clipped back in and followed Pettit into the hallway where he had located the stairs about 40 feet from the apartment. There was zero visibility in the hallway until we reached the stairwell door and saw light from the windows. I called command and said, "Ladder 1 to command, we found the stairs." The stairs were very clear, and we unclipped and walked down and out. I then radioed to command "Ladder 1 to command, we are out of the structure."

At this point we got to the truck and had a few minutes to take our packs off and breathe. Right away, we had to go straight to work moving the truck because the fire had spread, and the heat was intense. Where we just were at on the sixth floor, was now fully involved. We got all equipment out of the way and started getting the supply line shut down, aerial bedded, out riggers in and the truck moved. Luckily the manpower was there and crews from Engine 5 and 17 helped pick up the 5 inch and walk with it as Levi moved the truck. We positioned out of the collapse zone and then began resetting the truck for aerial flow. We fought through some trees and immense heat but finally were able to get the aerial flowing again. The controls at the back of the ladder for the out riggers were so hot you had to use gloves to touch them. The rest of the fire went like any other as a Ladder in a defensive position. The firefighters rotated climbing the aerial and flowing water and Ladder 1 maintained this position until released by command.

An important piece to our survival, that we only found out later in the incident, is that Levi had extinguished that apartment we were in on the 6th floor. He had used the aerial and extinguished the entire Charlie side of the structure. Had he not done this, we may have been left with no option other than to return to the hole we made and bail out. The apartment had burned about 12-15 feet in from the window, so the odds of it overcoming that side of the building before we got to it are high. We also realized afterwards that while making that hole, we were surrounded by fire and the only way out was the hole we made on the Delta side of the structure."

## MAYDAY/RIC OVERVIEW

### MODERA SOUTHPARK

Seven-story, luxury apartment building that contained 239 units. Twin buildings, each consisting of studio, one-, two-, and three-bedroom homes with an average square footage of 1,100. Building is designed around two courtyard and/or pool areas.



## MAYDAY/RIC OVERVIEW

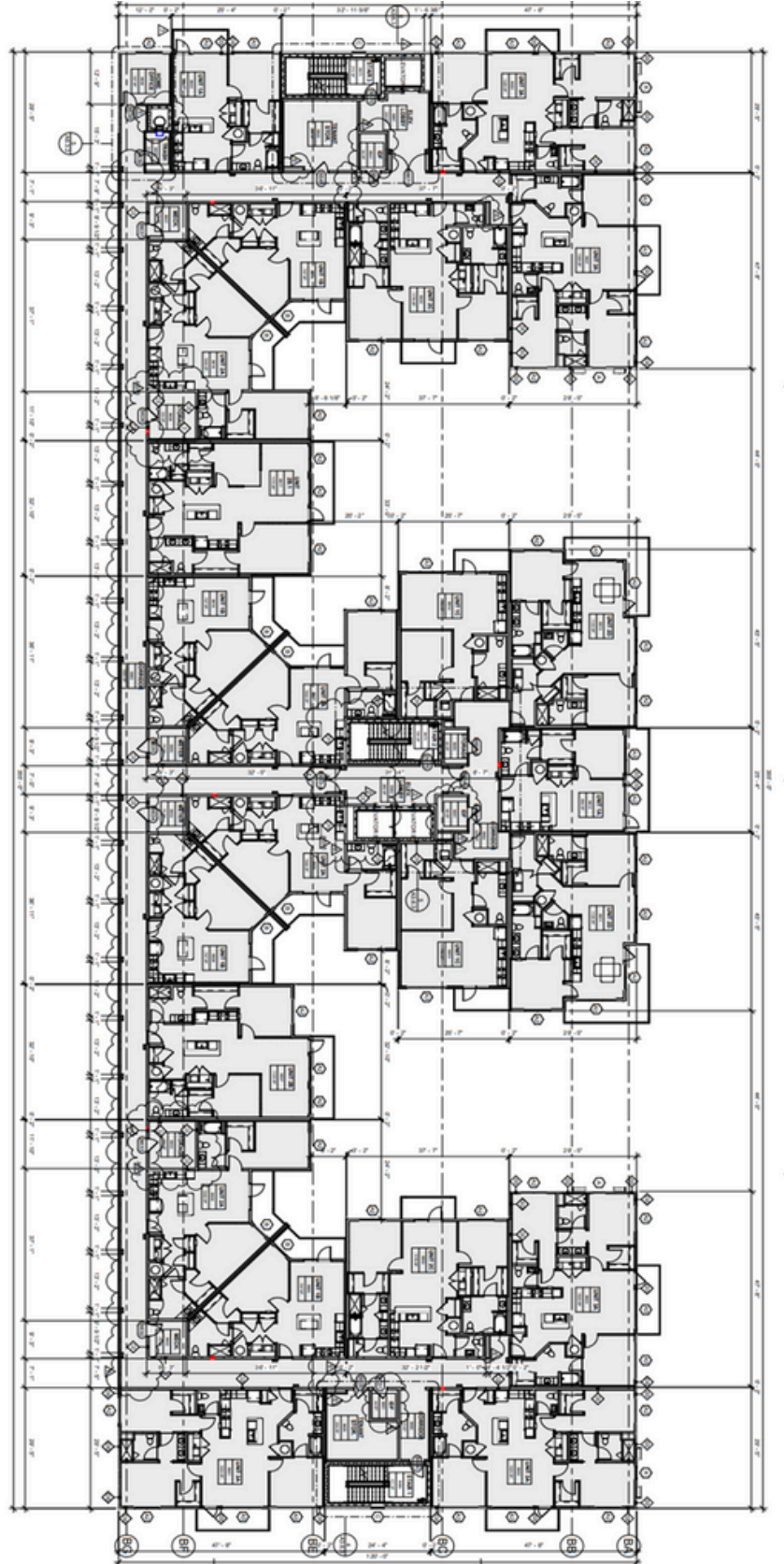
### BUILDING ORIENTATION

- “Alpha” side – this is Barclay Downs Dr. as well but it is where the round-about is
- “Bravo” side – Liberty Row Dr. (between the buildings/parking decks)
- “Charlie” side – Fairview Rd.
- “Delta” side – Barclay Downs Dr



## MAYDAY/RIC OVERVIEW

Liberty Row Drive (Alpha) side  
Floor 6 floorplan



## **MAYDAY/RIC OVERVIEW**

Ladder 1 – positioned on the “Bravo/Charlie” corner between the two buildings under construction.



## MAYDAY/RIC OVERVIEW

Interior (top picture) and exterior (bottom picture) wall construction





## **MAYDAY/RIC OVERVIEW**

Top picture – Hallway at center corridor, looking towards the “Alpha” side.  
Bottom picture – Hallway looking towards the exit.



## MAYDAY/RIC OVERVIEW

Top picture – Hallway that L01 entered from the stairs. Flashlight indicating stairwell location.

Bottom picture – The apartment that L01 found themselves in while searching for the exit.(Look left, and up, of the aerial stream on the top floor) This is the “Charlie/Delta” side



## **MAYDAY/RIC OVERVIEW**

L01 crew attempted to tell the RIC where they were located. They used a landmark of Tower 26, but the message was either covered up or unheard. Running out of options, Captain Watts thought about dropping a tool out to get someone's attention on the ground.



## **MAYDAY/RIC OVERVIEW**

Notice the hole in the exterior sheeting and Tyvek wrapping. This is the hole L01 crew made in an attempt to identify where they were in the building once conditions rapidly deteriorated. This is the “Delta” side.



## **MAYDAY/RIC OVERVIEW**

### **LESSONS LEARNED/REINFORCED**

#### ***PROVIDED BY L01-A***

Navigation aids – use search ropes and/or hose lines to stay oriented inside buildings. The majority of MAYDAY incidents involve firefighters calling for help due to being lost or separated from a search rope or hose line. Not just commercial buildings, but structures with large square footage mandate the use of some type of orientation measures. The fire service loses 1-2 firefighters in residential structures. During incidents in commercial and large square-footage buildings we usually see losses of companies of firefighters.

Communications – almost every NIOSH report written has communications as a contributing factor for firefighter injuries or LODD's. Captain Watts stated that he attempted to transmit information several times with no luck. During preplan activities, we must identify areas or buildings where communications will be reduced or nonexistent. This also applies to communications among crew members. Members of L01 maintained voice contact through the majority of their MAYDAY event.

Complacency – upon making the 6th floor, conditions were favorable for a thorough search. As L01 proceeded deeper into the building, conditions changed drastically and in a short amount of time. Smokey areas went to blackout conditions within seconds. Maintain orientation and communications with each crew member when conditions are bad. It is extremely easy to develop tunnel vision. We are assigned tasks, so we do what needs to be done to complete those tasks. Don't allow clear or tenable conditions to let you get too deep in structures. Expect conditions to change and become untenable. Always keep in mind how fast conditions can change.

Making the MAYDAY call – we are all taught to stay calm and collected during any type of MAYDAY incident, whether involving ourselves or another member. It's pretty safe to say that this is going to be anything but calm and collected. Stop, figure out what needs to be done (transmit the MAYDAY, announce pertinent information-LUNAR, work towards self-

## **MAYDAY/RIC OVERVIEW**

rescue, try to figure out a solution to the problem, etc. Take a moment and freak out, scream, whatever is needed and then hit the reset button, so to speak. Remain calm as possible, conserve air, tell the IC where you are and what is needed, and work to solve the problem or guide members in to assist.

### ***PROVIDED BY FF/ENG. NISWANDER***

Assignment(s) – when given an assignment, complete that assignment. This is barring anything preventing you from doing so. Numerous people may be trying to get you to do something else. If possible, complete your assigned task and then help them out.

Water supply – during incidents where large volumes of water are going to be needed, anticipate this and secure water if possible. Numerous aerial ladders were used during this fire. Establishing water early to ladder companies is essential. Trust your instincts and continue to flow water, even when the aerial is utilized for rescue purposes.

### ***PROVIDED BY BATTALION CHIEF WITHERS***

Personnel Accountability Report- It is a report and companies should acknowledge when roll call is established that “L01 is PAR” or report “L01 is PAR but on the seventh floor making our way out”. The latter message should stimulate the Incident Commander to have a further conversation with L01.

Calling out company numbers without being called is not the right way to address PARs and unacceptable. It creates chaos to an already controlled chaotic incident and can create confusion. Members need to maintain discipline during the PAR regardless of the incident by waiting on their company name to be called.

I did not establish RIC until the first or second company of the second alarm. Regardless, RIC wasn't established until we had retreated to a defensive stance. You hear and I fell victim to it that other assignments need to be carried out to make the incident safe. While there is truth to

## **MAYDAY/RIC OVERVIEW**

this, it was not an apartment building nor a commercial building. This was a vertical lumber yard that was unprotected and, in most cases, open with little opportunities for confinement, We have to understand the building and its conditions and change our current culture with RIC assignments and when it is established.

My 'command post' was the back of C10 with just a white board and two radios. If I had a chief aid or an officer at the car prior to or when the Mayday was executed, I know that I would have been better prepared.

The incident commander must recognize this is not going to be a normal operation. He/She needs the extra staff for the complexities that come with incident management and to accomplish this is with assistance of chief's aide(s).

The fourth and final call is the moment when I decided if I don't get the specifics to their location this time then we will have to move channels. I felt as if Captain Watts was talking but I did not want to hear the message, he was sending. Recognizing that we are still actively fighting a fire should have been enough to know that the Mayday and the fire needed to be on two separate channels.

***CHAPTER THREE***  
**FIRE INVESTIGATION**  
**TASK FORCE REPORT**

*THE FOLLOWING CHAPTER WAS PREPARED BY  
FIRE INVESTIGATOR J.G. BOGGS, CFD  
AND TECHNICALLY REVIEWED BY  
E.E. SHAVER, CHIEF FIRE INVESTIGATOR*



## FIRE INVESTIGATION TASK FORCE REPORT

**CFD Incident #:** 23-0147427

**CMPD Incident #:**20230518 0902 01

**Date/Time:** Thursday, May 18, 2023 / 0902 hours

**Incident Address:** 7741 Liberty Row Drive, Building B, Charlotte, North Carolina.

**Victim(s):** Baker Insulation / Mill Creek Residential Construction

**Lead Investigator Assigned:** J.G. Boggs, Fire Investigator Charlotte Fire Investigation Task Force

**Other Investigator(s) Assigned:** S.F. Southworth, Fire Investigator, Charlotte Fire Investigation Task Force, E.E. Shaver, Chief Fire Investigator Charlotte Fire Investigation Task Force, C.S. Steele, Senior Fire Investigator Charlotte Fire Investigation Task Force, E.R. Wall, Fire Investigator Charlotte Fire Investigation Task Force, T.A. Goforth, Fire Investigator Charlotte Fire Investigation Task Force.

**Outside Agency Investigators On-Scene:** Taylor Marsh, Fire Investigator, North Carolina Office of State Fire Marshal, Kevin Head, Fire Investigator, North Carolina Office of State Fire Marshal.

**Report Date:** 11/16/2023

*The procedures utilized throughout the course of this investigation and the conclusions reached herein are based upon scientific principles currently accepted within the field of fire investigation. These references include, but are not limited to, NFPA 921 and NFPA 1033.*

*The examination of this scene was justified by the statutory authority given to the fire department to search for the fire's cause, origin, and circumstances (NCGS 58-79-01).*

## **FIRE INVESTIGATION TASK FORCE REPORT**

### **ASSIGNMENT SUMMARY**

On Thursday, May 18, 2023, Charlotte Fire Department (CFD) Communications (Alarm) received a call reporting a trailer on fire in a parking deck at 7741 Liberty Row Drive, in Charlotte, North Carolina. CFD personnel and apparatus responded on the first alarm which occurred at 0902 with Ladder 16 arriving first on the scene at 0907 hours; Captain Benson established command, reported heavy smoke showing and was attempting to locate the trailer fire within the parking structure. The second alarm was dispatched at 0909 hours. This investigator responded due to the fire being upgraded to a 2nd alarm "working fire" incident and arrived on the scene at 0926 hours. The third alarm was sounded at 0920 hours, the fourth alarm at 0931, and the fifth alarm at 0956. This incident reached a 5-alarm response for Charlotte Fire Department and resulted in fire damage to 6 buildings, 14 cars, and 4 fire apparatus. Two construction workers perished in the fire.

This investigator was assisted by the following members of the Charlotte Fire Investigation Task Force: Jason Boggs, Fire Investigator, Lead Fire Investigator, Robert Klass, Arson Detective, Lead for CMPD, Steven Southworth, Fire Investigator, Edwin Shaver, Chief Fire Investigator, Eric Wall, Fire Investigator, Charlotte Steele, Senior Fire Investigator, Thomas Goforth, Fire Investigator/K9 Handler, Mark Oddo Fire Investigator, Phillip Levett, Arson Detective, Terrell Macklin, Arson Detective, Charles Strong, Sergeant Bomb/Arson.

The fire scene was fully documented with digital photographs, scene sketches, videos, notes, and various other forms of data and are included in the case file.

### **SCENE SECURITY**

Scene security was maintained by CFD and Charlotte-Mecklenburg Police Department (CMPD) personnel during the entire incident. Immediately after the incident, the owner and site managing company brought in a private contractor to put up a perimeter fence to cordon off the area for safety and subsequent investigation. CFD maintained control of the fire scene for two days, then private security was brought in to provide additional security of the scene.

## **FIRE INVESTIGATION TASK FORCE REPORT**

### **SCENE DESCRIPTION**

The involved structure was a Podium-style eight-story, multi-family condominium building constructed over a concrete slab foundation. The first two stories were non-combustible concrete construction and would be used as a parking deck with a few business spaces along the street side on the main level. The upper floors were wood-framed and covered with fire resistant plywood as the building was currently under construction. The roof was flat and currently being worked on with no finished roof materials in place. The structure was identified as Building B and part of a two-building apartment site with the two mirroring each other. The square footage was approximately 259,179 for one building.

The structure's utility services (electric and natural gas) were examined and were unremarkable.

Fire protection in the form of a standpipe and fire sprinklers were in place in various stages of installation. The standpipe was located on the exterior of the building and extended up approximately 15 to 20 feet. The installation was not complete or in service. Fire sprinklers were installed inside the parking structure but also not operational at the time of the fire.

The involved vehicle of fire origin was an enclosed eight and one-half by twenty-foot enclosed trailer. Based on information provided by involved personnel, the trailer was a 2014 model with a vehicle identification number of 53NBE2024EI022810. No manufacturer's name or the company who outfitted the trailer with the spray foam equipment was provided. The trailer was owned and operated by Baker Insulation based in Versailles, Kentucky. Ronald Baker was the listed owner and Jarod Moss was the operator of the trailer at the time of the fire. Baker Insulation was a subcontractor of Diversified Insulation (Randal Knight, owner) who was the main contractor for the job. Mr. Baker was on site in the second building at the time the fire was discovered.

## **FIRE INVESTIGATION TASK FORCE REPORT**

### **WEATHER CONDITIONS**

The weather at the time of the fire was partly sunny and clear, 66 degrees, 65% humidity, with 13 mph winds out of the ENE. A detailed weather report was obtained from the website Weather Underground (<http://www.wunderground.com>) and is included in this case file. Weather was not a factor in the fire cause, however high winds contributed to the spread of this fire to other buildings and areas.

### **INTERVIEWS**

#### **Tony Rolfes, VP Construction Mill Creek Residential**

In summary Mr. Rolfes reported he was Vice President of the construction division. He advised that Bob Nelson was the site superintendent for the project. He said that they both would remain on scene and provide any information they could to assist fire operations and investigations. He said at the time he was advised that the fire started in one of the spray foam insulation trailers in building B. He said he would work to obtain the information for the contractor who owned the trailer. Mr. Nelson advised there were possibly still two employees unaccounted for.

#### **Randal Knight, Diversified Insulation, 573-887-1960**

Mr. Knight is the owner of Diversified Insulation. His company was contracted to do the insulation work. He said that due to the size of the project, he subcontracted with a friend who owns an insulation company. Their name was Baker Insulation. He said there were four spray foam trailers being utilized and located in building B. As they reached approximately 90% completion of the job in building B, he moved three of the trailers to building A to begin work. The remaining spray trailer was owned by Baker Insulation. Mr. Knight explained that the enclosed trailer was 8.5 feet wide by 20 feet long and contained two areas. One was for the diesel generator which provided power for the trailer and to run the foam operating equipment. The other side was used to store chemicals used in the spray foam insulation process, general storage and to provide a small work area. He said the spray hose was heated and could extend up to 300 feet. Mr. Knight said they got to the site around 0730 hours prior to the fire occurring.

## **FIRE INVESTIGATION TASK FORCE REPORT**

### **Jared Moss, Baker Insulation, 502-604-5181**

Mr. Moss was the spray nozzle operator for Baker Insulation. He said he was on the second level of the parking garage spraying and the trailer was located on the first level ramp. While he was spraying, he noticed lost pressure and spray pattern from the nozzle. When he went downstairs to identify the issue, he discovered the fire. Mr. Moss said the fire he saw was around the rear of the trailer. He stated the fire was coming from the generator room and that there was fire dripping out of the trailer's door and burning underneath. Mr. Moss advised that after discovering the fire, he ran next door to notify his boss.

### **Paul Groff, Lead Super Intendent, Mill Creek, 1st 911 Caller, 910-691-5680**

Mr. Groff made the first 911 call to CFD Alarm. Mr. Groff said there was a trailer in the parking deck on fire. He said the trailer contained some equipment and was not hooked to a trailer. He said they sprayed some extinguishers on it and that it continued to burn. He said they were evacuating the building.

A later interview with Mr. Groff revealed the following. He said employees arrive around 0700 and they have a safety meeting around 0800 to 0830 hours. He said there are approximately 120 or more people working on the jobsite. He then began to walk the jobsite with a contractor and received a call, in reference to the trailer on fire around 0900. When he arrived at the trailer, he saw fire coming from the end of the trailer. He said they used several fire extinguishers on it and it kept coming back.

### **Keith Suggs, Prestige Windows & Doors, 404-569-4226**

Mr. Suggs was interviewed on scene the morning after the fire. He owns Prestige Windows & Doors and advised the two missing construction workers worked for him. The first employee was identified as Ruben Lydell Holmes, DOB: 12-20-1964. He had worked for him for a while. He identified the second individual as Demonte Sherrill. He said Demonte started working for him on Tuesday of that week. He did not have any personal information on Mr. Sherrill. Mr. Suggs said his company had been working on the job site for about a month. He said he received a call from both stating that the building was on fire, and they could not get out. Mr. Suggs said he was on the jobsite earlier that day and they were currently working on the 6th floor balconies, in the front right corner of the structure.

## **FIRE INVESTIGATION TASK FORCE REPORT**

### **Charlie Rose, Creative Polymer Solutions, 205-597-8363**

Mr. Rose is the supplier of the two-part foam solution for the two foam companies. He said the expanding foam product is used for spray-on building insulation. He advised it comes in two parts; Isocyanate is part A, and Accufoam is part B. When both products are mixed in the proportioner and applied to the surface they become the finished product. He provided both Safety Data Sheets (SDS), and they are included in the case file.

### **Quincy Morris, Crane Operator**

Mr. Morris is a crane operator for Superior Services and had been working on the job site at SouthPark for over a year. He became aware of the fire when he noticed smoke and took a photo with his cell phone. He used the crane to rescue workers and tried to rescue the two trapped workers on the sixth floor. He said for reasons he doesn't know they did not get on the platform.

**CMPD Arson Detective Klass, Macklin, and Levett conducted numerous interviews, see KBCOPS report and supplements for further information.**

### **VICTIMS**

Upon arrival of fire apparatus and personnel, two employees were reported as missing. Several workers and bystanders reported hearing people screaming for help. The tower crane operator, Quincy Morris later reported to this investigator that he used the crane and platform to rescue several people who were trapped on the open-air courtyard. He attempted to rescue the two trapped workers on the 6th floor of the apartment building by placing the platform on the balcony where he saw the two workers, but they failed to get on.

Two fire crews attempted to rescue the two trapped workers. Ladder 1 entered the sixth floor through the only operating stairwell. They were able to get approximately one-third of the way through the corridor before being pushed back by extreme heat and smoke conditions. Ladder 16's crew made access to the courtyard/pool deck located on the third floor of the building. This was an open-air courtyard. Firefighters were able to make eye contact with the trapped workers, but conditions changed rapidly and forced the firefighters to exit down the ladder, out of harm's way.

## **FIRE INVESTIGATION TASK FORCE REPORT**

During the scene exam, the two missing workers were identified as Ruben Holmes, DOB 12/20/1694 and Demonte Sherrill, DOB 1/14/1993. During this investigator's scene investigation, I was made aware of a Facebook video in which Mr. Sherrill streamed live being trapped inside the building. The video revealed two male workers trapped on what appeared to be the fifth or sixth floor, both trying to yell for help and attempting to shield themselves from the smoke.

On May 19, 2023, this investigator and other members of the Fire Investigation Task Force met to conduct a search of the fire scene to find the two victims. Prior to arrival of all investigators, this investigator was on the third floor of the adjacent parking structure and located what appeared to be the remains of one of the victims in the fire debris. The location was approximately 5 feet from the edge of the platform from the parking structure. Given the last known location of both victims, this investigator began visually inspecting the areas around the first victim. A short time later, the second victim was located.

Once both victims were located it was determined that CFD Rescue 10 would formulate a plan for the recovery. Captain Bright, and firefighters Brewer, Llwellyn, Bell, Blackwelder, and Whitesides performed the recovery in coordination with the FITF, CMPD Detectives, and the Medical Examiner. The bodies were recovered at 0907 hours (Holmes) and 0929 hours (Sherrill).

### **SCENE EXAMINATION**

This investigator conducted a fire scene examination of the involved structure to determine the origin and cause of a fire that occurred on this date. All areas within the fire scene were carefully examined to accurately determine the origin and cause of this fire.

This investigator conducted an exterior fire scene examination of the above referenced fire scene on the date of the loss listed above. The exterior scene exam contained six different building examinations and one parking deck examination which included 14 vehicles.

## FIRE INVESTIGATION TASK FORCE REPORT

### EXPOSURES

- Two SouthPark (exposure) located at 6135 Park South Drive. This building is a five-story office building.
- Residence Inn (exposure) is located at 6030 Piedmont Row Drive. This building is a seven-story Marriott owned property.
- Canopy (exposure) is located at 4905 Barclay Down Drive. This building is a five-story building owned by Hilton hotels.
- SouthPark Towers (exposure) is located at 6100 Fairview Road. This building is fourteen (14) story office building.
- Modera SouthPark was located at 7741 Liberty Row Drive, Building A.
- 2003 Toyota Camry LD Sedan Gray 4 door. VIN#: JTDBF32K53014435 License Plate: TEL3302/North Carolina.
- 2006 Honda Civic EX Coupe 2 door Gray. VIN#: 2HGFG11896H521921 License Plate: RND7831/Texas.
- 2008 Chevrolet Silverado 1500 Crew Cab LT Black. Pickup VIN#: 3GCEC13JX8G246729 License Plate: SUGGS2/Georgia.
- 2009 Kia Borrego LX Sport Utility Black 4 door. VIN#: KNDJH741295026320 License Plate: HHN3270/North Carolina.
- 2012 Honda Civic LX Sedan 4 door. VIN#: 19XFB2F58CE025775 License Plate: KMJ7994
- 2013 Nissan Rogue S Sport Utility Red 4 door. VIN#: JN8A55MT9DW043601 License Plate: 269CEF/Louisiana.
- 2017 Nissan Sentra S Sedan Black 4 door. VIN#: 3N1AB7AP1HY384054 License Plate: RAE-4221/North Carolina.
- 2018 Mazda CX-5 Grand Touring Sport Utility Dark Gray 4 door. VIN#: License Plate: 3593/South Carolina.
- 2019 Chevrolet Cruze LT White Hatchback 4 door. VIN#: 3G1BE65M9K5532736 License Plate: FLF5325/North Carolina.
- 2019 Honda HR-V Sport SUV Blue 4 door. VIN#: 3CZRU6H13KG727119 License Plate: HXS5935/Ohio.
- 2022 Chevrolet Colorado Crew Cab Z71 Gray Pickup. VIN#: 1GCGTDENXM1298916 License Plate: KDY8635/North Carolina.
- 2022 Ford F150 Super Crew Cab XL White Pickup. Owner: AIRO Mechanical VIN#: 1FTEW1EP4NFB81141 License Plate: RB4/24
- L-2: 2018 Spartan/Smeal Metro Star.
- L-16: 2019 Spartan/Smeal Metro Star.
- L-24: 2018 Spartan/Smeal Metro Star.
- E-14: 2019 Spartan/Smeal Gladiator.



## FIRE INVESTIGATION TASK FORCE REPORT

### MAIN FIRE BUILDING/AREA

Modera SouthPark located at 7741 Liberty Row Drive, Building B. Please see above in the scene description for detailed information on this building. Based on eyewitness accounts, fire pattern analysis and damage assessment this building was identified as the area of fire origin. Exterior examination revealed total collapse of the upper 6 floors which were constructed of wood framing and fire resistive plywood exterior covering. No gypsum wall boards had been installed on interior walls or ceilings. The wooden structure burned almost complete with the remaining debris being severely charred and collapsed on the concrete base, top of the podium, or the surrounding areas.

This investigator conducted a limited interior fire scene examination on May 19, 2023, at 0800 hours. The interior examination was conducted with this investigator, Detective Levett, Fire Investigator Oddo, Fire Investigator Southworth, Office of State Fire Marshal (OSFM) Fire Investigator Head, and a forensic engineer from US Forensics. The engineer was provided by the CFD USAR team who has several engineers on contract. The interior investigation was limited in area due to the concern of stability due to the excessive heat and duration of the fire in the area of origin. The extended heat and flame damaged the concrete structure spalling concrete and exposing rebar and support cables in the concrete.

Investigators made entry into the south entry door that accessed the hallway on the main level of what would have been business occupancy area. Investigators utilized the long hallway to access the area of the center stairwell and elevator shafts which opened into the parking area of the first floor. Smoke patterns and water were noted in the corridor area. Smoke damage and fire patterns were documented in the parking area and elevator shafts. Clean burn patterns were observed on the walls adjacent to the location of the trailer. These areas contained large amounts of fiberglass tubs and shower inserts adding to the fuel load of the parking deck. This area was located approximately 25 feet from the area of the open and unobstructed elevator shaft. Several pallets of the two-part foam mixture were also found in the parking deck near the trailer. The 55-gallon drums were on pallets, however, not ruptured during the fire. Spalling of concrete was observed to the concrete walls adjacent to the

## **FIRE INVESTIGATION TASK FORCE REPORT**

trailer on both sides and to the ceiling above. Many of the rebar and concrete support cables were exposed.

The spray foam trailer was located in the parking garage portion of the building. It was positioned halfway up the ramp towards the second floor. The trailer was also about 25 feet from the open elevator shaft. The trailer sustained high heat and prolonged burning. The structural components of the trailer were twisted, warped, and pulled downward towards the floor of the trailer. The trailer was photographed from three sides at a distance of about 20 feet due to structural stability concerns. Fire patterns were directional from the trailer indicating the area of fire origin to be the trailer.

Several weeks after the fire this investigator received a copy of a TikTok video post by the username "leolrz". The video displayed the fire in its earliest known stage. The video was taken as the unknown individual walked by the trailer on fire while he was exiting the building. The video confirms fire issuing from the rear door of the trailer where the generator room was located. Fire is also seen under the trailer. No other fire was noted around the exterior of the trailer. Attempts to contact the individual were unsuccessful.

All movements and observations were under the direction of the engineer. After visual examination and documentation by photographs, investigators cleared the structure around 0845 hours.

### **ITEMS PRESERVED / EVIDENCE COLLECTED**

1 8.5' X 20' enclosed trailer was identified and preserved in place for future interested parties. No tag or label was applied due to the area where the trailer was located being considered unsafe.

### **PHOTOGRAPHS AND CASE FILE DOCUMENTS**

Digital photographs were taken have been added to the case file along with the recorded interviews of those involved, which were taken by both fire and police members of the Fire Investigation Task Force. The Incident Detail Report (CAD) report, historical weather report, the Charlotte Fire Investigation Task Force (FITF) Fire Scene Investigation Worksheet with

## FIRE INVESTIGATION TASK FORCE REPORT

handwritten notes, a scene diagram, property reports, and the fire investigator's incident synopsis are included within this case file. Numerous security videos, photos and videos obtained from bystanders and other personnel are included in the case file.

### CONCLUSION / OPINION

The fire originated on the first floor of the parking garage of building B which was under construction by Mill Creek Residential. More specifically inside the rear room of the spray foam trailer set up. This location is where the diesel generator is located. The most probable heat source was a failure of components within the generator room of the trailer used to spray foam insulation in the parking garage. Items considered were charging lithium-ion batteries, numerous electrical items, hot surface ignition of ignitable liquids, and a catastrophic failure of the generator engine. At this time the material first ignited is unknown but diesel fuel, and other combustible materials found within the generator room could not be eliminated. The act which brought the first material ignited and the heat source together was unintentional. Based on all known facts, witness statements, and remaining physical evidence, and this investigator's fire scene examination this fire has been classified to be **UNDETERMINED**, and recommend the case be Closed.

### CASE UPDATE / OPINION

A joint scene exam was conducted on September 11, 2023, by the various third-party companies involved in the loss. The foam spray trailer in question was removed from the interior of the building to a safe location outside for examination. Once removed, company officials and insurance investigators contacted Fire Investigator Boggs and notified him of the removal. Boggs contacted Chief Fire Investigator Shaver and both he and Senior Fire Investigator David Williams responded to photograph and examine the trailer. Two large holes were found to the engine block. On one side of the motor, a piston connecting rod was sticking through the hole. The trailer was taken to SEA Limited in Charlotte for storage and further examination. A catastrophic failure of the diesel engine was determined as cause of this fire. This mechanical failure resulted in

## **FIRE INVESTIGATION TASK FORCE REPORT**

combustible fluids contacting the hot surfaces of the engine and its vapors igniting. The small fire then spread to other items in proximity and the exposed wood framing of the structure before the fire was discovered and eventually extinguished. This concluded the fire investigation for CFD. Based on all known facts, witness statements, and remaining physical evidence, and this investigator's fire scene examination this fire has been classified to be **ACCIDENTAL**, and recommend the case be Closed.

*This conclusion is based upon the known facts and information available at the time this report was written. This investigator reserves the right to change or alter his/her opinion(s) based on new facts, evidence, or information that may arise after the date of this report.*

*This report is a compilation of the actions and findings of the Charlotte Fire Investigation Task Force for this incident.*

*Estimations, evaluations, and opinions made herein represent 'most likely' and 'most probable' unless specifically stated otherwise.*

Report Completed by: J.G. Boggs, Fire Investigator

Date: 12/10/2023

Report Technically Reviewed by: E.E. Shaver, Chief Fire Investigator

Date: 12/11/2023

# **CHAPTER FOUR**

## **FIRE COMMUNICATIONS RESPONSE REPORT**

*THE FOLLOWING CHAPTER WAS PREPARED BY DHS CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY (CISA), INTEROPERABLE COMMUNICATIONS TECHNICAL ASSISTANCE PROGRAM (ICTAP) AS PART OF WORK ORDER # WO23-345.*

## FIRE COMMUNICATIONS RESPONSE REPORT

### EXECUTIVE SUMMARY

The City of Charlotte, North Carolina Fire Department (CFD) requested assistance from the Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA) Interoperable Communications Technical Assistance Program (ICTAP) to develop an after-action supplemental report (AASR) to summarize the strengths and challenges of the telecommunications response to the Liberty Row Five-Alarm Fire, with a focus on communications successes and challenges that occurred during this event.

### OVERVIEW

This AASR discusses issues associated with the CFD communications response to the 2023 Liberty Row Five-Alarm Fire. The AASR is also intended to summarize strengths, identify challenges, and present recommendations to ensure the processes of interoperable communications and alert & warning systems function as smoothly as possible in the future.

The 2023 Liberty Row Five-Alarm Fire was a vehicle fire within a high-rise structure that was under construction. The fire rapidly progressed through multiple alarms with a fifth alarm being requested fifty-four minutes from the initial report. Mutual aid units responded to provide assistance and back fill and were able to communicate effectively on Charlotte Fire Zone 1, for those that had it. Communications issues include call capacity at the PSAP and Fire Alarm dispatch centers, self-dispatching of units, over-reliance on dispatch to provide information to non-responders, and incident command staff being over-tasked without support.

Information was obtained from two local agencies from the City of Charlotte. The information provided was consolidated into this AASR.

## FIRE COMMUNICATIONS RESPONSE REPORT

### KEY FINDINGS

In most instances, the strengths and challenges were generated by the stakeholders who contributed directly or indirectly to this report. Recommendations should be considered as just that, recommendations. In some instances, organizations may find recommendations to be impractical, and thus may wish to find other solutions that will fit with their already existing plans, processes, procedures, and infrastructure. An improvement plan is included in Appendix A of this report, which will guide the City of Charlotte in researching and implementing recommended improvements.

Public safety response to the 2023 Liberty Row Five-Alarm Fire incident highlighted several successes:

- Although experiencing one of the largest and rapidly evolving fires in the city's recent history, due to the relationships and coordination of the region, the city was able to handle all of their day to day response as well as another large fire, all while operating on the Liberty Fire.
- In general, the ecosystem of the Fire Alarm staff allowed for the second shift to come in early and rapidly get involved in the operation. Telecommunicators are trained to handle all the functions of an emergency communications center, so the second shift was able to pick up any gaps in personnel coverage caused by the Liberty Fire.
- The dispatcher, who did an excellent job of fielding the original call, had just recently completed his training and was on a mandatory second shift. He then continued to run this very complex call and performed commendably.
- A unit became lost in the smoke at the incident and called in a MAYDAY. The unit was able to successfully self-rescue. The culture of the CFD allowed this potentially lifesaving action without fear of retribution or loss of face.
- Multiple Personal Accountability Reports (PAR) were conducted in a timely manner.
- Second-shift dispatchers voluntarily reported to work early and were a valued resource.

## FIRE COMMUNICATIONS RESPONSE REPORT

- The City of Charlotte Land Mobile Radio(LMR) radio system reached 34% utilization, allowing for additional expansion of the incident if needed.
- A Wireless Emergency Alert (WEA) was successfully used to help reduce the 911 call volume.

The 2023 Liberty Row Five-Alarm Fire incident also identified several opportunities for improving the knowledge and preparedness of City of Charlotte response entities. These observations, detailed in Section 4 of the AASR/IP, offer insight into findings documented during the planning and execution phases of the exercise.

Major recommendations include:

- Develop a plan, that is similar to other cities, that assigns an aide to the Incident Commander (IC).
- Consider developing a Standard Operating Guideline (SOG) that will designate when and how mutual aid should be requested and dispatched.
- Consider forming or formalizing a mutual aid resource request group made up of representatives from the regional fire agencies.
- Consider developing an SOG that outlines when outside agencies are requested for major response or back fill.
- Create an SOG for large scale and/or extended incidents that directs when FieldComm (a Communications Unit or COML) is assigned to the response.
- Formalize the MAYDAY SOG and conduct training with all field and dispatch personnel.
- Develop an SOG that designates how the CFD Dispatch Center administrative line should be used, who is authorized to use it, and for what reasons.
- Develop an SOG for large incidents that establishes a communication method between the dispatch center and the Emergency Operations Center (EOC).
- Develop an SOG, research and purchase technology solutions that will enhance unit accountability, city fire protection coverage, and noise reduction within the CFD Dispatch Center.



## FIRE COMMUNICATIONS RESPONSE REPORT

- Develop an SOG that dictates who and what activities are allowed on the dispatch center floor.
- Consider the development of a consolidated CFD/Charlotte-Mecklenburg Police Department (CMPD) / Central Medical Emergency Dispatch (CMED) Center.
- If a consolidated dispatch center is not a viable solution, immediately begin work to expand the CFD Dispatch center (in size) or relocate the Dispatch to a newer and larger facility, to allow for expansion of a command and control center within the Charlotte Fire Department Operations Center during a similar large scale and or extended incident.

The lessons learned from the Liberty Row Five-Alarm Fire are an important step toward increasing and improving communication interoperability within the City of Charlotte in preparation for future catastrophic incidents and large planned events. By continually assessing progress and making improvements, public safety entities will continue to excel in their dedication to disaster preparedness and their mission to achieve an optimal level of secure interoperable communications. Acting on the various recommendations in this AASR/IP should further interoperable emergency communications capabilities.

## FIRE COMMUNICATIONS RESPONSE REPORT

### INTRODUCTION

The City of Charlotte, North Carolina Fire Department (CFD) requested assistance from the Department of Homeland Security (DHS) Cybersecurity and Infrastructure Security Agency (CISA) Interoperable Communications Technical Assistance Program (ICTAP) to develop an After action | supplemental report (AASR) to summarize the strengths and challenges of the telecommunications response to the Liberty Row Five-Alarm Fire, with a focus on communications challenges occurred during this event.

### **PURPOSE**

The AASR discusses issues associated with the CFD communications response to the 2023 Liberty Row Five-Alarm Fire. The AASR is also intended to summarize strengths, identify challenges, and present recommendations to ensure the processes of interoperable communications and alert & warning systems function as smoothly as possible in the future.

### **AASR DEVELOPMENT PROCESS**

The primary information collection method used to generate this AASR was to request information from local stakeholders. ICTAP conducted an in-person discussion attended by the leadership and dispatch personnel of CFD, Emergency Management staff, and responders to the incident.

### **Stakeholders**

The following agencies or organizations represent the major stakeholders that provided information, documentation, and/or reports to assist with the development of this AASR:

- Charlotte Fire Department
- Charlotte-Mecklenburg Emergency Management Office

### **AASR Recommendations**

The AASR discusses issues associated with the CFD communications response to the 2023 Liberty Row Five-Alarm Fire. The AASR is also intended to summarize strengths, identify challenges, and present recommendations to ensure the processes of interoperable communications and alert & warning systems function as smoothly as possible in the future.

## **FIRE COMMUNICATIONS RESPONSE REPORT**

Recommendations should be considered as just that, recommendations. In some instances, organizations may find recommendations to be impractical, and thus may wish to find other solutions that will fit with their already existing plans, processes, procedures, and infrastructure. An improvement plan is included in Appendix A of this report, which will guide the City of Charlotte in researching and implementing recommended improvements.

### **COMMUNICATIONS**

#### ***INCIDENT REVIEW***

On May 18, 2023 the Charlotte Fire Department engaged in one of the largest and most devastating fires the city has ever seen. The initial call for the incident was received at 9:02am for the initial call of a vehicle fire in a parking garage. This incident was a rapidly evolving and escalating fire that resulted in an escalation to a 5th alarm within 54 minutes from the initial call. A number of mutual aid units from surrounding counties backfilled empty stations to assist and due to the sharing of the radio programming of Charlotte Fire's Zone 1, they were able to seamlessly backfill the empty fire stations. Over the course of the response, fire personnel had to address a number of life-threatening challenges including a trapped construction worker in a crane, two trapped construction workers on the 6th floor (4th floor of the wooden section, but 6th floor overall), and a Mayday from a lost fire team who were eventually able to self-rescue.

Unfortunately, the two trapped on the 4th floor perished in the fire. Communications technologies worked very effectively for those agencies that had the proper programming throughout the incident. Fire Alarm staff worked exceptionally well to handle an extreme increase in volume of 9-1-1 calls and resources they were responsible for dispatching and tracking.

## FIRE COMMUNICATIONS RESPONSE REPORT

### *FIRE RESPONSE OVERVIEW AND TIMELINE OF CRITICAL EVENTS*

As is to be expected, public safety personnel in Charlotte are well-versed in fire incident response. Area communications plans are already in place and are implemented rapidly upon information that a large-scale incident is occurring. These incident communications plans are readily available and well-practiced.

#### **Timeline**

May 18, 2023

- 9:02am - Initial 9-1-1 calls start
  - Ladder 16 first to arrive
  - Initial call corrected to a mid-rise structure fire
- 9:09am - 2nd Alarm Declared
  - Calls coming in from trapped people
- 9:20am - 3rd Alarm Declared
  - Crane operator trapped
  - Cannot access the source of the fire and chemicals discovered
  - Mayday Call for lost firefighters
  - Ladder 1 is trapped too close to fire
- 9:31am - 4th Alarm Declared
  - Crane is in jeopardy of collapse and Ladder 2 is working the collapse
  - Ladder 1 finds its way to safety
  - FieldComm reports to the scene to help with communications and battery swap, and sets up a recharging point immediately while assisting as the Chief's Aide.
  - Trainees report to back up center to reduce call volume on Alarm
- 9:56am - 5th Alarm Declared
  - After other requests were taking too long, Rescue 10 Climbs Crane and helped the operator to safety
  - Spot fires popping up around the area
  - Personnel begin to rehabilitate
  - CFD on-scene throughout the night

## FIRE COMMUNICATIONS RESPONSE REPORT

### STRENGTHS IDENTIFIED

As has been discussed previously, personnel in the City of Charlotte are well-versed in response to major incidents. The experience, dedication, creativity, and hard work of responders are commendable, and many strengths were identified during discussions around the 2023 Liberty Row Five-Alarm Fire response.

- The dispatcher, who did an excellent job of fielding the original call, had just recently completed his training and was on a mandatory second shift. He then continued to run this very complex call and performed commendably.
- A unit became lost in the smoke at the incident and called in a MAYDAY. The unit was able to successfully self-rescue. The culture of the CFD allowed this potentially lifesaving action without fear of retribution or loss of face.
- Multiple Personal Accountability Reports (PARs) were conducted in a timely manner.
- Second-shift dispatchers voluntarily reported to work early and were a valued resource.
- The City of Charlotte Land Mobile Radio(LMR) radio system reached 34% utilization, allowing for additional expansion of the incident if needed.
- A Wireless Emergency Alert (WEA) was successfully used to help reduce the 911 call volume.

### GAP ANALYSIS

Throughout the process of stakeholder discussions, research of information available on the Internet, and review of the information provided, a number of areas were identified where improvements should be considered. The gaps and recommendations noted below were either extracted directly from the information provided or developed as a result of our discussions. The recommendations are included in an Improvement Plan, provided in Appendix A of this report.

## FIRE COMMUNICATIONS RESPONSE REPORT

### **STAFFING GAPS**

The following set of gaps and recommendations may be relevant to the interoperable communications response during the 2023 Liberty Row Five Alarm Fire.

#### ***Incident Command Staffing***

##### **Description:**

During the interview and data collection process, interviewees identified that the Incident Commander (IC) was monitoring and responding to radio communication, mobile phone calls, information being provided over Mobile Data Terminal (MDT), and face-to-face communications. These information sources were from CFD dispatch, units on scene, outside agencies in unified command, and witnesses. While monitoring all these the IC is also expected to keep a visual perspective to see if there are changes to the incident. During this incident Ladder 1, who had called the MAYDAY, was trying to communicate with Tower 26. Their calls were monitored at dispatch but no one at the incident responded. Additionally, as the incident grows it challenges the span of control that a single person can handle. While additional command staff may be assigned it still leaves all the communication and documentation to the IC.

Although there were very few issues that came up with communications, it was a very complex incident that required quick adaptation and thinking from the operational staff. Due to this rapidly evolving environment, communications complexities were introduced and mitigated. If additional problems had come up, the flexibility may not have been available in communications planning due to a Communications Unit Leader (COML) not being established early on.

## FIRE COMMUNICATIONS RESPONSE REPORT

### **Recommendations:**

1. Develop a plan, that is similar to other cities, that assigns a Chief's Aide to the IC. During incidents, they will help relieve the burden of monitoring all the communications and tracking responsibilities allowing the IC to devote their efforts to information analysis and decision making.
2. Develop a plan for large incidents that would utilize operations-trained staff that are currently in administrative roles to assist the IC and their staff.
3. Formalize the MAYDAY SOG and conduct training with all field and dispatch personnel.
4. Consider assigning tactical dispatch personnel on scene to monitor any and all incident related repeated or tactical talk paths.
5. Create an SOG for large/extended incidents that directs when a Communications Unit or COML is added to the response.
6. Consider the automatic assignment of field communications staff to coincide with the activated Alarm level for any given incident. (e.g., if a third alarm is hit, a COML is automatically deployed).
7. Create an SOG for large/extended incidents that directs when an Incident Communications Technology Branch or COML is added to the response.

### ***Self-Dispatching***

#### **Description:**

Several agencies within the region self-dispatched to the back fill locations. While their intent was good this created a significant impact on dispatch. Tracking and coordinating these units required the use of paper maps outside the Computer Aided Dispatch (CAD) system and was very time-consuming. These units are not equipped with the same communications, paging, and tracking equipment which made assigning them difficult. Additionally, CFD staff members reported to the dispatch center. At times their help was appreciated, but their well-meaning presence added to the controlled chaos that exists during any large incident. Coordination of these units was very difficult and, at times, there

## FIRE COMMUNICATIONS RESPONSE REPORT

was a duplication of efforts by Charlotte Fire Alarm and EOC staff. Additional coordination would have allowed for more personnel to be available to do other duties. Also, preplanning for this type of major incident in the future will allow units to know exactly where they are supposed to go, allowing dispatch to track them as well. CFD staff also mentioned that they currently do not have any type of technology, system, or software that would allow them to better track the necessary mutual aid and back fill that took place during this incident.

### **Recommendations:**

1. Consider developing an SOG that will designate when mutual aid should be requested. This SOG will also designate who should be filling this role.
2. Consider forming or formalizing a mutual aid resource request group made up of representatives from the regional fire agencies. This group should develop SOGs for large and small incidents within the region.
3. Consider developing an SOG that outlines when outside agencies are requested for major response or back fill. These units may or may not have the same communications equipment as CFD units and would require the use of "day alerting" in the stations and repeating the call information twice to allow for copying of the address and other necessary information.
4. Investigate the possibility of integrating outside agency resources into the current City of Charlotte Automatic Vehicle Location (AVL) technology.
5. Determine if a communications resource can be identified to coordinate incoming mutual aid resources.
6. Create an automatic communications pathway between EOC and Alarm staff to allow for efficient communications and coordination for large incidents.
7. Research the plausibility of acquiring a resource management system that would allow for the better tracking of incoming mutual aid resources and units backfilling local units.



## FIRE COMMUNICATIONS RESPONSE REPORT

### *Public Information Officer and Joint Information Centers*

#### **Description:**

Due to the rapidly evolving nature of this incident, there were significant challenges to informing the public of what was going on until after the incident was under control. Conflicting messages from public alerts and the news at the time left the public wondering what information was accurate. The primary reason for the conflict in information was due to multiple agencies sending out alerts to the public without coordination between them. A joint information center with representatives from each agency and elected officials could have mitigated this issue.

#### **Recommendations:**

1. Consider developing a policy that dictates under what circumstances and escalations that a Joint Information Center should be activated.
2. Ensure all public messaging is coordinated by the appropriate personnel and agencies before release.

### *Staffing Shortages*

#### **Description:**

Just like most of the country, Charlotte telecommunications are typically short-staffed and having trouble recruiting and retaining personnel. Although since the Liberty Fire took place the staffing shortage has been somewhat alleviated, there is always the ongoing future concern of maintaining enough personnel to handle extended operations.

#### **Recommendations:**

1. Identify staffing shortfalls for all agencies' telecommunicator staff.
2. Consider identifying how staffing would be affected by consolidating to a single PSAP.

## FIRE COMMUNICATIONS RESPONSE REPORT

### STANDARD OPERATING GUIDELINE GAPS

The following set of gaps and recommendations may be relevant to the communications response during the 2023 Liberty Row Five-Alarm Fire.

#### *Utilization of Charlotte Alarm Dispatch for Administrative Duties*

##### **Description:**

The incident had a significant impact on the Charlotte Fire Alarm Dispatch Center. Call volume was very high because of the fire and other incidents in the area. As can be expected there was a significant amount of radio traffic. Simultaneously, well-meaning personnel were calling dispatch on the administrative line for a number of reasons, including asking if they should respond and where, inquiring on how to update the Mobile Data Terminals (MDT) in reserve apparatus, or they were offering suggestions. Also, no direct line of communication was established between Charlotte Fire Alarm and the City Emergency Operations Center (EOC). These calls and other interruptions had an impact on the direct handling of the incident and other functions within Charlotte Fire Alarm.

##### **Recommendations:**

1. Develop an SOG that designates how the Charlotte Fire Alarm administrative line should be used, who is authorized to use it, and for what reasons.
2. Develop an SOG for large incidents that establishes a communication method between the Charlotte Fire Alarm and the City of Charlotte EOC. This would allow the EOC to help relieve some of the administrative and logistical roles.
3. Consider transferring the administrative line outside the dispatch floor during large incidents to help reduce its impact on operations.
4. Exercise any developed SOG to failure to ensure that all of the involved personnel and technologies of the guidelines are tested.

## FIRE COMMUNICATIONS RESPONSE REPORT

### *Noise Level on Dispatch Floor*

#### **Description:**

During the Liberty Row Five-Alarm Fire the Charlotte Fire Alarm became the focus of many activities. Some activities were directly related to the incident while others were more administrative in function. Additionally, staff members were having discussions that did not need to occur on the dispatch floor. Questions were being directed to dispatchers while they were receiving calls from the field and trying to reply. Unfortunately, the small size of the Charlotte Fire Alarm increased the noise level that the dispatchers were required to work through.

#### **Recommendations:**

1. Develop an SOG that dictates who and what activities are allowed on the dispatch center floor. Once this is established empower the Dispatch Manager to enforce this policy.
2. Provide an area for command, planning, logistical, and administrative staff to meet and work toward the successful resolution of the incident. This area should be separate from the dispatch floor.

### *Communications System and Supporting Equipment*

#### **Description:**

Many of the primary and secondary communications equipment for the Charlotte Fire Department is aging, if not already at end of life. Equipment like handheld radios and tablets are both examples of resources that need to be updated. During large incidents, there is increased usage of communication devices which in turn impacts the batteries within their devices. Some of the situational awareness tablet technologies that are in use are reaching the end of their usable lifespan and losing their charge quickly, to the point of needing to be tethered to a power source. Additionally, the radios currently in use are aging rapidly and nearing end of life. They are several generations old and the manufacturers are supporting these models less as they get older. Large incidents usually expand rapidly, and communications needed to bring the incident to a satisfactory conclusion take a while to be met.

## FIRE COMMUNICATIONS RESPONSE REPORT

### **Recommendations:**

1. Review the current status of all communications and situational awareness technologies and replace them if they are nearing their life expectancy.
2. Replace existing tablets that have no battery capability.
3. Consider starting to update end of life radio equipment in an annual cycle to alleviate the large costs all at once.

### **FACILITY GAPS**

The following gaps and recommendations may be relevant to the communications response during the 2023 Liberty Row Five-Alarm Fire.

#### ***Consolidated Dispatch Center***

##### **Description:**

Charlotte Fire Alarm was built many years ago when the City of Charlotte and CFD were much smaller. During the Liberty Row Five-Alarm Fire it became apparent the center was not adequate. When calls to the CMPD are not answered they roll over to CFD Dispatch. If these calls are not then answered by Charlotte Fire Alarm they just continue to ring. This is a threat to life safety of citizens of Charlotte. There is no space in the Center for additional call takers or radio operators. As mentioned above, there is a lack of space for command, planning, and logistics personnel to meet and coordinate activities. Since the CFD and CMPD Dispatch Centers are not co-located information that is critical to responders and the citizens they serve can be lost. Consolidation of the dispatch centers would allow the leveraging of technologies and personnel to better serve the public.

##### **Recommendations:**

1. Consider the development of a joint CFD/CMPD/CMED Dispatch Center. Virtual options are available if co-location is not plausible.
2. Consider space utilization plans within the current facility to maximize all available space efficiently until a new center can be developed.
3. Consider standardizing CAD across the region which will allow for a virtual co-location of resources if a physical co-location is not plausible.

## FIRE COMMUNICATIONS RESPONSE REPORT

### *Charlotte Fire Alarm Visual Notifications*

#### **Description:**

Currently within Charlotte Fire Alarm, there is no way for personnel to recognize if any of the dispatch staff is on a call outside of getting close enough to hear if a conversation is taking place. As was noted above, the noise floor often became unreasonable within the communications center and made jobs more difficult. A simple automatic visual display would help to inform those around Charlotte Fire Alarm staff when additional conversations may be causing a disruption. Many of the staff said they did not realize that the dispatchers were on a call when they were discussing other matters. One additional example of difficulties supervisors have is that they do not have an elevated position in the room which makes it more difficult to monitor communications with staff and to know what their status is.

#### **Recommendation:**

1. Consider installing a light or other type of visual notification system within Charlotte Fire Alarm that would allow for personnel to know the status of the current dispatcher. For example, a stop light system with a simple red and green light can let people know if they are busy.

### **CONCLUSION**

The Liberty Row Five-Alarm Fire AASR/IP identifies operable and interoperable communications challenges related to the incident and provides recommendations to address those challenges. Using this AASR/IP, the City of Charlotte can develop priorities and focus its efforts on achieving and improving public safety communications.

The Liberty Row Five-Alarm Fire AASR/IP also identified opportunities for improving communications and interoperability proficiency when responding to natural or human-caused incidents and large planned events. Challenges were identified in communications assets governance, SOGs, technical, training, and usage. The AASR provides descriptions of each communications challenge and provides recommendations on how to

## **FIRE COMMUNICATIONS RESPONSE REPORT**

address noted issues in the Improvement Plan (Appendix A).

The lessons learned from the Liberty Row Five-Alarm Fire are an important step toward increasing and improving communication interoperability within the City of Charlotte in preparation for future catastrophic incidents and large planned events. By continually assessing progress and making improvements, public safety entities will continue to excel in their dedication to disaster preparedness and their mission to achieve an optimal level of secure interoperable communications. Acting on the various recommendations in this AASR/IP should further interoperable emergency communications capabilities.

# **APPENDIX A**

## **IMPROVEMENT PLAN**

*APPENDIX A WAS PREPARED BY DHS CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY (CISA), INTEROPERABLE COMMUNICATIONS TECHNICAL ASSISTANCE PROGRAM (ICTAP) AS PART OF WORK ORDER # WO23-345.*

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<p style="text-align: center;"><b>Incident Command Staffing</b></p>	<p>Develop a plan, that is similar to other cities, that assigns a Chief's Aide to the IC. During incidents, they will help relieve the burden of monitoring all the communications and tracking responsibilities allowing the IC to devote their efforts to information analysis and decision making.</p>					
	<p>Develop a plan for large incidents that would utilize operations-trained staff that are currently in administrative roles to assist the IC and their staff.</p>					
	<p>Formalize the MAYDAY SOG and conduct training with all field and dispatch personnel.</p>					
	<p>Consider assigning tactical dispatch personnel on scene to monitor any and all incident related repeated or tactical talk paths.</p>					
	<p>Create an SOG for large/extended incidents that directs when a Communications Unit</p>					



Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Incident Command Staffing	<p>Consider the automatic assignment of field communications staff to coincide with the activated Alarm level for any given incident. (e.g., if a third alarm is hit, a COML is automatically deployed).</p>					
	<p>Create an SOG for large/extended incidents that directs when an Incident Communications Technology Branch or COML is added to the response.</p>					
Self-Dispatching	<p>Consider developing an SOG that will designate when mutual aid should be requested. This SOG will also designate who should be filling this role.</p>					
	<p>Consider forming or formalizing a mutual aid resource request group made up of representatives from the regional fire agencies. This group should develop SOGs for large and small incidents within the region.</p>					
	<p>Consider developing an SOG that outlines when outside agencies are requested for major response or back fill. These units may or may not have the same communications equipment as CFD units and would require the use of “day alerting” in the stations and repeating the call information twice to allow for copying of the address and other necessary information.</p>					

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<b>Self-Dispatching</b>	Investigate the possibility of integrating outside agency resources into the current City of Charlotte Automatic Vehicle Location (AVL) technology.					
	Determine if a communications resource can be identified to coordinate incoming mutual aid resources.					
	Create an automatic communications pathway between EOC and Alarm staff to allow for efficient communications and coordination for large incidents.					
	Research the plausibility of acquiring a resource management system that would allow for the better tracking of incoming mutual aid resources and units backfilling local units.					
<b>Public Information Officer and Joint Information Centers</b>	Consider developing a policy that dictates under what circumstances and escalations that a Joint Information Center should be activated.					

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<p><b>Public Information Officer and Joint Information Centers</b></p>	<p>Ensure all public messaging is coordinated by the appropriate personnel and agencies before release.</p>					
<p><b>Staffing Shortages</b></p>	<p>Identify staffing shortfalls for all agencies' telecommunicator staff.</p>					
	<p>Consider identifying how staffing would be affected by consolidating to a single PSAP.</p>					
<p><b>Utilization of Charlotte Alarm Dispatch for Administrative Duties</b></p>	<p>Develop an SOG that designates how the Charlotte Fire Alarm administrative line should be used, who is authorized to use it, and for what reasons.</p>					
	<p>Develop an SOG for large incidents that establishes a communication method between the Charlotte Fire Alarm and the City of Charlotte EOC. This would allow the EOC to help relieve some of the administrative and logistical roles.</p>					

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
Utilization of Charlotte Alarm Dispatch for Administrative Duties	Consider transferring the administrative line outside the dispatch floor during large incidents to help reduce its impact on operations.					
	Exercise any developed SOG to failure, to ensure that all of the involved personnel and technologies of the guidelines are tested.					
Noise Level on Dispatch Floor	Develop an SOG that dictates who and what activities are allowed on the dispatch center floor. Once this is established empower the Dispatch Manager to enforce this policy.					
	Provide an area for command, planning, logistical, and administrative staff to meet and work toward the successful resolution of the incident. This area should be separate from the dispatch floor.					
Communications System and Supporting Equipment	Review the current status of all communications and situational awareness technologies and replace them if they are nearing their life expectancy.					

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<b>Communications System and Supporting Equipment</b>	Replace existing tablets that have no battery capability.					
	Consider starting to update end of life radio equipment in an annual cycle to alleviate the large costs all at once.					
<b>Consolidated Dispatch Center</b>	Consider the development of a joint CFD/CMPD/CMED Dispatch Center. Virtual options are available if co-location is not plausible.					
	Consider space utilization plans within the current facility to maximize all available space efficiently until a new center can be developed.					
	Consider standardizing CAD across the region which will allow for a virtual co-location of resources if a physical co-location is not plausible.					

Challenges	Recommendations	Actions	Primary Responsible Agency	Agency POC	Start Date	Completion Date
<p><b>Charlotte Fire Alarm Visual Notifications</b></p>	<p>Consider installing a light or other type of visual notification system within Charlotte Fire Alarm that would allow for personnel to know the status of the current dispatcher. For example, a stop light system with a simple red and green light can let people know if they are busy.</p>					

# **APPENDIX B**

## **GLOSSARY**

*APPENDIX B WAS PREPARED BY DHS CYBERSECURITY AND INFRASTRUCTURE SECURITY AGENCY (CISA), INTEROPERABLE COMMUNICATIONS TECHNICAL ASSISTANCE PROGRAM (ICTAP) AS PART OF WORK ORDER # WO23-345.*

**GLOSSARY**

AASR	After Action Supplemental Report
AVL	Automatic Vehicle Location
CAD	Computer Aided Dispatch
CFD	Charlotte Fire Department
CISA	Cybersecurity and Infrastructure Security Agency
CMED	Central Medical Emergency Dispatch
CMPD	Charlotte-Mecklenburg Police Department
COML	Communications Unit Leader
DHS	Department of Homeland Security
EM	Emergency Management or Emergency Manager
EOC	Emergency Operations Center
IC	Incident Commander
ICS	Incident Command System
ICTAP	Interoperable Communications Technical Assistance Program
IP	Improvement Plan
LMR	Land Mobile Radio
MDT	Mobile Data Terminal
NIMS	National Incident Management System
PAR	Personnel Accountability Report
POC	Point of Contact
SOG	Standard Operating Guideline
WEA	Wireless Emergency Alert