




# **Firefighter Fatality Investigation**

**Captain EMT Matthew Renaud  
Engineer Operator EMT Robert Bebee  
Firefighter EMT Robert Garner  
Probationary Firefighter Anne McCormick Sullivan**

**Houston Fire Department**

Investigation FFF FY 13-08

Houston, Texas  
May 31, 2013



*The subsequent investigation of this incident provides valuable information to the fire service by examining the lessons learned, to prevent future loss of life and property.*

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## **Acknowledgements**

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The Texas State Fire Marshal wishes to thank the following entities for their cooperation and assistance in the investigation of this incident and the preparation of this report:

**City of Houston Fire Department**  
**City of Houston Police Department**  
**Bureau of Alcohol, Tobacco, Firearms, and Explosives**  
**Dallas Fire-Rescue Department**  
**Texas Commission on Fire Protection**  
**National Institute for Occupational Safety and Health**

The following Dallas Fire-Rescue Department members conducted the review of the operations and tactics, and provided recommendations. We commend these individuals for their commitment to the review of this incident, in the pursuit of firefighter safety for the Texas Fire Service.

**Deputy Chief Daniel Salazar**  
**Deputy Chief Fernando Grey**  
**Deputy Chief Kenneth Cullins**  
**Deputy Chief Daniel DeYear**

## Executive Summary

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On May 31, 2013, at 12:07 P.M., the Houston Fire Department received a report of a structure fire at 6855 Southwest Freeway. Engine 51 was first on scene, staffed with Captain Renaud, Engineer Operator Bebee and two others. Engine 51 radioed to incoming companies that they had “heavy smoke showing.” Engine 51 arrived on scene and reported an attic fire of a restaurant and advised that an offensive attack was being initiated with a 2 ½ inch hoseline. Engine 51 began an interior attack and reported a thermal imager reading of 184 °F of the ceiling area inside the front door. After advancing approximately 10 feet inside the building the crew began opening the ceiling and smoke conditions worsened. The Engine 51 crew was advised that water supply was low and they returned to the entry doorway.

Engine 68 was the second in engine and was staffed with Captain Dowling, Firefighter Garner, Probationary Firefighter Sullivan and one other. Engine 68 staged at a hydrant east of Engine 51 and began water supply operations to Engine 51. Water supply was re-established and the Engine 51 crew re-entered the structure. The crew followed the hoseline returning to the previous spot and continued the fire attack. Captain Renaud instructed the Engine 51 firefighter to pull more hose. The firefighter returned to the doorway unknowingly passing Engine 68 Captain Dowling, Probationary Firefighter Sullivan, and Firefighter Garner. The firefighter bumped into the Engine 82 captain who was entering with a hoseline to back up E51. They both returned to the doorway to pull hose. As the firefighters neared the doorway, they heard a rumbling noise as the roof collapsed and were pushed through the doorway by the collapsing roof structure. The collapse and fire of the structure fatally injured four firefighters, caused near fatal and debilitating injuries to Engine 68 Captain Dowling, and injured several others during the incident.

Autopsy examinations conducted by the Harris County Forensics Institute revealed that the firefighters died from thermal injuries, smoke inhalation, blunt head trauma, and compressional asphyxia.

Matthew Renaud

Cause of death: Smoke inhalation

Robert Ryan Bebee

Cause of death: Smoke inhalation with thermal injuries

Robert Garner

Cause of death: Compressional asphyxia

Anne Sullivan

Cause of death: Compressional asphyxia, blunt head trauma, and smoke inhalation

This report is intended to honor the sacrifice made by these firefighters, by taking the lessons learned, so others may not perish.



**Captain EMT Matthew Renaud, 35, was a 12-year veteran of the department assigned to Fire Station 51.**



Engineer Operator Robert Bebee, 41, was a 12-year veteran of the department assigned to Fire Station 51.



Firefighter EMT Robert Garner, 29, was with the department for three years, assigned to Fire Station 68.



Probationary Firefighter Anne Sullivan, 24, graduated from the Houston Fire Department Fire Academy in April 2013 and had been assigned to Fire Station 68 for one month.

Fifteen Houston firefighters reported injuries<sup>1</sup> resulting from this response to the Southwest Inn fire. E68 Captain William Dowling sustained life-changing, critical injuries. Three firefighters have undergone extensive rehabilitation from injuries sustained during rescue efforts.

<sup>1</sup>Texas Commission on Fire Protection records



## Introduction

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On Monday, May 31, 2013, the Texas State Fire Marshal's Office (SFMO) received information regarding the deaths of four Houston Fire Department firefighters while fighting a structure fire in the city limits of Houston, Texas.

The SFMO commenced the firefighter fatality investigation under the authority of Texas Government Code § 417.0075.

- (a) *In this section, the term "firefighter" includes an individual who performs fire suppression duties for a governmental entity or volunteer fire department.*
- (b) *If a firefighter dies in the line of duty or if the firefighter's death occurs in connection with an on-duty incident in this state, the state fire marshal shall investigate the circumstances surrounding the death of the firefighter, including any factors that may have contributed to the death of the firefighter.*
- (c) *In conducting an investigation under this section, the state fire marshal has the same powers as those granted to the state fire marshal under Section 417.007. The state fire marshal will coordinate the investigative efforts of local government officials and may enlist established fire service organizations and private entities to assist in the investigation.*
- (d) *The state fire marshal will release a report concerning an investigation conducted under this section on completion of the investigation.*
- (e) *Not later than October 31 of each year, the state fire marshal will deliver to the commissioner a detailed report about the findings of each investigation conducted under this section in the preceding year.*

- (f) *Information gathered in an investigation conducted under this section is subject to Section 552.108.*
- (g) *The authority granted to the state fire marshal under this section will not limit in any way the authority of the county or municipal fire marshal to conduct the county or municipal fire marshal's own investigation into the death of a firefighter within the county or municipal fire marshal's jurisdiction.*

The investigation began on May 31, 2013, with a response to the scene to conduct the initial assessment and survey of the involved property. This provided information to assist in determining the resources needed to conduct the investigation. SFMO staff arriving at the scene sent periodic updates to the responding investigation team members, and an action plan of assignments and objectives for the investigation was established.

The Texas State Fire Marshal's Office, the Houston Fire Department, and the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) combined efforts to investigate the circumstances and factors contributing to the firefighter fatalities. Assignments included examination of the fire scene to determine the origin and cause of the fire; examination of the structure and systems including the gathering of historical information and known conditions of the structure; examination of personal protective equipment; and a review and examination of the fire ground operations and tactics employed.

The Texas State Fire Marshal has agreements with the major metropolitan fire departments in Texas; these departments may be called upon to assist in the evaluation of the fire ground operations and tactics, and assist in developing recommendations. The Dallas Fire-Rescue Department (DFR) was requested to assist in the investigation. DFR assigned Deputy Chief Daniel Salazar, Deputy Chief Kenneth Cullins, Deputy Chief Fernando Grey, and Deputy Chief Daniel DeYear to assist and respond to the scene on June 1, 2013. Chief Salazar was assigned as the group supervisor for the fire ground operations and tactics review.

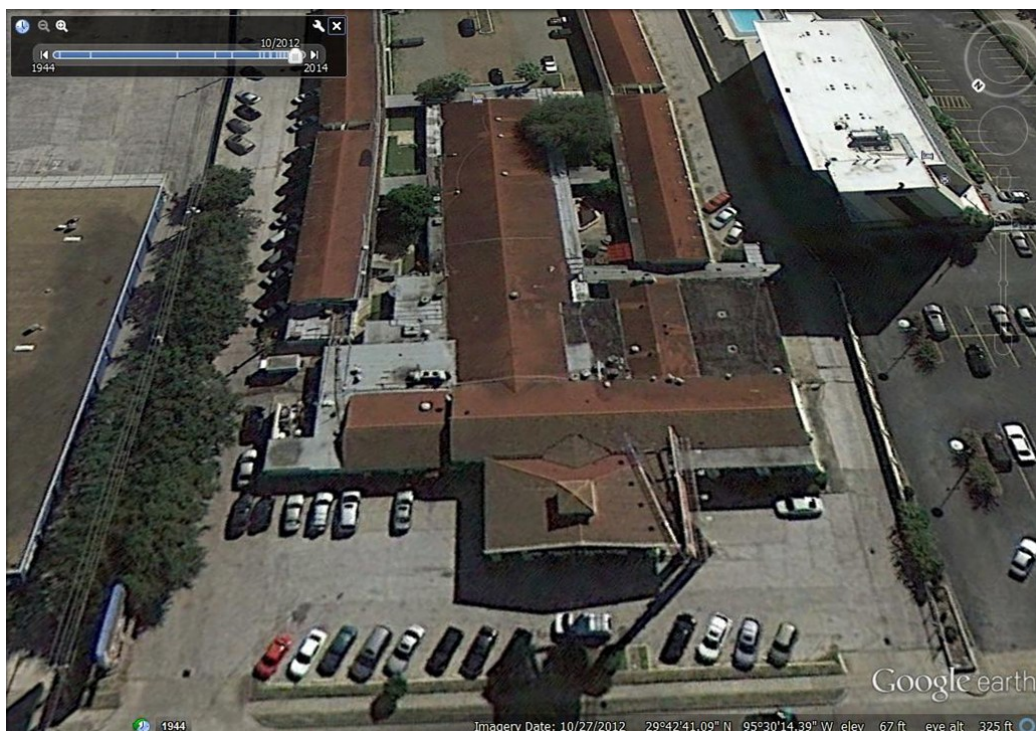
The Texas Commission on Fire Protection (TCFP) regulates personal protective equipment (PPE) in the state. Compliance Officers Ernie Null and Tim Gardner, led by Compliance Officer Lamar Ford, assisted in the evaluation of the PPE.

The National Institute for Occupational Safety and Health (NIOSH) Fire Fighter Fatality Investigation and Prevention Program was notified. NIOSH responded to the scene with a team to conduct an independent investigation.

## Building Structure and Systems

*The State Fire Marshal's Office references the 2012 edition of the National Fire Protection Association, (NFPA) 101, Life Safety Code, as the basis for life safety evaluation of the fire incident building specific to this investigation. The City of Houston has adopted the 2006 edition of the International Fire Code (IFC) with amendments. Where differences may exist among locally adopted codes, ordinances and previously approved conditions, the City of Houston retains jurisdiction of code enforcement under their codes.*

The fire incident building is located within the jurisdictional boundaries of the City of Houston, Harris County, Texas.



*Google Earth Image dated October 2012*

According to the City of Houston Building Department, the building was approved for construction in 1963 in accordance with adopted city codes in effect at that time. Records from the Harris County Appraisal District indicate the building was constructed in 1966.

In accordance with city requirements, existing buildings that were constructed prior to January 1, 1986, were required to submit an application to the City of Houston Code Enforcement Division for a life safety inspection before January 1, 1992.

Every building must meet the requirements of the International Building Code (IBC) and International Fire Code with amendments that were in force at the time the building was constructed. Additionally, any condition not listed in the Life Safety Appendix (IBC, Chapter 34, Appendix L) that is found to be unsafe, unsanitary, or hazardous must be corrected immediately. This includes the electrical, plumbing, mechanical and structural systems of the building.

### **Structure**

The building of fire origin was a single-story existing structure of approximately 26,280 gross square feet that contained a restaurant and multiple banquet rooms that were contiguous to the structure. The building use was classified as an A-2 assembly occupancy according to the City of Houston Building Department.

The building construction was classified as Type-V wood frame construction in accordance with NFPA 220, Standard on Building Construction. There were some internal steel frame elements. The structure was built on a concrete slab foundation, and the load bearing structural frame consisted of pre-fabricated wood roof trusses with steel and/or plywood gusset plate connectors, common wood-stud partition walls and some steel pipe columns and beams. The exterior wall coverings consisted of a brick veneer and stucco. The roof structure of the portico was covered with manufactured cement tile.

The interior finish consisted of 5/8 inch, fire-rated gypsum wall board on the ceiling and walls. Acoustical mineral fiber tiles were applied to the ceiling, and some walls were covered with a textured vinyl overlay. Floor finish materials consisted of carpet, ceramic tile, and unfinished concrete.

According to City of Houston permit project number 96043292, dated May of 1996, the portico structure was to be modified from an existing flat roof to a raised roof, with cement tile roofing. The front-facing roof structure that was attached to the portico also had a cement tile overlay. It was not confirmed through the permits office if the tile roofing overlay installed on the adjacent existing gable roof was completed under this permit project.



*Undated photo of the front of the structure at the entry to the banquet room. This was the entry point for Engine 51 for the interior attack.*



## Life Safety and Fire Protection Features

Means of egress for the building consisted of multiple exit discharge doors placed around the perimeter of the building swinging in the path of exit travel, and were provided with panic type exit hardware. The building was provided with illuminated exit signs and emergency lighting units.

The building was not equipped with a fire sprinkler system or an automatic fire alarm system, and was compliant under the code of record for these features according to the Houston Fire Inspection Division. The complex was equipped with a manually operated fire alarm system with manual pull stations and audio alarm/visual alarm devices throughout the complex. The system control panel was located in the offices inside the main building.



*Fire Alarm Panel*

Fire protection features for the building were limited to portable fire extinguishers and a fixed suppression system for protection of the kitchen commercial cooking appliances and vent hood. The cooking line and vent hood of the kitchen were protected by an automatic fire suppression system. The service contract company for the system identified the system as a Buckeye Fire System, “BFR 10/10,” where the “10/10” refers to its capacity for two

sets of 10 nozzles. The system had operated twice in 2012, once by automatic operation and once manually. After each activation the service company restored the system to service.

According to the City of Houston Fire Inspection Division, the building would not be required to comply with current codes in effect unless the building underwent qualifying renovations that affected 50 percent of the building.

In accordance with the NFPA *Life Safety Code (LSC)*, the use of the incident building and occupancy classification for the building were defined as an existing assembly occupancy.

The *LSC* provisions for existing assembly occupancies require a fire alarm system when the calculated occupant load exceeds 300 people, unless, in the judgment of the authority having jurisdiction, adequate alternative provisions are provided for the discovery of a fire and alerting occupants promptly. Based on the occupant load factors for the classification of use and total floor area of the incident building, an occupant load exceeding 300 can be determined.

The *LSC* provisions for existing assembly occupancies require a fire sprinkler system when the calculated occupant load exceeds 100 people only in occupancies classified for use as a nightclub or dance hall. The incident building's primary use was as a restaurant and banquet space.

### **Building Service**

Utilities for the building included natural gas service and electrical service provided by a public utility company. The building's heating system, water heating appliances and commercial cooking appliances were fueled by natural gas.

### **Adjacent Motel Buildings**

There were also seven motel buildings located on the property, but none were physically connected to the fire incident building and received no direct fire impact. These buildings were two-story wood frame structures with a brick veneer exterior. Each guest room door discharged directly to the outside with exterior exit access balconies and stairs provided from the second floor. Features of fire protection included a manual fire alarm system with

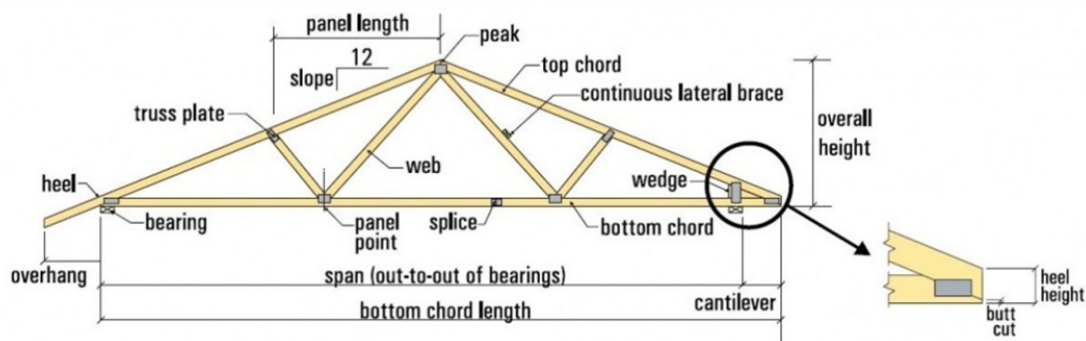


pull boxes and audio/visual notification devices placed along the exterior of the building and portable fire extinguishers. Each guest room was provided with a single-station battery operated smoke alarm.

### Engineering Study of Construction and Roof Structure

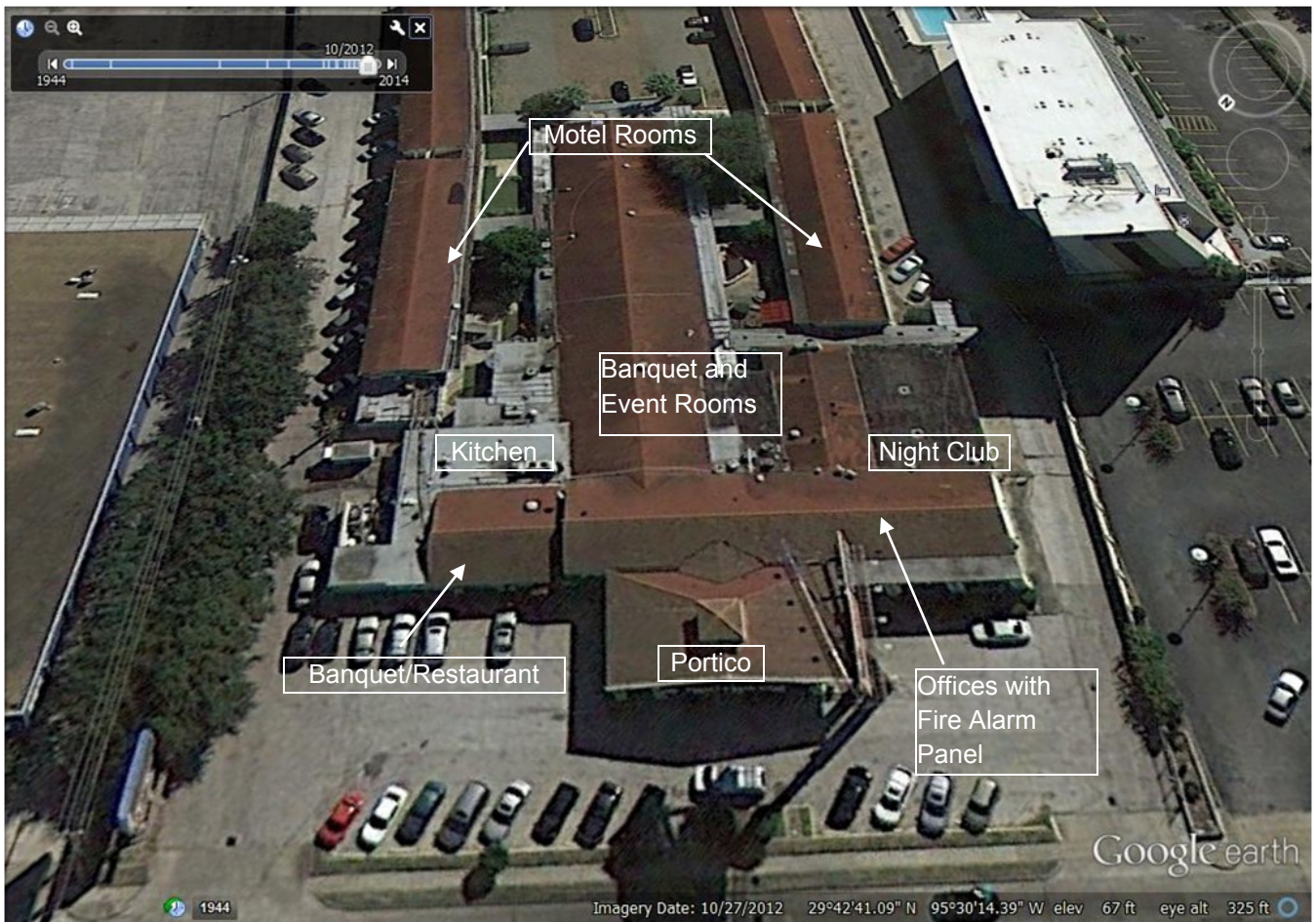
The City of Houston contracted a private engineering firm<sup>2</sup> to evaluate the construction method and integrity of the roof structure under the added weight of the roofing tiles over asphalt shingles on the front facing roof slope. This evaluation was based on the pre-fire dead load estimates of the structural components, the composition roof, and the added cement roofing tiles.

The evaluation of the roof system by the engineering firm concluded that the roof structure dead load was approximately 66.5 percent of the total dead load capacity of the roof structure. The roof failure was determined to be the result of fire exposure and not a failure of the construction method or weight of the roof.



The State Fire Marshal's Office investigation team determined that the construction method and the added weight of the cement tiles may have contributed to a decrease in the time to failure under the conditions of an attic fire.

<sup>2</sup>Huitt - Zollars, Inc.



## Fire Investigation

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The fire scene examination to determine the origin and cause of the fire was conducted by the Houston Fire Department, Texas State Fire Marshal's Office, and the Bureau of Alcohol, Tobacco, Firearms, and Explosives over a five day period.

Based upon the information available and after conducting a systematic fire scene examination, inspecting the physical evidence, viewing fire scene video, viewing photographs, arc mapping, considering firefighter statements, considering witness observations, conducting extensive testing, and employing the scientific method by means of formulating and discarding hypotheses, it is the opinion of investigators that the area of origin could not be exactly identified. The area of origin encompasses the east entry area to the west end of the kitchen area including a utility room, a walk-in cooler, and the concealed/attic space above.

The cause of the fire is unknown. Numerous hypotheses were ruled out. The incident classification is ***UNDETERMINED***.



*Approximate area of origin*



*Ariel view of scene on June 1, 2013 (Photo by HFD)*

## Fire Ground Operations and Tactics Timeline

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*Note: The following sequence of events was developed from radio transmissions and firefighter witness statements. Those events with known times are identified. Events without known times are approximated in the sequence of events based on firefighter statements regarding their actions and/or observations.*

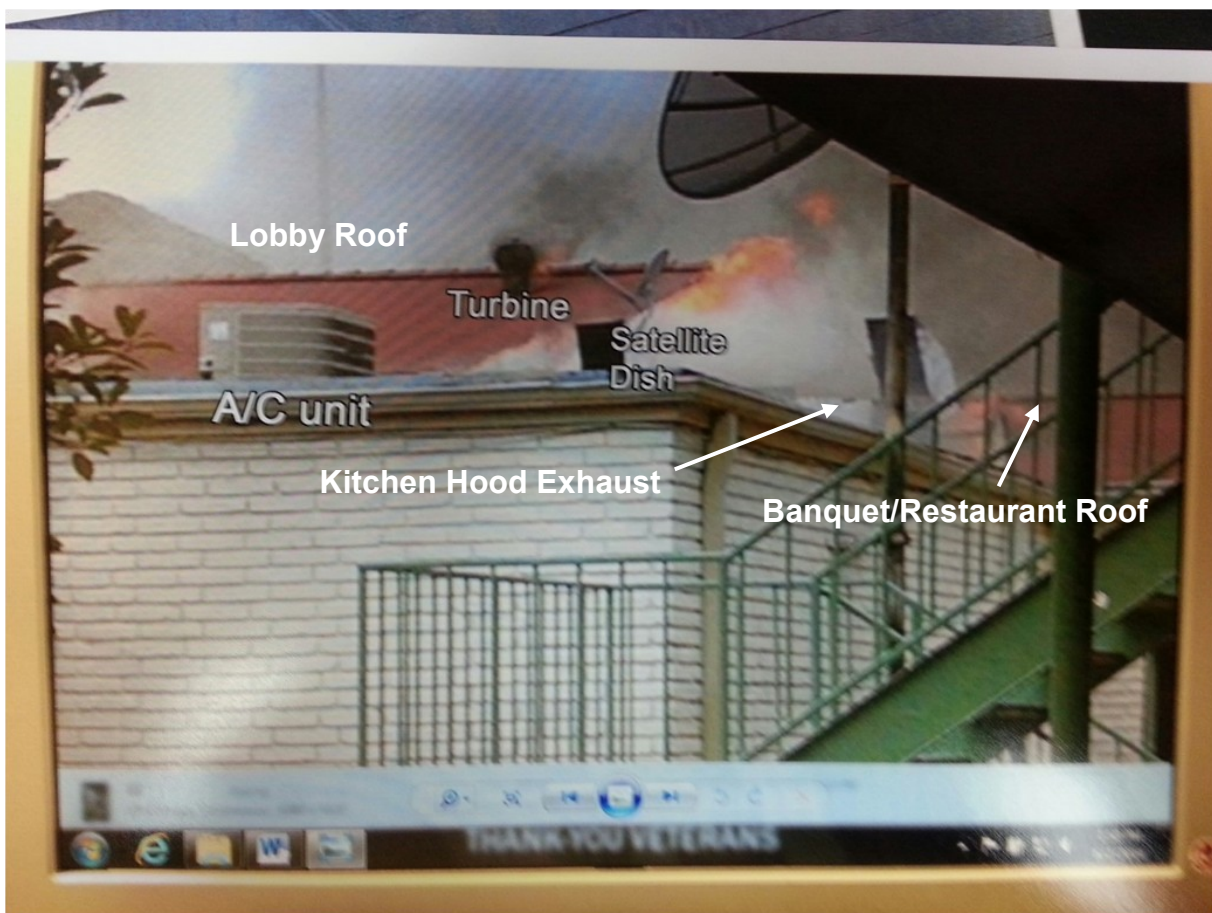
*Weather at incident time was scattered clouds, 86 °F, with south winds at 15-25 mph.*

Employees of the Southwest Inn stated that they smelled smoke up to three hours before finally reporting to 911. Several searches by the employees failed to reveal the source of the smell.

On May 31, 2013, at **12:05:19** the Houston Fire Department received a report of a structure fire at 6855 Southwest Freeway.

Employees were evacuating the kitchen and hotel lobby. A kitchen employee walking toward the motel area notified others while walking past them, and one of the occupants took a photograph from the first floor of motel building to the east. The photograph shows flames and smoke from the roof at the area where the banquet room roof structure transitions to the higher lobby roof structure.

**12:07:53** District 68 (DT68), District 28 (DT28), Engine 51 (E51), Engine 68 (E68), Engine 60 (E60), Engine 82 (E82), Ladder 68 (L68), Ladder 69 (L69), Medic 10 (M10), and Safety 57 (SF57) were dispatched.



- 12:08:24** E51 en route with E51A Captain Renaud, E51B Engineer Operator (E/O) Bebee (switched with another firefighter), E51C Firefighter, and E51D Equipment Operator.
- 12:09:27** E68 en route with E68A Captain Dowling, E68B Probationary Firefighter Sullivan, E68C Firefighter Garner, and E68D Equipment Operator.
- 12:10** E51 radioed to responding companies while they were enroute that they could see “heavy smoke showing.”
- 12:10** While still en route, DT68 requested that Dispatch upgrade the response to a 1-11. The following companies were added on the 1-11: District 21 (DT21), Engine 48 (E48), Ladder 33 (L33), and Rescue (HR11).
- 12:11:58** E51 reported on location with a one-story restaurant with “heavy smoke showing from the attic of the restaurant.” E51 advised incoming companies

over the radio that an offensive attack was being initiated with a 2 ½ inch hoseline. Approximately one minute later, E51 requested the “second-in engine” to establish a permanent water supply. E68 was the second-in engine.

E51 arrived and saw heavy smoke blowing across the roadway low to the ground. The majority of those first alarm companies interviewed indicated significant amounts of smoke low to the ground upon arrival. Smoke was moving toward the frontage road and highway on the Alpha side.

E51 stopped past the first entrance driveway at the northwest corner of the property. Captain Renaud disembarked to assess the scene. Civilians on scene from the restaurant advised the E51D (Driver/EO) that the fire was at the other corner of the building. When the captain returned, the engine was repositioned farther to the east on the access road, in front of the restaurant’s entry door. E51D and E51C stated that the captain performed an assessment and returned to the engine and ordered a 2 ½ inch hose for entry. E51C described the assessment that the captain walked from Delta corner, along Alpha, to the Bravo corner to try and see three sides. He did not see him walk down the sides of the building. A complete 360° assessment was not completed until DT28 (Alpha Division Supervisor) arrived.

- 12:13:21** DT68 announced on the radio that he was on location and established Southwest Freeway Command. This was followed quickly by E68 announcing they were on location and looking for a hydrant.
- 12:13:56** E68 announced they had located a hydrant and were establishing a permanent water supply for the “first-in engine.” E68 pulled two lines to E51 for supply.
- 12:14:06** DT28 and L68 arrived on location. Command assigned DT28 to the Alpha Division. DT28 parked on the Delta side of the building, donned his gear and walked to the command post and had a face to face talk with Command.
- 12:14:37** L68 reported to Command that they were in the Delta Division and requested permission to “put a vent in the side of the building.” (During a post-incident interview the officer on L68 stated that this request was to place a vent hole in

the gable of the Delta side of the building.) Command denied the request until “we find out what we got first.”

**12:15:17** E51 crew opened the unlocked door to the banquet room and checked the ceiling with a Thermal Imaging Camera (TIC). E51A reported a TIC reading of 184 °F at the front door and the crew entered the building.

E51C used a pike pole to pull ceiling inside the entry door area, noting there was no fire above at that point. Advancing approximately 10 feet inside the building and to the left of the entry doors, smoke conditions were worse, with smoke down to the floor. E51C noted that the smoke was not hot and visibility was at zero. E51C saw reflective material on Captain Renaud and then the glow from the TIC looking for the fire. E51C used the 8-foot pike pole to pull ceiling. There was a high ceiling in the banquet room. E51C stated that Captain Renaud was checking with the TIC to be certain that the fire was not overhead or behind them. The TIC did show heat toward the right (kitchen direction) and E51 firefighter could see a glow to the right at eye level or higher. E/O Bebee opened the nozzle directing it toward the glow. This seemed to have a positive impact on the fire conditions.

**12:15:31** Command reported that the Grace Accountability System was in operation.

*The Grace Accountability System is an electronic system that includes an alarm transmitter that is issued to every firefighter and a base receiver. In the event the firefighter’s transmitter goes into alarm mode, a signal is sent to the base identifying which firefighter is in distress.*

**12:16** Approximately 30 seconds later, the command technician of DT28 was instructed to report to the command post to assist with the Grace Accountability System.

DT28 was at the command post and Command stated that he needed to know the building lay-out. DT28 volunteered to conduct a 360° size-up to determine the building lay-out and the fire conditions. DT28 then performed a walk around the building to assess the conditions by beginning on the Delta side to Charlie, then Bravo, and then returning to Alpha to Command to give a sketch of the structure to the Incident Commander (IC).



During the walk-around, DT28 opened a set of glass doors in the Bravo/Charlie corner and noted that smoke was banked down to 3-4 feet from the floor. He continued the walk around and noted that smoke was coming from the eaves around the entire building.

**12:15:37** Command requested E68 to lay dual lines into E51. E68 advised Command that they were currently in the process of completing that task.

**12:16:11** E60 arrived on location. The officer on E60 reported numerous attempts of trying to radio Command but got “bonked” repeatedly. E60A stated that he went to the command post for face to face communication.

*The term “bonked” refers to the sound that is emitted over an individual’s radio when the microphone is keyed, indicating that the individual has not been granted access by the system to talk. During the investigation a number of members reported similar occurrences throughout the incident -- a situation that reportedly made radio communication difficult, if not impossible, at times.*

**12:16:55** Command called Alpha and asked whether the fire building was connected to the motel, which was located on the rear (Charlie) side of the building. Alpha responded that it was connected. Command then instructed L68 to ladder the building and cut a hole in the roof between the main fire building and the motel.

**12:17:34** E68 advised Command that dual lines had been supplied to E51.

**12:18:05** E82 requested assignment.

**12:18:18** E60 assigned as RIT.

**12:18:38** Command noted smoke showing from the middle of the Alpha Division and the Delta Division, and a request for a second alarm was made.

**12:18:43** E51 announced ¼ tank of water remaining with no permanent water supply established. Command immediately advised the crew from E51 to “back out” since they did not have a water supply.

- 12:18:59** E51 acknowledged this transmission.
- 12:19:12** E68 requested assignment.
- 12:19:58** E51 announced over the radio that a permanent water supply had been established.
- 12:20:07** E51 announced that they were going back inside the building. Command acknowledged that transmission and advised E51 that E82 was being assigned to assist.
- 12:20:18** E68 requested assignment.
- 12:20:23** DT68 assigned E68 to join up with E51 on fire attack.
- 12:21:45** Command called E51 to ascertain whether they had entered the building from the Bravo side. E51 stated they had entered from the Alpha side.
- 12:22:08** Command advised DT28 to continue the assignment in Alpha. Command went on to say that “you do have E82, E51, E68 in Alpha.” DT28 acknowledged Command’s transmission and repeated the companies that were assigned to Alpha.
- 12:22:68** Command advised DT28 of heavy fire showing on the Bravo side of the structure. Command notified DT28 that E51 had entered the building from the Alpha side.

E60 was the third engine in and parked on the feeder, positioned to block traffic. E60 E/O stated that Command was positioned in the street in line with the Alpha/Delta corner. The crew walked to Command where they were assigned as the RIT. E60A, B, and C grabbed their equipment and took position approximately 50 feet from the front of the building near the overhang (portico) because of the heavy smoke conditions blowing in their direction. The E60 E/O was assigned to assist Accountability. The E60 E/O stated that from that position he could not see the building because of the smoke conditions. E60

E/O was assisting with the Accountability laptop and stated that he could not see the fire conditions because of the amount of smoke. Additionally, at that time E60 believed that E51 was the only company operating inside the building.

**12:23:07** Based on statements from E60, shortly before smoke conditions got very bad, the building could not be seen from the Alpha side because of the density of the smoke. The thermal imager was deployed, and E60A stated that fire could be seen venting through the roof of the building. DT28 also reported that he had looked through E60's thermal imager and noted significant heat coming from the roof.

E51C stated that the floor was very slippery while moving back nozzle and while attacking the fire. It was later found during excavation of the banquet room that the flooring was tile with a slick surface. After reaching the previous location inside, the E51 captain instructed E51C to return to the doorway and pull more hoseline so they could advance farther. The E82 crew had entered the building and was moving toward E51's position with the 1 ¾ inch pre-connect from Engine 51 to back them up. E51C bumped into E82A while moving toward the door to pull slack and they all moved back to the doorway. E51C stated that when he neared the doorway, he felt and heard a rumbling and was pushed through the doorway. The collapsing roof hit the back brim of his helmet, dislodging it. E82A reported "Mayday" over the radio. E51C realized the roof collapsed and turned around to try and re-enter, only going a couple of feet inside, because of the location of the collapsed roof. E51C did not know he passed the E68 crew inside the banquet room while following the hose to return to the doorway.

DT28 tried to confirm with Command the companies that were assigned in the Alpha Division. He repeatedly got "bonked" when trying to get a list of the companies. In fact, DT28 reported that he was getting "bonked" so frequently (particularly after the collapse) that his radio was almost totally ineffective and conversations were held face-to-face.

Shortly after the fire was seen venting through the roof the E60 captain stated they saw the roof collapse. E60 tried repeatedly to engage the radio but continuously got "bonked." Because of the inability to engage the radio, E60 physically went to Command to advise them of the situation.



*Banquet room area of roof collapse*

- 12:23:24** E82A called a Mayday. He advised of a roof collapse with E51 inside.
- 12:23:26** E82A repeated Mayday.
- 12:23:30** Command notified the operations center of the Mayday and requested a third alarm. Command instructed E60 (RIT) to deploy for the Mayday.
- 12:23:40** Alpha requested the RIT.

E51C was at the doorway to the building after the roof collapse and was uninjured. He began using a hoseline to keep fire away from the area where he thought the other crew members were trapped. He advised RIT that the remaining crew members were a short distance inside the door under a large pile of debris. The RIT deployed and was blocked by the collapsed roof at the entry door. RIT moved to a large window left of the doorway and removed the air conditioners located there.



*Approximate direction of E51 hoseline*

- 12:24:08** Dispatch (OEC) announced the Mayday and instructed engine companies to sound the air horns for 30 seconds.
- 12:24:36** Command instructed Mayday units to find the hose and follow the hose out.
- 12:24:56** Command assigned E48 as secondary RIT.
- 12:24:57** Dispatch (OEC) requested a Personnel Accountability Report (PAR) from all units.

RIT followed the hoseline inside but they could not go more than a couple feet because of the roof structure. RIT then repositioned to a window on the Alpha side of the building (to the left of the entry point of E51) to try to gain access. After removing two air conditioning units and the window, a trapped firefighter (later determined to be E68



*View of the hoseline through the entry door and the hole cut in the roof*

Captain Dowling) could be seen inside. The firefighter was alive and moving. Attempts were made to contact Command to request saws and cribbing to be used in the rescue; however, RIT got “bonked” continuously and could not reach Command.

As rescue efforts were underway to free the trapped firefighters, multiple hand lines and an aerial master stream were deployed in an attempt to keep the fire away from the immediate area. DT28 stated that, at that point, he thought the crew from E51 was the only crew missing/trapped.

RIT was relieved by Rescue 10, who had arrived with additional equipment to aid in the rescue effort. RIT then repositioned back to the original point of entry where they discovered a small hole had been cut through some of the roofing material that was blocking

the path of ingress/egress. A member from RIT was able to look into the hole where they found a second trapped firefighter. This firefighter could not be reached and could only be partially seen because of the large pile of debris. RIT called out to the firefighter, but there was no response.

RIT stated that they initially thought they were looking for a total of three members who were trapped. After finding the uninjured member in the door and Captain Dowling, they thought the second trapped firefighter was the only one remaining.

**12:26:57** While efforts were underway to locate and rescue the trapped firefighters, Accountability announced over the radio that the crew of E68 was in alarm. There was no response heard from anyone on the fire ground concerning the whereabouts of E68. By all accounts there was no knowledge at that time that

other crew members were trapped in addition to those assigned to E51.

- 12:27:04** Command called E82 and asked about their location and if they were lost in the smoke. Because E82 called the Mayday, Command believed that E82 was also a trapped crew.
- 12:28:26** Command called E51 and E82 and asked if they could provide any information.
- 12:28:52** E82 notified Command that E51 and not E82 were trapped.
- 12:28:52** Accountability called for a PAR from the following companies: E51 Captain, E60 Firefighter C, E68 Captain, and E68 Firefighter B.
- 12:29** Accountability stated “E68 Crew and E60 Charlie I need your ... (inaudible).” There was no radio acknowledgement of either of these requests.
- 12:30** Safety 57 reported on location and asked Command about moving the fire ground radio traffic to a different tactical channel and keeping the rescue efforts on the current channel.

Command advised DT21 to go to another radio channel (TAC 12) and take command of the suppression efforts, and he (Command) would remain on the current channel (TAC 11) to coordinate the rescue efforts. This seemed to work well; however, following the transition, communication involving the suppression efforts was periodically still being held on the original tactical channel.

- 12:31:16** Command requested the assignment of a fourth alarm.
- 12:35:36** Command advised all companies not involved with the Mayday to go to channel 12.

As rescue efforts continued it became apparent that accessing the victims was going to be extremely difficult because of the amount of fire and debris. Several crews were assigned to

the rescue effort. Rescue crews were trying to reach the victims through both the original point of entry (front doorway) and a front window. Command then assigned E82 to see whether they could breach their way inside from the Charlie side. L28 was assigned to go through the front door.

**12:39:33** Rescue 10 reported that two firefighters were located near the front windows and they needed to cut roof away from them. Alpha (DT28) requested an aerial ladder to try to get to the firefighters from above.

**12:47:40** Command (DT68) called Alpha and asked whether there was a possibility of a secondary collapse occurring onto the rescue crews (DT68 apparently transitioned from being identified as “Command” to being identified as “Operations”).

DT28 responded that a second collapse was possible. DT28 wanted to get a ladder pipe to put water on the fire near the RIT to get the fire off of them and needed another charged line from the direction of L33. DT28 considered placing shoring on the exterior wall to prevent a secondary collapse. Because shoring equipment was not immediately available and because of the urgency to conduct the rescue of trapped firefighters, the decision was made to proceed without shoring the wall.

**12:52:52** Alpha reported to Command that “we’ve pulled one out” (E68A Captain Dowling).

DT28 reported that upon realizing the member was from E68, he knew there was a problem. That is, it was not known that E68 was conducting interior operations before the collapse and was among those trapped.

**12:58** Operations (DT28) contacted Alpha via radio and stated “I don’t think that was a member of E51’s crew. I think that was a member of ... ” (radio traffic discontinued).

DT28 reported to the command post and relayed that a PAR was needed to determine exactly who was missing.



- 12:59** Operations announced over the radio a request for any member from E68's crew to report to the command post. It had become apparent that firefighters other than E51 were missing or trapped.
- 13:00** Operations made a radio announcement requesting a PAR from all companies immediately in an effort to determine exactly how many personnel were missing. PAR reports were provided for a number of companies, and Command announced specifically that he needed a PAR on E68 – any member of the group.
- 12:59:11** E508 reported locating another trapped firefighter.
- 13:01** Capt. Dowling was transported to Hermann Hospital by Medic 10.
- 13:03:40** Alpha reported that there had been a collapse on the front of the building involving the exterior of the structure during efforts to extricate a trapped firefighter. Considerable amounts of debris from the front façade of the building fell onto the rescuers. Alpha went on to advise that all personnel in the front of the structure were accounted for.

Rescue efforts then expanded in order to remove those trapped by debris from the secondary collapse. There were no life-threatening injuries that occurred as a result of the secondary collapse. Four firefighters were fatally injured during the course of this fire; 15 other firefighters reported injuries, some of whom required hospitalization.

- 13:04:12** E51B Bebee was extricated and transported to Hermann Memorial hospital by Medic 3. Resuscitation efforts continued until hospital staff pronounced his death.

Three additional Houston firefighters tragically lost their lives while battling the blaze.

Captain EMT Matthew Renaud, Probationary Firefighter Anne Sullivan, and Firefighter EMT Robert Garner were trapped by the initial collapse. Despite extraordinary efforts by Houston Fire Department personnel, the firefighters could not be extricated until later in the incident.

Autopsies conducted by Harris County Forensic Sciences determined the following causes of death:

- E51 Captain EMT Matthew Renaud: smoke inhalation.
- E51 Engineer Operator EMT Robert Bebee: smoke inhalation and thermal injuries.
- E68 Firefighter EMT Robert Garner: compressional asphyxia.
- E68 Probationary Firefighter Anne McCormick Sullivan: compressional asphyxia, blunt head trauma, and smoke inhalation.



*Aerial view of scene on June 7, 2013, after scene examination (Photo by SFMO)*

# Equipment Evaluation: Personal Protective Equipment

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*The Texas Commission on Fire Protection (TCFP) conducted an evaluation of the firefighters' personal protective equipment for performance and compliance with TCFP rules. Examination of the PPE used in this training course may provide important information related to the incident. The following are excerpts of the TCFP evaluation report.*

Summary of Fire Fighter Fatality Compliance Inspection for Incident of May 31, 2013.

On the morning of Thursday, June 6, 2013, TCFP compliance officers Ernie Null, Tim Gardner, and team leader Lamar Ford arrived at the Houston Fire Department Arson Lab, 2301 Center Street, Houston, Texas, to conduct an observation of the protective personal ensemble (PPE) and self contained breathing apparatus (SCBA) of the Houston firefighters who perished on May 31, 2013.

The trio from the TCFP was met by Chief Investigator Alfredo Martinez of the Houston Arson Bureau, Assistant State Fire Marshal Kelly Kistner and Lt. Investigator Dean Shirley of the Texas State Fire Marshal's Office.

This summary details the information concerning the items that are normally regulated by the TCFP, according to "Texas Government Code," Title 4, Executive Branch; Subtitle B, Law Enforcement and Public Protection; Chapter 419, Texas Commission on Fire Protection and are normally viewed as part of the process when conducting a fire department Compliance Inspection.

All departmental records of issuance and maintenance associated with the PPE of all the

fallen firefighters were satisfactory and in compliance with “*Texas Administrative Code*,” Rule §435.1

All departmental records of issuance and maintenance associated with the SCBA of all the fallen firefighters were satisfactory and in compliance with “*Texas Administrative Code*,” Rule §435.3, with the exception of the SCBA worn by Firefighter Anne Sullivan. There were no records provided to confirm that Sullivan’s SCBA had received an “Annual Full Function Test,” as required by “*Texas Administrative Code*,” Rule §435.3(8), within the year prior to May 31, 2013.

All Continuing Education records were satisfactory and in compliance with the “*Texas Administrative Code*,” Rule §441.5.

## Findings and Recommendations

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*Recommendations are based upon nationally recognized consensus standards and safety practices for the fire service. All fire department personnel should know and understand nationally recognized consensus standards, and all fire departments should create, update and follow SOGs and SOPs to ensure effective, efficient and safe firefighting operations.*

The Houston Fire Department arrived to find heavy smoke coming from the roof. Engine 51 reported heavy smoke showing from the attic of the restaurant. A partial assessment was conducted by the first arriving officer and an interior attack proceeded using a 2 ½ inch attack line. Smoke obscured visibility of the structure from the command post and the Engine 51 position. Fire ground communications seemed to work well at the onset of the incident but deteriorated quickly. Many commands were made using face to face communication. Command quickly made assignments to arriving personnel. The first arriving District Chief was assigned the Alpha Division and then was assigned to conduct a 360° assessment before returning to the Alpha side.

The Rapid Intervention Team (RIT) and the deployment of a back-up line were accomplished after the initial entry by E51. The E51 crew was forced to return to the entry point when the water supply in the E51 engine tank was ¼ full. When a continuous water supply was established, E51 re-entered the structure. E82 was at a back up position and then entered to assist in fire attack. E68 entered when assigned to assist E51 with fire attack. E82 came out of the building with E51C to pull hose and the building collapsed. RIT was immediately deployed after the report of Mayday.

The collapse occurred 15 minutes and 29 seconds after dispatch, 11 minutes and 59

seconds after E51 reported on scene, 8 minutes and 07 seconds after the initial entry, and 3 minutes and 17 seconds after the second entry.

Thermal imaging cameras were utilized by several people, including the first-in E51 crew to assist in assessing the fire. E51 utilized the TIC before entering the doorway; they used a pike pole to remove ceiling and did not find any fire overhead above the door area. As they moved farther inside, smoke conditions worsened, especially when ceiling material was removed. Using the TIC again provided information as to where to direct the hose stream. The Alpha Division supervisor and the RIT captain used a TIC to evaluate the structure just before the collapse. Only seconds after seeing the amount of heat involving the roof structure seen through the TIC, the roof collapsed.

RIT was deployed immediately and steps were taken to assign additional companies to back up RIT and hoseline positions during rescue and recovery operations. These companies were assigned to the Alpha Division.

The Operations Center (OEC) requested a PAR shortly afterward the Mayday without a response from the fire ground companies. Several attempts at getting PAR were made by the accountability Incident Command Technicians (ICT) staffing the Grace system.

Houston FD members made a heroic effort to rescue those trapped inside after the collapse. The final analysis of this incident does not suggest that the firefighters who lost their lives, or any of the surviving members of the Houston Fire Department, failed to perform their duties as trained or as expected by their organization. Findings and recommendations, when taken as a whole and appropriately applied as lessons learned, can help ensure that a similar result will not occur again.

## **Finding 1**

There were no pre-fire plans of this structure. The Houston Fire Department had responded to this location in the past but there is no indication of a record of a site diagram, fire protection systems, or construction methods.

### **Recommendation**

Pre-fire tactical planning can be employed to identify lightweight truss construction to assist in formulating interior firefighting tactics and the risks associated with lightweight truss construction. Visiting target hazards that have undergone building modifications will give primary response companies knowledge that may impact interior firefighting tactics and strategy.

Identifying modifications to roof structures or environmentally damaged structures of target hazards should be included as a primary segment of pre-incident tactical planning. The addition of the concrete tile roof materials, overlaid onto the existing asphalt roof, added several pounds per square foot to the roof's weight. The attic fire attacked the roof's structural members, weakening the roof structure, and the weight of the roof shortened the time from the incipient stages of the fire to the time of collapse.

Training should be provided regarding building construction types and the use of mixed construction materials (steel/wood) and how those elements react under fire conditions that may contribute to early structural failure.

### **Reference**

***Structural Fire Fighting: Initial Response Strategy and Tactics***, 1<sup>st</sup> edition, IFSTA Chapter 3 – Size-up: Evaluation and Assessment

### ***NFPA 1620, Standard for Pre-Incident Planning***

Chapter 3.3.41 Pre-Incident Plan. A document developed by gathering general and detailed data that is used by responding personnel in effectively managing emergencies for the protection of occupants, responding personnel, property, and the environment.

## **Finding 2**

Initial entry crews did not perform a 360° scene size-up.

### **Recommendation**

Perform a 360° evaluation of the structure upon arrival. A complete scene size-up provides a basis for a complete risk analysis. There was no indication that the east side (Bravo side) or the south side (Charlie side) were visually inspected prior to the interior attack. The east-side entry doors to the kitchen were located inside an alcove area that could not be seen from the corner of the building. A rapid and full assessment of the scene may have provided information regarding the potential impact of the fire on the building structure and roof assembly.

A thorough and complete size up will provide a sound basis for developing a comprehensive risk analysis and deciding tactics. It provides the IC and on-scene personnel with a general understanding of fire conditions, building construction, and other special considerations such as weather, utilities, and exposures.

### ***The Ten Rules of Engagement for Structural Fire Fighting, 2001 IAFC***

#### **Acceptability of Risk**

1. No building or property is worth the life of a firefighter.
2. All interior fire fighting involves an inherent risk.
3. Some risk is acceptable in a measured and controlled manner.
4. No level of risk is acceptable where there is no potential to save lives or savable property.
5. Firefighters shall not be committed to interior offensive fire fighting operations in abandoned or derelict buildings that are known to be, or reasonably believed to be, unoccupied.

#### **Risk Assessment**

1. All feasible measures shall be taken to limit or avoid risks through risk assessment by a qualified officer.
2. It is the responsibility of the Incident Commander to evaluate the level of risk in every situation.
3. Risk assessment is a continuous process for the entire duration of each incident.



4. If conditions change, and risk increases, change strategy and tactics.
5. No building or property is worth the life of a firefighter.

## **Reference**

***Structural Fire Fighting: Initial Response Strategy and Tactics***, 1<sup>st</sup> edition, IFSTA

*Chapter 3 – Size-Up: Evaluation and Assessment*

***Command Safety, The IC's Role in Protecting Firefighters***, A. Brunacini and N. Brunacini, 2004, *Chapter 2 – Situation Evaluation*

***Fire Officer: Principles and Practice***, 2006, *Chapter 16 – Fire Attack, Sizing Up the Incident*

***Fundamentals of Firefighting Skills***, 2<sup>nd</sup> ed. *Chapter 2 – Fire Fighter Safety*

***Structural Firefighting: Strategy and Tactics***, 2<sup>nd</sup> ed. *Chapter 2 – Procedures, Pre-Incident Planning, and Size-up*

### **Finding 3**

Firefighters were not aware of the severity of the fire conditions present overhead and that structural members of the roof support system had become compromised. When E51 re-entered the structure, the TIC was not utilized to assess the progress of the fire in the attic space above them.

### **Recommendation**

Utilize all available means to continually evaluate the fire conditions. The use of a TIC prior to re-entering the structure after a water supply was established may have provided valuable information. Heavy smoke was showing from the building upon arrival of initial companies. In fact, a large column of smoke could be seen in the distance as companies were responding.

E51 announced over the radio that heavy smoke was coming from the attic of the restaurant. Prior to initiating fire attack inside the restaurant, E51 announced a reading of 184 degrees on their thermal imaging camera. This indicates they were utilizing the available tools to assist them in assessing the situation. It is equally important for crew members to use all available means to *continually* evaluate conditions as the attack advances or whenever conditions change. This information must be communicated to others including the Incident Commander. Likewise, incident commanders should continually evaluate the risks of committing personnel to an interior attack with potential operational benefits, particularly if all occupants are evacuated from the structure.

### **Reference**

***Fire Engineering***, Risk Management on the Fireground

<http://www.fireengineering.com/articles/print/volume-162/issue-10/features/risk-management-on0.html>

***NFPA Journal (July/August 2012)*** Weighing the Options: How a Risk-Versus-Benefit Analysis Can Reduce Firefighter Injuries and Death

<http://www.nfpa.org/newsandpublications/nfpa-journal/2012/july-august-2012/the-experts/structural-ops>

*National Fallen Firefighters Foundation Life Safety Initiatives*

Initiative No. 3: Focus greater attention on the integration of risk management with incident management at all levels, including strategic, tactical, and planning responsibilities.

<http://www.lifesafetyinitiatives.com/>

#### **Finding 4**

Situation reports and key discoveries were not consistently communicated to Command so that fire location, spread, control progress, and other vital information could be monitored and factored into the decision-making process. Command did not communicate to the interior attack crew the conditions noted on the exterior.

#### **Recommendation**

Information relating to fire conditions, the environment encountered, or changes of conditions must be reported to the IC in a timely and consistent manner. Use of a formatted reporting process such as “UCAN” (Unit, Conditions, Actions, Needs) may be helpful but the important point is getting the appropriate information to the IC in a timely manner so that critical decisions can be made utilizing all available situational information.

The acronyms **UCAN** or **LUNAR** refer to several uses including Mayday and *situation* reporting communications.

**CAN:** Conditions, Action (or Air), Needs

**UCAN:** Unit, C A N

**LCAN:** Location, C A N

**LUNAR:** Location, Unit, Name, Air, Resource needs

#### **Reference**

***Structural Fire Fighting: Initial Response Strategy and Tactics***,

IFSTA, 1st Edition, Chapter 3–*Size-Up: Evaluation and Assessment*

***FireRescue***, February 2012 issue

“A closer look at LUNAR” by Homer Robertson

***Fire Engineering***, May 2011 issue,

“Reporting Your LCAN” by David DeStefano; [http://texasmayday.com/Mayday\\_Training\\_Ideas.html](http://texasmayday.com/Mayday_Training_Ideas.html)

### **Finding 5**

There was a lack of personnel accountability.

It is important that everyone on scene at an emergency incident have a keen awareness of which units are operating under their command and where they are operating. Based on interviews and radio transmissions it was apparent that there was uncertainty about exactly which companies were operating inside the structure in the area of the collapse when it occurred. It was not known that E68 members were inside the structure.

### **Recommendation**

Personnel accountability must be maintained at all times, particularly when members are operating in an IDLH environment.

### **Reference**

***NIOSH Firefighter LODD Report (recommendation 5):***

<http://www.cdc.gov/niosh/fire/reports/face9947.html>

***Essentials of Fire Fighting, (5<sup>th</sup> Edition), IFSTA, Chapter. 2, pg.74*** – Every fire department must use some system of accountability that identifies and tracks all personnel working in the hazard zone at an incident. Accountability is vital in the event of a sudden and unexpected change in fire behavior or a structural collapse.

***Houston Fire Department Emergency Operations Guidelines: Electronic Accountability System, Section 5.05.C*** – Command will maintain an accurate continual awareness of where crews are committed during all phases of an incident (staged, sector, rehab, evacuation etc.).

## **Finding 6**

Radio communications were difficult if not impossible.

Houston Fire Department currently uses a trunked radio system for tactical fire ground communications. A number of firefighters expressed concerns about their lack of ability to communicate via radio. Members stated that they were “bonked” numerous times while trying to transmit messages over the radio. *(The term “bonk” refers to a sound that is emitted over an individual’s radio when the microphone is keyed. Bonking indicates that the individual has not been granted access by the system to transmit a message).*

While not a contributing factor in the collapse, communication challenges increased the complexity of the response and rescue effort.

### **Recommendation**

A review should be performed to ensure that all supporting hardware and software is performing at its optimal level, and the system is adequate for tactical use on the fire ground. Additionally, a reliable backup option should be available for use when the primary mode of radio communication is not performing at a desirable level. All members should be thoroughly trained on accessing/using the backup method of communication.

### **Reference**

***Portable Radio Best Practices***, International Association of Fire Chiefs, Section 2, Recommendation 1: Comprehensive and continuing training is critical to the successful use of complex communications equipment. All personnel must be trained to properly use the assigned radio equipment in conjunction with all components of the protective ensemble.

### ***Voice Radio Communications Guide for the Fire Service***

U.S. Fire Administration,

<http://www.iaff.org/08News/PDF/RadioCommunications.pdf>

*NFPA 1221, Emergency Services Communication, Chapter 9, Annex 9.3.1.4* – Various communications alternatives are available for on-scene tactical communications. If a solution other than simplex analog communications is determined by the AHJ (authority having jurisdiction) to best address that organization’s needs, requiring a simplex analog channel provides a secondary communications choice, if for some reason the preferred alternative becomes unusable.

## **Finding 7**

A personnel accountability report (PAR) was not completed immediately after the collapse and Mayday.

At **12:23:07** E82 called a Mayday advising there had been a roof collapse and E51 was inside. The first known request for a PAR was from the Operations Center shortly afterward (12:24:57) without a response. There were PAR requests to specific members whose PASS devices were in alarm mode as indicated by the Grace Accountability System. There was no response to these requests for a PAR.

Shortly after the request for the PAR was announced, the accountability officer noted that a PASS device for a member from a Medic Unit was activated; however, the member of the Medic Unit was actually seen standing at the command post. As a result, the accountability officer lost confidence in the functionality of the system. There was no further immediate action taken toward specifically identifying which member(s) were lost/trapped. A complete PAR on all companies was not requested until 13:00:57. It remained incomplete until the remaining members of E68 were accounted for.

## **Recommendation**

When anyone on the fire ground is made aware of the possibility of a lost/trapped firefighter, the Incident Commander should be immediately notified, and a PAR for all companies should be called without delay.

## **Reference**

**Essentials of Fire Fighting**, IFSTA, (5<sup>th</sup> Edition), Chapter. 19 – Fire Department Communications

A PAR is usually requested when:

- There is a sudden catastrophic event (flashover, backdraft, etc.).
- A firefighter is reported missing or in distress.



***Houston Fire Department Emergency Operations Guidelines:***

Rapid Intervention Teams and Survivability, Section 6.05.A –

When a firefighter is reported trapped or missing ... the IC will initiate a rescue effort by:

- requesting a PAR check of the personnel on the scene.
- determining how many personnel are trapped or lost.

***Houston Fire Department Emergency Operations Guidelines:***

Rapid Intervention Teams and Survivability, Section 6.07.D – PAR shall be conducted ... whenever a sudden hazardous event occurs (backdraft, collapse, etc.).

IC will contact each sector and/or company to confirm the safety of all members.

### **Finding 8**

A manageable span of control was not maintained by some components of the ICS structure. In the moments after the collapse occurred, numerous resources were sent to the Alpha Division Supervisor with no indication that these resources were divided into manageably sized work groups.

### **Recommendation**

During emergency conditions, maintain the span of control between three and seven personnel, with five being the optimal number. When work is particularly hazardous and complex this number should be reduced even for the most experienced fire officer.

### **Reference**

***Essentials of Fire Fighting***, IFSTA, (5<sup>th</sup> Edition), Chapter. 1, page 19 - A rule of thumb in the fire service is that an officer can directly supervise three to seven firefighters effectively, with five being optimal.

### ***Houston Fire Department Emergency Operations Guidelines:***

Incident Management, Section 7.10.M – In fast-moving, complex operations, a span of control of no more than three to five is recommended.

## Appendix: Timeline

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### *Provided by Houston FD*

*12:05:19 First Call reported to the Houston Emergency Communication Center (HECC), reporting that the Southwest Inn Hotel was on fire. (City of Houston 911)*

*12:07:55 (DISPCW) OEC dispatches the following on DISPCW - [Tone] "Restaurant Fast Food on fire – D068, D028, E051, E068, E060, E082, L068, L069, SF057 M010 Southwest Freeway In-Bound near Sandspoint Dr. Key Map 530H Hotel, Alpha – Bravo 10."*

12:15:58 (SW TAC 11) D028 contacts command and asks if the ICT on D028 should report to the command post.

12:16:00 (SW TAC 11) Command [D068] acknowledges D028 and orders him to send his ICT to the command post and operate the Grace Accountability System.

12:16:10 (SW TAC 11) OEC advises Command [D068] that L051 has been added to the record.

12:16:11 (SW TAC 11) E060 reports being on location.

12:16:18 (SW TAC 11) Command [D068] acknowledges the report by OEC that L051 has been added to the record and then requests OEC to repeat the 1-11 companies.

12:16:31 (SW TAC 11) OEC tells D068 to stand by.

12:16:39 (SW TAC 11) OEC notifies D068 of the 1-11 companies *"You have D021, E048, L033 and HR011."*

12:16:55 (SW TAC 11) Command [D068] asks Alpha division [D028] if the building is connected to the hotel.

12:17:03 (SW TAC 11) Alpha division [D028] reports “Yes.”

12:17:06 (SW TAC 11) Command [D068] orders L068 to ladder the building and try to get between the main building that is on fire and the hotel. D068 also orders that a hole be cut in the roof.

12:17:21 (SW TAC 11) E068 advises command that they have completed their assignment of laying dual lines into Engine 51 and requests another assignment.

12:17:28 (SW TAC 11) Command [D068] asks L068: “*Ladder 68 did you say you have dual lines into E051.*”

12:17:34 (SW TAC 11) E068 reports “*E068 we’ve got dual lines going into E051.*”

12:17:42 (SW TAC 11) Command [D068] acknowledges the message from E068 “*Received.*”

12:17:45 (SW TAC 11) Command [D068] calls to L068 to confirm the order of getting on the roof and cutting a hole.

12:18:00 (SW TAC 11) OEC advises Southwest Freeway Command that RE010 has been added to the incident.

12:18:05 (SW TAC 11) E082 calls Command to request an assignment.

12:18:18 (SW TAC 11) Command [D068] orders E060 to be the RIT team.

12:18:24 (SW TAC 11) The Attack Engine [E051D] calls E068 to request water.

12:18:28 (SW TAC 11) E060 acknowledges the orders given by Command [D068]: “*Engine 60 received RIT.*”

12:18:32 (SW TAC 11) E082 attempts to contact Command a second time to request an assignment.

During the interview process, it was reported that E082 was having difficulty contacting Command on the radio so the decision was made by the officer to report to the Command Post. Once there, E082 received face to face orders to assist E051 with the fire attack.

12:18:38 (SW TAC 11) Command [D068] contacts OEC and requests that a 2-11 be dispatched.

12:18:42 (SW TAC 11) OEC acknowledges Command [D068] “*That’s received a 2-11.*”

12:18:43 (SW TAC 11) The Attack Engine [E051D] calls E051 to report that the Engine only has a quarter of a tank of water remaining and that there is not a positive water supply established yet.

12:18:52 (SW TAC 11) Command [D068] calls E051 and gives the following order *“Command to E051, back your line out, you do not have a water supply yet, you’re still on tank water.”*

12:18:59 (SW TAC 11) E051 acknowledges Command [D068].

12:19:06 (SW TAC 11) The Attack Engine [E051D] calls E068 to advise that the Attack Engine [E051] needs water and to charge at least one line.

12:19:13 (SW TAC 11) Command [D068] calls E051 to confirm that they had received the message that E051 was only operating on tank water and that the line should be backed out until a water supply could be established.

12:19:22 (SW TAC 11) E051 acknowledges Command’s message.

12:19:27 (SW TAC 11) Command [D068] contacts L068 to confirm that they received their orders: *“L068 did you receive your orders, do not cut a hole in the side of the building, do not put a nozzle in the side of the building, get on the roof, cut a hole in the roof, between the main building and the motel.”*

12:19:43 (SW TAC 11) L068 acknowledges Command: *“L068 received main fire building and the hotel.”*

12:19:46 (DISP CW) [Tone] *“2-11 fire D059 D005, E028, E002, E016, E059, L021, VL001, R042, SF030, CC002, RH017, AS016, SC037, MC008, PG211, PG\*), PG211A, OEC01, Southwest Freeway In-Bound near Sandspoint Dr. Key Map 530H Hotel, Alpha-Bravo 11.”*

12:19:48 (SW TAC 11) Command [D068] acknowledges that the 2-11 has been dispatched.

12:19:52 (SW TAC 11) E068 attempts to contact Command to request an assignment.

12:19:58 (SW TAC 11) The Attack Engine [E051D] calls E051 to report that a water supply has now been established.

12:20:07 (SW TAC 11) E051 contacts Command [D068] to report that E051 will be going back into the building.

12:20:11 (SW TAC 11) Command [D068] acknowledges E051 and advises that E082 will be coming to assist E051.

12:20:18 (SW TAC 11) E068 contacts Command [D068] a second time to request an assignment.

12:20:23 (SW TAC 11) Command [D068] orders E068 to join E051 and assist on the fire attack.

12:20:31 (SW TAC 11) E068 acknowledges Command, *"E068 received, join 51 fire attack."*

12:20:39 (SW TAC 11) Command [D068] attempts to contact E060 and confirm that they have received the orders to be RIT team.

12:20:43 (SW TAC 11) E060 acknowledges Command and reports that E060 has assumed RIT.

12:21:18 (SW TAC 11) AS082 reports on location: *"AS082 be on location Cyano-Group B-Bravo side."*

12:21:31 (SW TAC 11) OEC calls Command and states *"Southwest Freeway Command, let me know when you're ready for your 2-11 companies."*

12:21:31 (SW TAC 11) L069 reports being on location.

12:21:31 (SW TAC 11) E048 reports being on location.

12:21:45 (SW TAC 11) Command [D068] contacts E051 to confirm what side of the structure E051 has made entry from.

12:21:52 (SW TAC 11) E051 reports to Command that E051 has entered the building on the Alpha side.

12:21:57 (SW TAC 11) Command [D068] acknowledges E051 and orders Alpha division [D028] to remain on the Alpha side of the building.

12:22:07 (SW TAC 11) Alpha division [D028] requests that Command repeat the last message.

12:22:08 (SW TAC 11) Command [D068] repeats the order to Alpha division [D028]: *"D028 stay in alpha and you do have E082, E051, E068 in alpha."*

12:22:19 (SW TAC 11) Alpha division [D028] acknowledges Command, and repeats back *"E068, E082 and E051"* and then advises that there is heavy fire showing on the Bravo side and that entry was made on the Alpha side.

12:22:36 (SW TAC 11) OEC contacts SF030 to advise *“Safety 30 you can return to service.”*

12:22:59 (SW TAC 11) OEC attempts to contact E082 and report that a member has a stuck microphone.

12:23:07 (SW TAC 11) Command [D068] attempts to contact E082 and report the stuck microphone and then advises everyone on scene to make sure the *“mic’s”* don’t get stuck because they are unable to communicate.

**12:23:24 (SW TAC 11) E082 reports to Command that there has been a roof collapse and there is a Mayday with E051 inside**

**12:23:26 (SW TAC 11) E082 repeats the message *“E082 Mayday. Mayday.”***

12:23:30 (SW TAC 11) Command [D068] calls OEC to advise that there has been a Mayday and to request a 3-11 assignment. D068 also orders E060 to deploy for the Mayday.

12:23:40 (SW TAC 11) Alpha division [D028] requests the RIT Team.

12:23:42 (SW TAC 11) OEC acknowledges the order by Command [D068] to upgrade the incident to a 3-11 assignment for a Mayday.

12:23:57 (DISP CW) [Tone] *“3-11 fire D008, D046, E033, E038, E049, E005, L028, L016, SR015, EMSD11, PG211, PG211A, PGOEM, Southwest Freeway In-Bound near Sandspoint Drive Key Map 530H.”*

12:24:06 (SW TAC 11) Command [D068] orders all companies to back out of the fire and reports that there is a Mayday in progress.

12:24:08 (SW TAC 11) [Tone] OEC announces the following message: *“Mayday, Mayday has been called all units sound your air-horns for 30 seconds.”*

12:24:21 (SW TAC 11) Command [D068] attempts to contact E051: *“Command calling E051 can you give me some idea where you’re at?”*

12:24:36 (SW TAC 11) Command [D068] attempts to contact the Mayday companies and provide assistance: *“Command calling the Mayday companies, find your hose, get back to your hose and follow the hose out.”*

12:24:56 (SWTAC 11) Command [D068] contacts Alpha division [D028] to advise that E048 will be the secondary RIT Team.

12:24:57 (SW TAC 11) OEC announces *“All units need an immediate PAR all units need an immediate PAR.”*

12:25:08 (SWTAC 11) Command [D068] attempts to contact Alpha division [D028] to see what resources are needed.

12:25:22 (SWTAC 11) Command [D068] announces *“Command to all companies, we’re in Rescue Mode. We have a RIT on our location, RIT companies can you give me any information?”*

12:25:31 (SW TAC 11) Alpha division [D028] reports to Command that E060 is the RIT team and they are going inside the front door. D028 also announces that another RIT crew is needed.

12:25:39 (SW TAC 11) Command [D068] acknowledges Alpha division [D028] and assigns E048 as the secondary RIT.

12:25:52 (SW TAC 11) AS082 reports *“AS082 Cyano Group Standing-by.”*

12:26:25 (SW TAC 11) Command [D068] requests updates from Alpha division [D028] and continues to ask what can be done to help.

12:26:22 (SW TAC 11) Alpha division [D028] reports that *“the crews”* are just inside the door and that E060 is inside the structure looking for them.

12:26:57 (SW TAC 11) The accountability officer [an ICT at the Command Post] attempts to contact E068 and advise that they are showing to be in alarm.

12:27:04 (SW TAC 11) Command [D068] attempts to contact who he believes to be the Mayday crew (E082) to see if any information can be provided as to their location and what their condition is.

12:27:16 (SW TAC 11) Alpha division [D028] reports that RIT teams cannot access the area where E051 is believed to be located and that an attempt will be made by going through the windows. D028 also requests that another hand-line be charged and brought to the Alpha division.

12:27:34 (SW TAC 11) L033 arrives on location and is ordered by Command [D068] to report to Alpha division.

12:27:44 (SW TAC 11) E28 reports *“E028 and RE010 are on location.”*



12:27:50 (SW TAC 11) Command [D068] orders RE010 to report to the Alpha division and assist with the RIT operation.

12:28:04 (SW TAC 11) L051 arrives on location and is ordered by command [D068] to report to the Alpha division.

12:28:15 (SW TAC 11) The accountability officer [an ICT at the Command Post] attempts to contact E051, E060 and E068 crew members by ordering them to “*check PAR.*”

12:28:26 (SW TAC 11) Command [D068] requests E051 and E082 to give a progress report and to provide any information that could help crews find them.

12:28:52 (SW TAC 11) E082 reports that they are out of the building and not the ones who are trapped. E082 then states that he does not know where E051 is located.

12:28:58 (SW TAC 011) Command [D068] receives this transmission and then asks E082 if they know where E051 was last located.

12:29:17 (SW TAC 011) E082 reports that E051 is in the Alpha side entrance and to the left.

12:29:28 (SW TAC 11) Alpha division [D028] contacts Command and makes a request for two more Engine companies. One company is needed to stand by as an additional RIT and the other to operate an attack line.

12:29:52 (SW TAC 11) The accountability officer [an ICT at the Command Post] attempts to contact the crew members from E068 and E060.

12:30:11 (SW TAC 11) Command [D068] makes a general announcement that there has been a roof collapse and that the crew members are going to be under roofing material.

12:30:21 (SW TAC 11) SF057 reports being on location and requests the power company to secure the utilities. A suggestion is then made for putting the Mayday operation on different channel.

12:30:36 (SW TAC 11) Command [D068] reports “*the Mayday will stay on the current channel and the Main Command should go to another channel.*” D068 also makes the announcement that D068 will stay on the original Talkgroup (SW TAC 11) with the Mayday.

12:30:56 (SW TAC 11) Command [D068] calls D021 and gives the order for him to go to another Talkgroup and “*take Command of the fire.*” D068 then states that he would be staying on the original Talkgroup (SW TAC 11) for the Mayday.

Note: The Incident Action Plan should now show that a Rescue Operations Section has been established.

12:31:05 (SW TAC 11) OEC advises command that companies can use SW TAC 12 for the incident and that the Mayday operation can stay on SW TAC 11.

12:31:16 (SW TAC 11) The Rescue Operations Section Chief [D068 - using the designation of “*Command*”] requests a 4-11 assignment.

12:31:34 (SW TAC 11) SF057 requests a pumper with a line in the Delta division.

12:31:50 (DISP CW) [Tone] “4-11 fire D006, D004, E073, E007, E508, E008, L059, L038, PG211, PG211A, PGOEM, Southwest Freeway In-Bound near Sandspoint Drive Key Map 530H.”

12:31:52 (SW TAC 11) Heavy Rescue 11 reports being on location.

12:31:55 (SW TAC 11) The Rescue Operations Section Chief [D068 - using the designation of “*Command*”] acknowledges HR011 and gives the order to assist RE010 with the Mayday in the Alpha division.

12:32:03 (SW TAC 11) E051B Radio keys up with no transmission.

12:32:28 (SW TAC 11) The Rescue Operations Section Chief [D068 - using the designation of “*Command*”] attempts to contact Alpha division [D028] for a progress report.

12:32:51 (SW TAC 11) E048 reports that they have had a member on their crew collapse and that E048 will be coming out of the structure through the window.

12:33:35 (SW TAC 11) Alpha division [D028] reports that the RIT teams don’t appear to be in the correct location and that crews are coming in with saws to begin cutting through the roofing material. D028 also advises that E060 and E048 are inside (as RIT) and that RE010 is starting to enter the structure.

12:34:02 (SW TAC 11) L068 reports to Command that the fire is “*running the roof*” and that the apartment complex is going to need to be evacuated. (L068 is referring to the additional unattached two-story structures that are part of the hotel complex).

12:34:22 (SW TAC 11) E051B Radio keys up with no transmission (1 minute and 6 seconds).

12:34:37 (SW TAC 11) OEC attempts to contact E051B but gets no response.

12:35:36 (SW TAC 11) The Rescue Operations Section Chief [D068 - using the designation of “*Command*”] announces “*Command to all companies go to channel 12 if you’re not involved in the Mayday.*”

12:36:07 (SW TAC 11) E051B Radio keys up with no transmission (2 seconds).

12:36:24 (SW TAC 11) E051B Radio keys up with no transmission (3 seconds).

12:36:27 (SW TAC 11) E051B Radio keys up with no transmission (7 seconds).

12:36:27 (SW TAC 11) E051B Radio keys up with no transmission (31 seconds).

12:37:03 (SW TAC 11) Command [D021] makes an announcement to all 3-11 and 4-11 companies to switch over to TAC 12 and stage on the feeder.

12:37:43 (SW TAC 11) E060 attempts to contact Alpha division [D028] and request another hand-line.

12:38:14 (SW TAC 11) Alpha division [D028] requests “*Command*” to assign additional resources to the Charlie division so that an attempt can be made to gain access to the Mayday crews from a different direction.

12:38:25 (SW TAC 11) The Rescue Operations Section Chief [D068] acknowledges the transmission made from Alpha division [D028] to Command: “*That’s received.*”

12:38:29 (SW TAC 11) E082 states “*E082 we’re going to the C-side.*”

12:38:35 (SW TAC 11) Alpha division [D028] calls Command to request one more crew for the Alpha division to try and make access from another front door.

12:39:12 (SW TAC 11) Alpha division [D028] assigns RIT48 [E048] to work with L069.

12:39:21 (SW TAC 11) RE010 makes an attempt to contact Alpha division [D028] by stating “***Emergency Traffic.***”

12:39:31 (SW TAC 11) Alpha division [D028] acknowledges RE010: “*Alpha go ahead.*”

12:39:33 (SW TAC 11) RE010 reports that two Mayday firefighters have been located near the window and then provides specific directions on what needs to be done to reach them.

12:39:51 (SW TAC 11) Alpha division [D028] acknowledges RE010 and then attempts to advise “*Command*” that an aerial ladder needs to be set up to the roof so that crews can try and gain access from above.

12:40:12 (SW TAC 11) The assigned Cascade Truck [CC002] attempts to contact “*Command*” after going on location (on the Mayday Talkgroup) and then proceeds to request staging instructions.

12:40:37 (SW TAC 11) MC008 reports arriving on location (on the Mayday Talkgroup).

12:40:56 (SW TAC 11) Alpha division [D028] reports to “*Command*” that E048 is coming out for a bottle change and that Tower 69 would be going inside to replace E048.

12:41:11 (SW TAC 11) The Rescue Operations Section Chief [D068] contacts Alpha division [D028] as “*Mayday Command*” to ask if they need assistance with extinguishing the fire in the Rescue area.

12:42:44 (SW TAC 11) Charlie Division [D059] attempts to contact Command.

12:42:44 (SW TAC 11) The Staging Officer [the ICT on District 21] attempts to contact all 3-11 and 4-11 companies and advise them that they need to be on TAC 12 if they are staged.

12:43:09 (SW TAC 11) Charlie division [D059] calls “*Command*” to advise that there is a safe advantage point from the Charlie corner and that a hand-line is needed.

12:43:20 (SW TAC 11) The Rescue Operations Section Chief [D068] acknowledges the transmission to “*Command*” that is made from Charlie division [D059], and then advises that the “*attack*” from the Charlie side should not interfere with the RIT operations.

12:43:35 (SW TAC 11) The Rescue Operations Section Chief [D068] orders Charlie division [D059] to go ahead and start setting up the operation that was requested but to be aware that an “*attack*” from the Charlie division could affect the operations on the Alpha side.

12:44:35 (SW TAC 11) E051B Radio keys up with no transmission (1 minute and 6 seconds).

12:45:08 (SW TAC 11) OEC contacts Southwest Command to advise that E051B’s radio continues to key up. (Note: This is approximately 21 minutes and 44 seconds since the collapse.)

12:45:37 (SW TAC 11) The Rescue Operations Section Chief [D068 using the designation of “*Command*”] makes an announcement to the RIT crews inside, “*Command to that RIT crew inside, RIT crews, we’re trying to knock those flames down to take the radiant heat off of you.*”

12:45:49 (SW TAC 11) Charlie division [D059] calls “*Command*” to report that the fire is now beginning to spread quickly across the Charlie exposure.

12:45:58 (SW TAC 11) The Rescue Operations Section Chief [D068] acknowledges the call to “*Command*” and then asks if Charlie division [D059] has any resources in that division to be able to control the situation.

12:46:07 (SW TAC 11) Charlie division [D059] reports that L076 is working to secure a 2 ½ inch hand-line and will be working from the Charlie-Bravo corner.

12:46:18 (SW TAC 11) The Rescue Operations Section Chief [D068] attempts to contact Charlie division [D059] and ask “*Did you say you have a ladder over there?*”

12:46:22 (SW TAC 11) Charlie division [D059] reports “*I have a ladder company that is trying to appropriate a 2 ½ inch line to bring to this side.*”

12:46:32 (SW TAC 11) The Rescue Operations Section Chief [D068] acknowledges the report from Charlie division [D059] and states “*Received, we’ll try to get you a ladder truck back there.*”

12:46:37 (SW TAC 11) Charlie division [D059] acknowledges the Rescue Operations Section Chief [D068] and then reports that “*it*” (*the ladder*) needs to be set up on the Bravo side because there are buildings, two sets of motel rooms and meeting rooms that are going to be exposure problems.

12:46:56 (SW TAC 11) The Rescue Operations Section Chief [D068] advises that he did not receive all of that message because he is busy with the RIT operations and that “*Command*” will contact Charlie division in a minute.

12:47:23 (SW TAC 11) The Rescue Operations Section Chief [D068] attempts to contact Command “*Operations calling Command.*”

12:47:23 (SW TAC 11) Command [D021] acknowledges the Rescue Operations Section Chief [D068] “*Go ahead.*”

12:47:40 (SW TAC 11) The Rescue Operations Section Chief [D068] contacts Alpha division [D028] to determine if there will be a secondary collapse problem.

12:47:50 (SW TAC 11) Alpha division [D028] reports back to the Rescue Operations Section Chief [D068] “*Yes*” and then requests the ladder pipe that is located right above the Rescue operation to begin flowing to the right in order to keep the fire off of the RIT teams. D028 also requests another hand-line to be brought to the Alpha division.

12:48:19 (SW TAC 11) Command [D021] advises L051 that companies are working on the opposite side of their location in the Bravo division and that he wants to check with Bravo division before L051 begins flowing the ladder pipe.

12:48:19 (SW TAC 11) The Attack Engine [E051D] reports that L068 is ready for ladder pipe operations.

12:49:01 (SW TAC 11) RE042 reports being on location.

12:49:24 (SW011) Charlie division [D059] requests an Engine to be brought to the Bravo, Charlie and Delta side so that more hand-lines can be used to stop the forward progress of the fire.

12:49:39 (SW TAC 11) The Rescue Operations Section Chief [D068] advises D059 to stand by because the main focus is on the RIT operations.

12:49:48 (SW TAC 11) E060 attempts to contact Alpha division [D028] and request to be assigned to the order that Charlie division [D059] has requested.

12:49:53 (SW TAC 11) Alpha division [D028] asks E060 to repeat the message.

12:49:57 (SW TAC 11) E060 advises that they are currently in Rehab and are requesting to be assigned to take a hand line to the Charlie division.

12:50:03 (SW TAC 11) E051B Radio keys up with no transmission (12 seconds).

12:50:15 (SW TAC 11) E051B Radio keys up with no transmission (1 minute and 6 seconds).

12:51:21 (SW TAC 11) Alpha division [D028] reports that the ladder pipe [Tower 69 operating in a Reserve E-One Ladder Truck] needs to be turned to the right immediately! *“Pronto, Pronto, move the ladder pipe to the right.”*

**12:52:52 (SW TAC 11) Alpha Division [D028] reports to command that one Mayday firefighter has been removed from the structure. (Note: The member rescued is the captain from Engine 68.)**

12:53:21 (SW TAC 11) Alpha division [D028] reports that RIT 42 [RE042] is now entering the building.

12:54:16 (SW TAC 11) The Rescue Operations Section Chief [D068] attempts to contact Charlie division [D059] to see what resources were requested from earlier and what actions need to be taken to help.

12:54:24 (SW TAC 11) Charlie division [D059] requests an aerial to be set up on the Bravo side to help cut off the fire and a pumper is needed on the Delta side in order to place more hand lines in operation.

12:54:56 (SW TAC 11) Charlie division [D059] also requests additional companies so that a primary search can be conducted on the exposure buildings.

12:59:11 (SW TAC 11) E508 now reports locating another Mayday firefighter and begins the process of removing the member from the structure.

12:59:36 (SW TAC 11) SC037 announces that he will be assuming "*Southwest Freeway Command*" and requests OEC to dispatch a 5-11 assignment to this incident.

13:01:49 (SW TAC 11) {DISP CW] Tone..."} 5-11 fire D019, D026, E037, E047, E062, E080, L007, L055, PG211 Southwest Freeway In-Bound near Sandspoint Drive Key Map 530H. Alpha-Bravo 12."

13:03:40 (SW TAC 11) Alpha Division [D028] reports that there has been a secondary collapse involving the outside exterior wall.

Note: Three members from the Rescue Group became trapped under falling debris that resulted from the secondary collapse. These firefighters were quickly removed by other members in the immediate area and then taken to awaiting EMS crews.

**13:04:12 (SW TAC 11) Alpha division [D028] now reports that a second Mayday firefighter has been removed from the structure. (Note: This member is the firefighter from Engine 51).**