



Contra Costa County Fire Protection District

Investigation Report: Michele Drive Line of Duty Deaths

July 21, 2007

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Contra Costa County



Fire Protection District

Fire Chief
KEITH RICHTER

Fire Chief's Statement

This Line of Duty Death Investigation Report represents the first step in what will be a long process of critical importance to the operational welfare of our department. The next step will be to establish a committee to review, evaluate, and prioritize the important recommendations contained in this report. Our challenge will then be to effectively implement changes in policies, procedures, staffing, response, training, and inter-agency coordination and cooperation designed to improve our fireground operations.

We all know that firefighting is an inherently dangerous occupation. However, we have an obligation to identify, manage, and, to the greatest degree possible, mitigate the risks our members face. A critical component of effective risk management is the adoption and enforcement of sound policies and practices that place the highest priority on firefighter safety. Labor and management's combined efforts are required if we are to be successful in effecting positive change in our department.

To the members of the Investigation Team, I thank you for your dedication and professionalism in producing a comprehensive report.

To the members of the Fire District, we thank you for your patience during the lengthy process of investigating the circumstances of the incident and producing this Report. I ask for your continued commitment and support as changes are implemented.

To our fellow fire agencies in Contra Costa County, we appreciate your support and cooperation on July 21, 2007, and in the days that have followed since then. We will continue to work cooperatively to improve operational effectiveness and firefighter safety throughout the County.

To the families of Matt and Scott, words are inadequate when it comes to expressing the deep sorrow we have in our hearts for the loss of these two talented young men. We pledge to honor their professionalism, their commitment, and their loss by learning from this incident, by sharing the lessons learned, and by implementing appropriate changes.

To Matt and Scott, while you may be gone, you will never be forgotten. I repeat the words that I expressed at the Celebration of Life on July 27, 2007: "Please watch over us, help keep us safe, and help us be strong."

A handwritten signature in cursive script that reads "Keith B. Richter".
Keith B. Richter, Fire Chief

DEDICATION

In the early morning hours of July 21, 2007, Fire Captain Matthew Burton and Fire Engineer Scott Desmond made the ultimate sacrifice. Both men died in the line of duty while making a valiant effort to rescue an elderly couple trapped in their burning home. The tragic deaths of these two firefighters have left an unimaginable void in the lives of family members. Matt's wife Chantel, daughter Megan, and son Joshua, and Scott's wife Carolyn, son Tyler, and their parents and siblings have suffered a loss that words cannot describe.

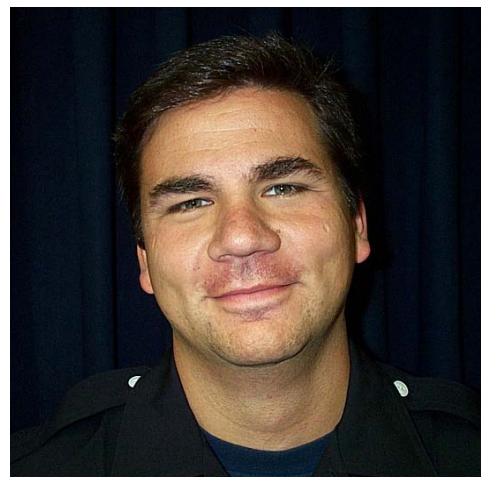
Matt and Scott's other family, the men and women of the Contra Costa County Fire Protection District, along with countless other members of the fire service from around the State and nation, also feel great sorrow for the tremendous loss of our brothers.

While there is nothing we can do that will change the outcome of that fateful night, we can and must make a solemn pledge to learn the lessons from this tragedy, and to then implement and support changes that are necessary to help prevent a future tragedy. By doing so, we honor Matt and Scott's courage, dedication and sacrifice; we help keep them in our hearts by working safely and caring for each other every day; we strive to ensure their deaths will not be in vain.

We dedicate this Report to the Burton and Desmond families. To Matt and Scott: we love you, we miss you, and we remember you always.



**Fire Captain
Matt Burton**



**Fire Engineer
Scott Desmond**

EXECUTIVE SUMMARY

On Saturday, July 21, 2007, two Contra Costa County Fire Protection District firefighters perished while making a heroic rescue attempt at a residential structure fire. The incident began as an automatic fire alarm, quickly developed into a structure fire with a reported rescue, and ended tragically with the deaths of Captain Matthew Burton and Engineer Scott Desmond. The elderly couple whom they were attempting to rescue also perished in the fire.

At 01:36 hours, the Contra Costa Regional Fire Communications Center (CCR FCC) received a call from an alarm monitoring company reporting a residential fire alarm at 149 Michele Drive, San Pablo, California. Shortly after Engine 70 was dispatched to the fire alarm, CCR FCC received a call from the resident confirming a fire in her home and reporting that her husband was still inside. The incident was upgraded to a residential structure fire and additional units were dispatched.

On arrival, Engine 70 reported heavy smoke and fire showing from a single-story residential structure and established incident command. Less than a minute after arrival, Captain 70 reported that there were two people inside and they were entering the house with a hoseline. He then reported by radio that he was passing command to "Engine 74", which had just arrived on scene.

Immediately after reporting a knockdown of the fire and requesting rooftop ventilation, Captain Burton and Engineer Desmond initiated a primary search of the bedrooms. They were followed by Captain 73 and Firefighter 73 who began a search in the opposite direction, where the crew from E73 quickly located an unresponsive female in the kitchen. As they carried her to the front door, interior conditions began to deteriorate rapidly.

Digital video captured at approximately 02:00 hours documented a sudden and significant increase in fire activity that occurred in the hallway and bedroom areas where Captain Burton and Engineer Desmond were searching. The rapid change in conditions is believed to have been a fire gas ignition¹ that caused critical injuries and resulted in their deaths.

¹ See Fire Gas Ignition, Page 46

A search was conducted and both firefighters were located and removed from the center bedroom (Bedroom #2). The male resident was subsequently found deceased in the kitchen, a short distance from where his wife had been found by Engine 73's crew.

The fire investigation determined the probable point of origin to be in Bedroom #2, on or about the east end of the bed. Based on the absence of physical evidence of intentional or accidental sources of ignition, coupled with the fact that both occupants smoked cigarettes, improper discard of smoking materials was an ignition source that could not be eliminated as the cause of the fire.

Immediately following the incident, a Line of Duty Death Investigation Team was formed. The Team was directed to investigate all aspects of the Michele Drive incident resulting in deaths of Captain Burton and Engineer Desmond and to report to the Fire Chief.

The investigation identified a failure of the alarm monitoring company to report the fire. In addition, it revealed deficiencies in operations, incident command, training, communications, staffing, and personnel accountability.

The alarm monitoring company received the alarm and contacted the resident who reported a fire. The alarm company representative then called the Fire District and reported an automatic fire alarm. A high volume of activity in the CCRFCC and the failure to activate additional, available dispatchers delayed the dispatch for the incident.

A breakdown in the transfer of command led to independent action that resulted in the initiation of positive pressure ventilation without proper exhaust openings or notification to the Incident Commander or interior crews.

Ineffective fireground communications and lack of personnel accountability contributed to a failure to recognize that there was no Incident Commander and to rapidly identify that personnel were missing. Following the discovery of missing firefighters, emergency fireground procedures were not implemented effectively.

The Investigation Team examined every facet of the incident during the past eight months. The primary objective of the Team's investigation and subsequent report was to identify the facts surrounding the incident, particularly actions or inactions that contributed to the deaths of Captain Burton and Engineer Desmond. This report contains the Team's findings

and recommendations, which are intended to correct the identified deficiencies and to prevent other firefighter injuries or fatalities at structure fires.

The Investigation Team recognizes and respects that crews encountered a challenging incident. On-scene personnel made split-second decisions and took action based on a reported rescue. Furthermore, on-scene personnel were not aware of the system, communication, and incident organization failures that are identified in this Report until after the catastrophic fire gas ignition occurred.

In identifying and reporting findings and recommendations, the Team's intent is not to place blame or point fingers at personnel who were attempting to aggressively stabilize the incident and rescue the trapped occupants. We ask every person who reads this Report to have the same degree of respect, appreciation, and consideration for all of the personnel who responded to this incident.

INVESTIGATION PROCESS

The Fire Chief assigned a Line of Duty Death (LODD) Investigation Team within hours of the incident. The Team was charged with the responsibility of investigating all aspects of the incident, with developing recommendations to prevent a similar occurrence, and with developing and presenting a written Report of the findings to the Fire Chief. "Support members" were engaged by the Team as needed during the process of producing the Report. The following individuals were involved with the LODD Investigation:

Team Leader:

Assistant Chief Rich Grace
Contra Costa County Fire Protection District, Support Services Division

Team Members:

Battalion Chief Bill Walker
Contra Costa County Fire Protection District, Operations Division

Fire Captain John Kipp
United Professional Firefighters of Contra Costa County, IAFF Local 1230 Representative

Battalion Chief Ron Gesner (Ret.)
Contra Costa County Fire Protection District, Operations Division

Support Members:

Battalion Chief Henry Warren
Contra Costa County Fire Protection District, Operations Division

Firefighter-Paramedic Jonathan Taormina
Contra Costa County Fire Protection District, Station 84C

Battalion Chief Rob Van Wormer
California Department of Forestry and Fire Protection (CAL FIRE), Santa Clara Unit

In addition to the LODD Investigation Team, a fire investigation was initiated by Fire Investigators from the Contra Costa County Fire Protection District (CCCFPD), working jointly and directly with:

- Investigators from the California Department of Forestry and Fire Protection (CAL FIRE)
- Investigators from the Bureau of Alcohol, Tobacco, Firearms, and Explosives

- representatives from the Contra Costa County Office of the Sheriff

The initial phases of the fire investigation started immediately after the incident. The fire investigation process included site processing and initial collection of evidence, documentation including photographs and measurements, and interviews of witnesses and neighborhood residents.

The LODD Investigation Team documented the placement of all fire apparatus and equipment and obtained additional photographs and measurements of the scene on the day of the incident. The first-due apparatus (Engine 70) was taken out of service on July 21, 2007, and was driven directly to the CCCFPD Apparatus Shop where a CCCFPD Apparatus Mechanic and CAL FIRE Apparatus Mechanic inspected the engine. The inspection included a pump test that was performed according to NFPA Standards. There were no deficiencies identified during the inspection process.

The next phase of the investigation involved the collection and impounding of evidence, including digital video and photos, witness statements, dispatch tapes, and Coroner's reports. Personnel protective equipment, self-contained breathing apparatus, and other equipment that had been impounded at the scene earlier was inspected and cataloged.

Several days of interviews by LODD Investigators were conducted with personnel from the first-alarm companies starting on July 30, 2007. With the permission of personnel, all of the interviews were recorded on audio tape. Following the interviews, the audio recordings were transcribed. Two Safety Engineers from the State of California Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA), were present during several of the interviews.

On August 21, 2007, three Safety Engineers from the National Institute for Occupational Safety and Health (NIOSH) arrived to initiate a separate independent investigation. The LODD and Fire Investigation Teams briefed the three NIOSH investigators and shared all available incident information and documentation. The LODD Team made the necessary arrangements for NIOSH Investigators to conduct interviews with all available first-alarm personnel. LODD Team members were present during the interviews. LODD Team members also conducted and participated in a site visit that was requested by and arranged for the NIOSH Investigators. The

NIOSH Investigators conducted separate interviews with personnel from the City of Richmond Fire Department. LODD Team members were not present during the Richmond Fire Department interviews.

Completion and release of the NIOSH report is pending.

Over the course of several months, the LODD Team analyzed all of the evidence including digital video, printed and digital photographic images, dispatch data, interview transcripts, and witness statements. Radio and phone recordings were reviewed and transcribed. The LODD Team developed a chronological sequence of events using this evidence and documentation.

All of the actions taken at the emergency scene that could be identified were documented, reviewed, and analyzed. These actions were evaluated along with the conditions on scene to identify and determine:

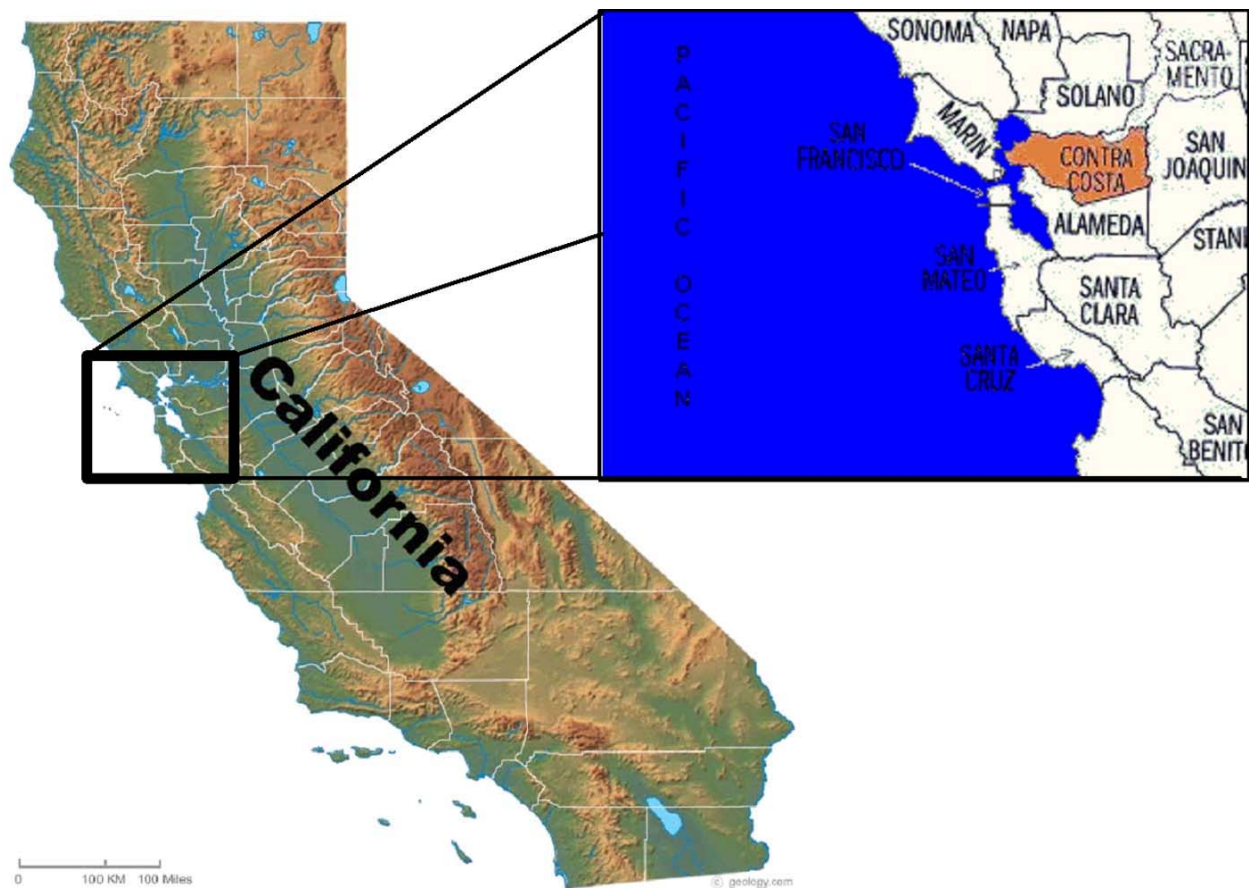
- compliance and non-compliance with applicable, existing policies, standard operating procedures, practices, and training
- adequacy of existing policies, standard operating procedures, practices and training
- critical areas or issues for which policies, standard operating procedures, and training may not currently exist, may be lacking, or may not be current
- possible impact(s) of automatic aid and mutual aid operations involving multiple agencies
- actions that may have contributed, directly or indirectly, to the two firefighter fatalities

The LODD Team developed a list of recommendations to correct the identified deficiencies and to prevent a similar event from occurring in the future. Some of the recommendations may be controversial or foreign to our organization. The Team Member's hope is that these recommendations are viewed with open minds and are given serious consideration. Some of the recommendations are relatively simple changes that can be implemented quickly. Other recommendations are more complex, may involve close cooperation and consensus among multiple agencies, and/or involve significant fiscal decisions.

Months of daily meetings and discussions occurred during the development of this report. Reaching consensus was a constant goal for members of the LODD Team throughout the Investigatory process and the writing of this document. All LODD Team Members agree with the facts, the findings, and the recommendations contained in this Report.

CONTRA COSTA COUNTY

The County of Contra Costa, California was incorporated in 1850 as one of the original twenty-seven counties of the State of California, with the City of Martinez as the County Seat. It is one of the nine counties in the San Francisco-Oakland Bay Area. The County covers about 733 square miles and extends from the northeastern shore of San Francisco Bay easterly about 50 miles to San Joaquin County. The County is bordered on the south and west by Alameda County and on the north by Suisun and San Pablo Bays. The western and northern shorelines are highly industrialized, while the interior sections are suburban/residential, commercial and light industrial. The County contains nineteen incorporated cities, including Richmond in the west, Oakley in the northeast, and Concord in the middle. The County is the ninth largest in California, with an estimated population of 1,042,341 as of January 1, 2007.



COUNTY GOVERNMENT

The County has a general law form of government. A five-member Board of Supervisors is the governing body of County government and of 186 special districts, including the Contra Costa County Fire Protection District. A County Administrator appointed by the Board of Supervisors runs the day-to-day business of the County. Contra Costa County Fire Protection District Fire Chief Keith Richter reports directly to the County Administrator.

The Board of Supervisors appoints a five-member Advisory Fire Commission, with representatives from each geographic, supervisorial area. The Fire Commissioners meet bi-monthly to review District business and to make recommendations.

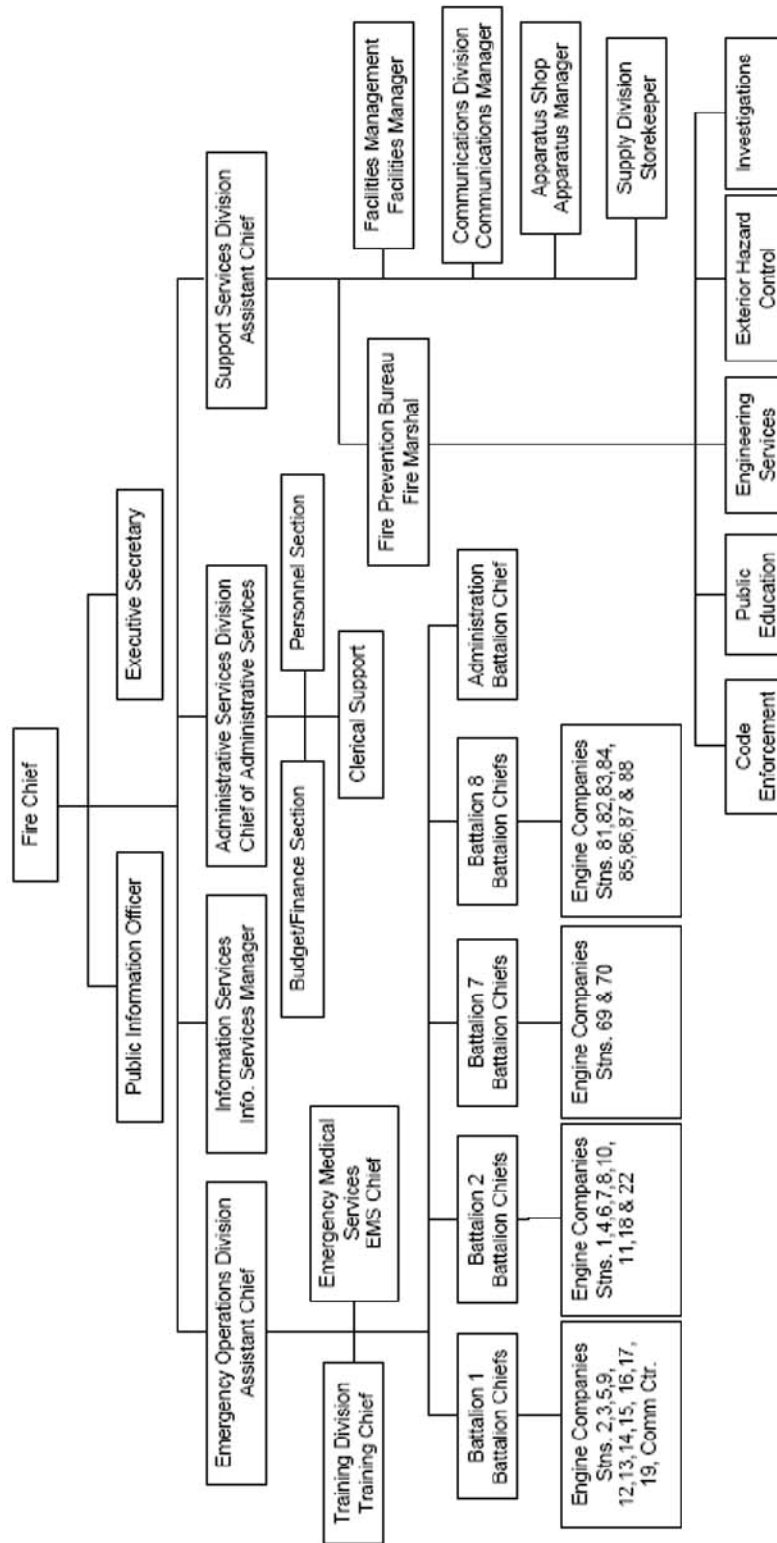
CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT OVERVIEW

The Contra Costa County Fire Protection District (CCCYPD) is a career fire department. The District ranks among the fourteen largest metropolitan fire agencies in California. In 2007, Contra Costa County Fire Protection District responded to 57,428 incidents. The District provides fire suppression, emergency medical services (EMS), technical rescue, and fire prevention services to nine cities and the surrounding unincorporated areas. The District serves 600,000 residents and covers 304 square miles. Contra Costa County Fire Protection District operates the Contra Costa Regional Fire Communications Center (CCR FCC), which provides dispatching services for CCCYPD and five other fire agencies in the county.

The District has 406 personnel positions, including 344 uniformed personnel. A total of 24 engine and 6 quint companies operate from 30 fire stations, which are divided into 4 battalions. Two of the stations are unstaffed and operated with paid-on-call reserve firefighters. Each company is staffed with a captain, engineer (driver/operator), and firefighter. The District provides advanced life support (ALS) care by staffing at least one of the three positions on each company with a paramedic. Engine and quint companies also cross-staff a variety of specialized equipment including Type II and Type III wildland apparatus, water tenders, breathing supports, and technical rescue units. Suppression and dispatch personnel are assigned to one of three, 24-hour rotating shifts.

The Fire District serves and protects a demographically diverse population and responds to a wide variety of incidents. Some of the operational challenges faced by the District include mid- and high-rise buildings, petroleum refineries, chemical manufacturing plants, industrial businesses, and many other commercial facilities. Residential property hazards range from large multi-family apartment and condominium complexes to single-family residences. Vast amounts of open space throughout the District along with State and Regional Park lands that adjoin the area present significant potential for wildland and urban interface fires. Major transportation routes include state and interstate freeways, freight and passenger rail corridors, Buchanan Field Airport, and the Bay Area Rapid Transit system (BART). The Sacramento River/Delta extends along the District's northern border for fifteen miles from Martinez east to Antioch, presenting additional demands for water rescue and marine firefighting.

CONTRA COSTA COUNTY FIRE PROTECTION DISTRICT



BATTALION 7 OVERVIEW

The Contra Costa County Fire Protection District (CCCYPD) operates two fire stations in the western portion of the county (“West County”). Stations 69 and 70 provide protection for the City of San Pablo, and for the unincorporated areas of El Sobrante, North Richmond, and East Richmond Heights. For decades, Engine 70 has consistently been one of the busiest engine companies in the entire county. In 2007, Engine 70 responded to 3,410 calls for service.

In September of 2000, the Contra Costa County Fire Protection District, City of Pinole Fire Department (POE), and the Rodeo-Hercules Fire Protection District (RDO) began a cooperative agreement to establish and function as “Battalion 7”. The Pinole Fire Department and Rodeo-Hercules Fire District each have two stations within their respective jurisdictions, Station 73 and 74 in Pinole, and Station 75 and 76 in Rodeo-Hercules. Each station is staffed by three-person crews consisting of a captain, fire engineer (driver/operator), and firefighter. These agencies provide advanced life support (ALS) care by staffing one of the three positions with a paramedic.

The collaboration between these agencies provides common communications, dispatch, training, and integrated automatic aid. The battalion chief coverage is shared among the three jurisdictions on a rotational basis.

Other fire agencies that participate in automatic aid in the West County area include the City of El Cerrito Fire Department (three stations), City of Richmond Fire Department (seven stations), and the Crockett-Carquinez Fire Protection District (three paid-on-call stations).

MICHELE DRIVE INCIDENT

SEQUENCE OF EVENTS

The following sequence of events was developed from specific times and chronology based on radio transmission timestamps, mobile data status changes, automatic vehicle location data, digital video and still photographs. Approximate times and chronology were used for information obtained during interviews with personnel about their individual actions and observations.

Two elapsed timelines are inserted on the right margin throughout the sequence of incidents events. The first timeline (A) provides the elapsed time from the smoke alarm signal received by Security Associates International. The second timeline (D) provides the elapsed time beginning with the dispatch of Engine 70.

Automatic Fire Alarm

On Saturday, July 21, 2007 at 01:34:27², Security Associates International (SAI) received an automated, electronic motion detector signal from 149 Michele Drive, San Pablo, California. The residence is located in a neighborhood called Montalvin Manor (Figure 1), an unincorporated area of Contra Costa County. SAI provides alarm monitoring services for Pinnacle Alarm Company.

00:00:00 – A

² Time provided by Security Associates International.



Figure 1 - Montalvin Manor subdivision

SAI's customer service representative was located in the State of Florida. Upon receipt of the alarm, the representative activated a two-way intercom inside the residence. The representative identified that she was calling from Pinnacle Alarm and asked, *"Is everything OK?"* There was no direct response, but a female voice can be heard in the background saying, *"Get some clothes on."* The customer service representative asked again, *"Is everything OK?"* The female resident replied, *"No, we have a fire."*

The customer service representative replied, *"OK... OK, you want me to go ahead and um, call the fire department for you?"* The female resident replied, *"Please, please."* The customer service representative replied, *"OK, thank you, I'm going to go ahead and get them over there for you."* She confirmed the resident's name before disconnecting the

two-way intercom. A beeping alarm can be heard inside the residence throughout the conversation.³ The conversation lasted 27 seconds.

At 01:36:39, the Contra Costa Regional Fire Communications Center (CCRFCC) received a call from a customer service representative at SAI. The SAI representative said, *“OK, I’m calling to report a fire alarm.”* The call to the Fire District was made to a non-emergency phone number. (Note: The representative did not indicate that she had communicated with the resident nor that the resident had reported a fire).

00:02:12 – A

At 01:37:25, after obtaining the address and callback numbers, Dispatcher #1 placed the call on hold to answer a higher priority 9-1-1 emergency call. (Note: Due to additional emergency calls and radio traffic related to other active incidents, the call was on hold for 4 minutes and 51 seconds)⁴.

00:02:58 – A

At 01:42:16, Dispatcher #2 retrieved the call on hold from the alarm monitoring company. The SAI representative said, *“I was calling to report a fire alarm.”* Dispatcher #2 started to obtain the address and callback information before determining it had already been obtained by Dispatcher #1. (Note: The representative did not indicate that she had communicated with the resident nor that the resident had reported a fire).

00:07:49 – A

At 01:43:10, following standard practice, Dispatcher #2 called the residence at 149 Michele Drive to verify the alarm. The initial call resulted in a busy signal. Dispatcher #2 made a second attempt to contact the residence. There was no answer on the second attempt.

00:08:43 – A

At 01:43:42, Dispatcher #2 initiated a residential fire alarm dispatch (single unit).

00:09:15 – A

³ The investigation determined that the alarm received by SAI was a smoke alarm, not a motion sensor.

⁴ See section on Contra Costa Regional Fire Communications Center

At 01:44:11, Contra Costa County Fire Protection District Engine 70 (E70) was dispatched to a residential fire alarm at 149 Michele Drive.

00:09:44 – A
00:00:00 – D

Response

At 01:45:24, E70 responded Code 3 from Station 70. The incident location is two and three-quarters (2.75) miles away.

00:10:57 – A
00:01:13 – D

At 01:45:52, Dispatcher #1 answered a 9-1-1 cellular call. The call was initially received by the California Highway Patrol and then transferred to CCRFCC via a ringdown line. The caller was the female resident from 149 Michele Drive. She reported, “I have a fire at 149 Michele Drive, San Pablo”. When asked by the dispatcher if everybody was out, she replied, “No, I haven’t got my husband out yet”⁵. The dispatcher told the caller that the fire department was already on the way and instructed the caller to get everyone out.

00:11:25 – A
00:01:41 – D

At 01:46:11, Dispatcher #1 upgraded the incident to a residential structure fire. This added two additional engines, a quint, and a battalion chief. Additional 9-1-1 calls were then received from nearby residents confirming a fire.

00:11:44 – A
00:02:00 – D

At 01:47:31, Dispatcher #1 notified E70 that additional calls reporting a fire had been received and that the response had been upgraded.

At 01:48:16, Engine 69 (CCCFPD), Quint 76 (RDO), and Battalion 7 (RDO) were dispatched from locations illustrated in Figure 2. (Note: The requirement for dispatchers to make manual substitutions for units recommended by the computer-aided dispatch system (CAD) contributed to the delay between the alarm upgrade and actual dispatch.)

00:13:04 – A
00:03:20 – D

⁵ The female resident was observed outside the residence prior to reentering. It is believed that the resident was outside when she made the 9-1-1 call.



Figure 2 – Fire station locations

At 01:48:28, Dispatcher #2 called the Richmond Communications Center (RCC) to request Richmond Fire Department Engine 68 for automatic aid to 149 Michele Drive.

00:13:49 – A
00:04:05 – D

At 01:48:58, Pinole Fire Department Engine 73⁶ advised CCRFCC that they had been released from a medical incident and would respond to Michele Drive. E73 was one-half (0.5) mile from the incident (Figure 2).

00:14:01 – A
00:04:17 – D

At 01:49:07, E68 was dispatched by RCC. At 01:49:37, Dispatcher #2 called RCC to cancel E68, as E73 became available.

00:14:31 – A
00:04:47 – D

At 01:50:09, Captain 70 transmitted an en route condition report to CCRFCC, “Con

00:14:40 – A
00:04:56 – D

⁶The captain and engineer staffed the Type I engine. A firefighter followed in a Type IV engine (E473).

Fire, Engine 70, we have smoke showing a block out.” At 01:50:19, Dispatcher #1 advised, “Engine 70 the resident was still trying to get her husband out of the house. It’s unknown if he made it.”

At 01:50:28, Captain 70 replied, *“70 copies, we’re on scene. We have heavy smoke and fire from a single-story residential structure, establishing Michele IC.”*

00:15:42 – A
00:05:58 – D

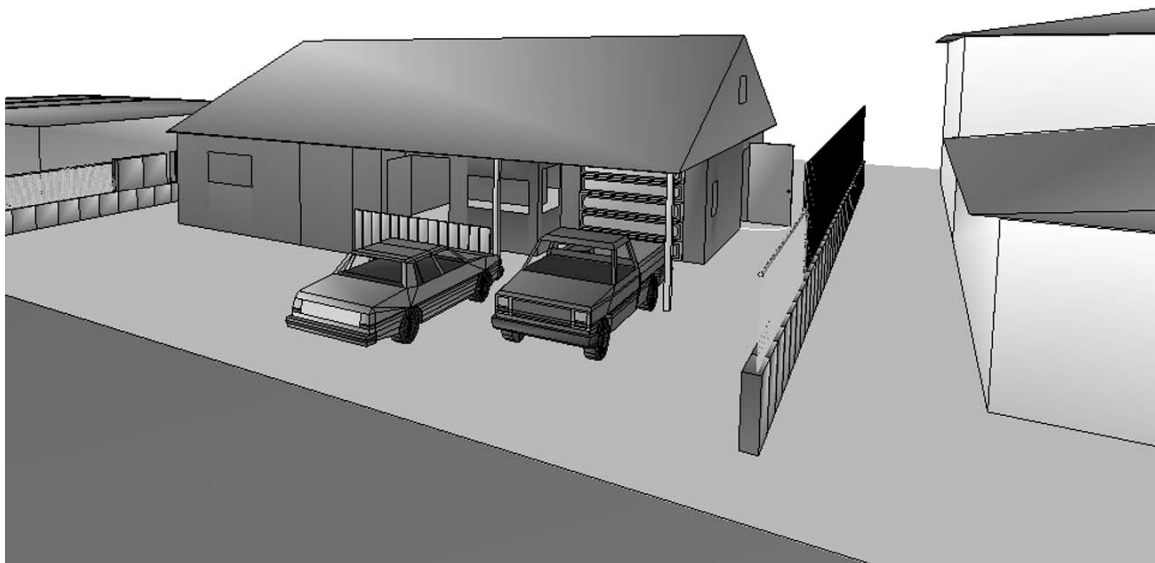


Figure 3 - 149 Michele Drive

Initial Actions

Firefighter 70⁷ and Engineer 70 deployed a 150' pre-connected 1 ¾" hoseline, with an adjustable gallonage fog nozzle set at a standard setting of 125 gallons per minute (GPM), to the front porch. At 01:51:01, E73 arrived on scene.

At 01:51:23, Captain 70 transmitted an updated condition report, *"Con Fire, Engine 70, we've got a report of two people inside, we are making entry with a 1 ¾" line."*

00:16:56 – A
00:07:12 – D

At 01:51:46, as Firefighter 70 and Engineer 70 positioned the 1 ¾" hoseline at the front door, Captain 70 passed command to the second arriving unit (E73), which he mistakenly identified as Pinole Fire Department Engine 74 (Photo 1).

00:17:19 – A
00:07:35 – D

(Note: This is believed to have occurred because the crew from Station 73 was temporarily using a Type I Engine normally assigned to



Photo 1 – Engine 74 in use as Engine 73

Station 74. This engine was marked with "E74", and was visible to Captain 70 when he gave the following radio transmission, *"Engine 74, Engine 70, Michele IC, I'm passing command"*.) The transfer of command from Captain 70 was not heard by Captain 73. It may have been missed because the radio transmission was directed to "E74". Engineer 73 both observed and heard Captain 70 pass command to Engine 74. The transfer of command was also heard by personnel on Engine 69 and Quint 76 while responding to the incident. Firefighter 73 arrived at the front porch as the hoseline was being charged and

⁷ On the day of the incident, the vacant Firefighter 70 position was filled on overtime by Fire Engineer Desmond from Station 88 (Battalion 8).

asked Captain 70 what he needed. Captain 70 asked for a thermal imaging camera (TIC). Captain 70 and Firefighter 70 initiated fire attack, advanced the hoseline three to five feet inside the front door, and quickly knocked down the visible fire in the living room (Figure 4).

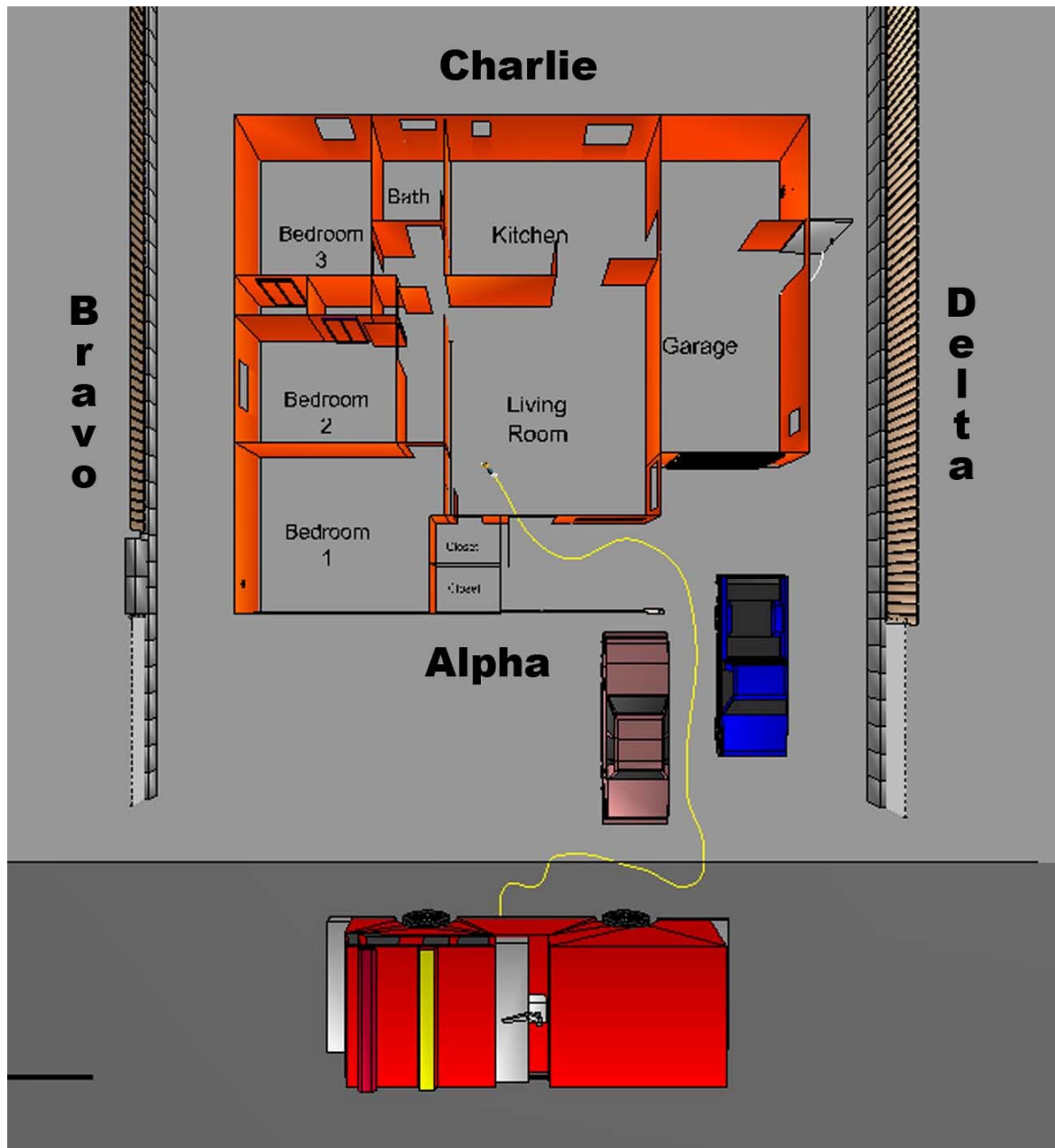


Figure 4 - Position of hoseline 1

Firefighter 73 went to E70 and asked Engineer 70 for the TIC. Engineer 70 replied

that he would get the TIC, and asked Firefighter 73 to assist Captain 73 and Engineer 73 to hand lay 5" large diameter supply hose (LDH) from E70 to the fire hydrant. The hydrant was located approximately 200' away. Engineer 70 obtained the TIC and placed it on the tailboard of E70.

At 01:54:43, Captain 70 transmitted the following radio traffic:

00:20:16 – A
00:10:32 – D

(Note: The transmission was made while wearing a self-contained breathing apparatus facepiece with an attached electronic voice amplifier).

Captain 70: *"Con Fire...."*

CCRFCC: *"IC, go ahead"*

Captain 70: *"We got the fire"... (garbled)... "roof top ventilation to the first truck"*

CCRFCC: *"Michele IC, I'm unable to copy"*

Captain 70: *"First due truck, and that's rooftop ventilation"*

(Note: This is the last transmission received from Captain 70.)

CCRFCC: *"Michele IC, all I copy is roof ventilation"*

At 01:55:04, American Medical Response Paramedic 228 was dispatched Code 2.

At 01:55:46, Dispatcher #1 radioed E69 (still en route) to determine if they heard Captain 70's radio traffic.

00:21:19 – A
00:11:35 – D

CCRFCC: *"Engine 69, Con Fire, were you able to copy?"*

Engine 69: *"Con Fire, 69, appears Captain 70 needs some rooftop ventilation"*

CCRFCC: *"Copy"*

The crew from Engine 73 assisted with the LDH supply line. While Captain 73 pulled

hose from Engine 70's hosebed, Engineer 73 and Firefighter 73 advanced and connected the LDH to the hydrant. Engineer 73 opened the hydrant and charged the supply line while Firefighter 73 returned to the front porch.

After knocking down the fire in the living room, Captain 70 and Firefighter 70 exited the structure and retrieved the TIC, which had been placed on the tailboard of E70. Engineer 70 placed a 500-watt flood light inside the front door. After assisting with the hydrant supply line, Captain 73 directed Engineer 70 to place a blower at the front door for positive pressure ventilation.

As Firefighter 73 returned he recalled seeing heavy smoke coming from the "Bravo" side of the structure. When he arrived at the front porch, he witnessed what may have been a brief face-to-face exchange between Captain 70 and Captain 73. (Note: Captain 73 did not recall the face-to-face exchange).

Captain 73 and Firefighter 73 observed Captain 70 and Firefighter 70 enter and initiate a left-hand search pattern from a standing position. Captain 73 and Firefighter 73 followed and started a right-hand search pattern (Figure 5). Firefighter 73 described conditions as smoky with poor visibility, but not unusually hot.

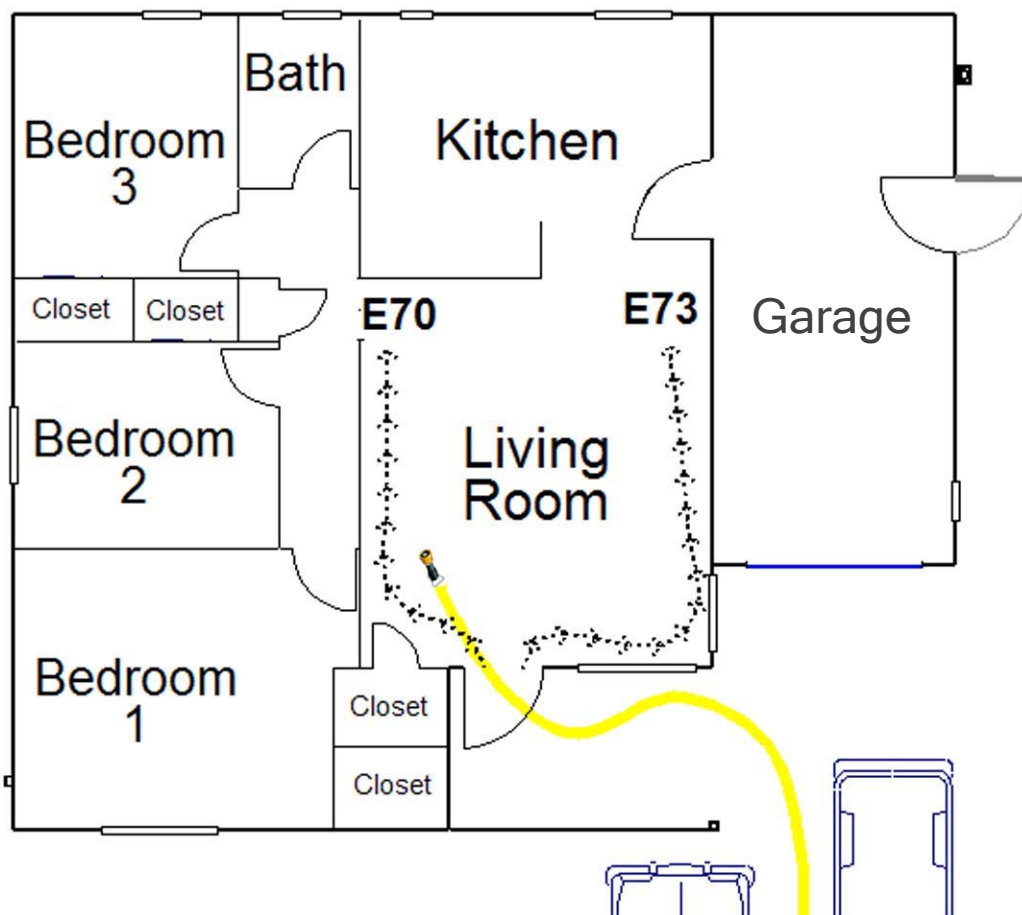


Figure 5 – Diagram showing left-hand and right-hand search pattern

Engineer 70 asked Engineer 73 to secure the utilities. Engineer 73 shut off the natural gas supply valve on the “Delta” side but was unable to shut off the electrical breakers at the “Alpha” / “Bravo” corner because the breaker box was locked (Figure 6). (See Figure 4 for Alpha, Bravo, Charlie, and Delta references.)

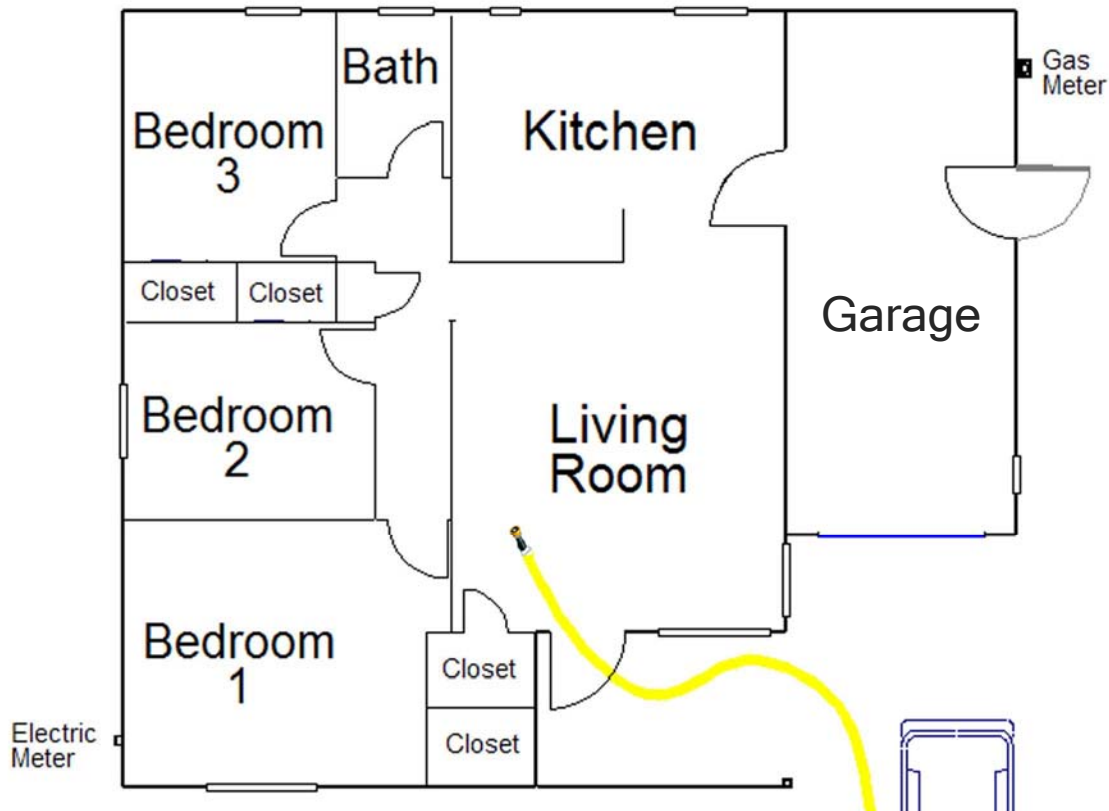


Figure 6 - Location of utilities

At 01:57:13, E69 arrived on scene. Captain 69 directed Firefighter 69 to ladder the roof. Engineer 69 obtained a chainsaw in anticipation of a rooftop ventilation assignment. Captain 69 conducted a quick size-up for rooftop ventilation while Firefighter 69 placed a 14' roof ladder on the "Alpha" / "Delta" corner (Figure 7). During this time, Engineer 70 asked Captain 69 what he thought about putting a blower in front of the building for some positive pressure ventilation. Captain 69 agreed it was a good idea and advised him to initiate that operation.

00:22:46 – A

00:13:02 – D

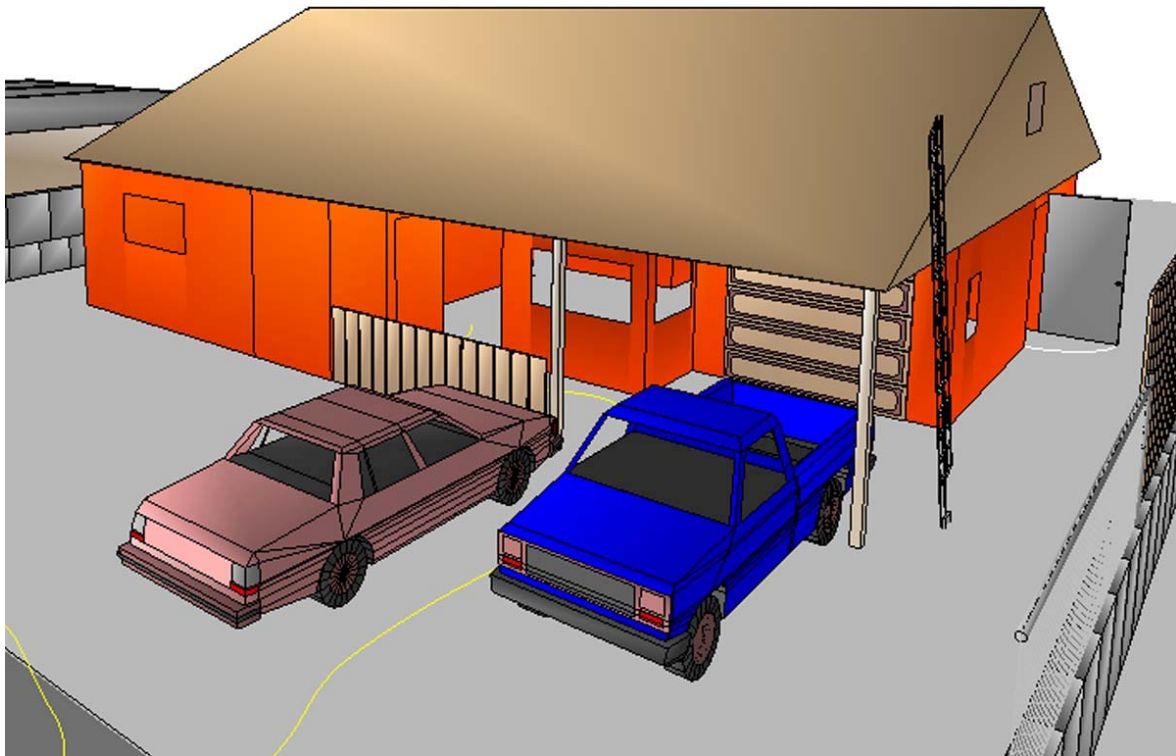


Figure 7 - Ladder location on Alpha / Delta corner

Engineer 70 and Engineer 73 removed the blower from E70 and moved it towards the front of the structure. Engineer 70 positioned and started the blower approximately three feet from the front door due to a small wall that partially enclosed the porch (Figure 8).⁸

⁸ Captain and Firefighter 73 stated that the PPV was initiated after they entered to search.

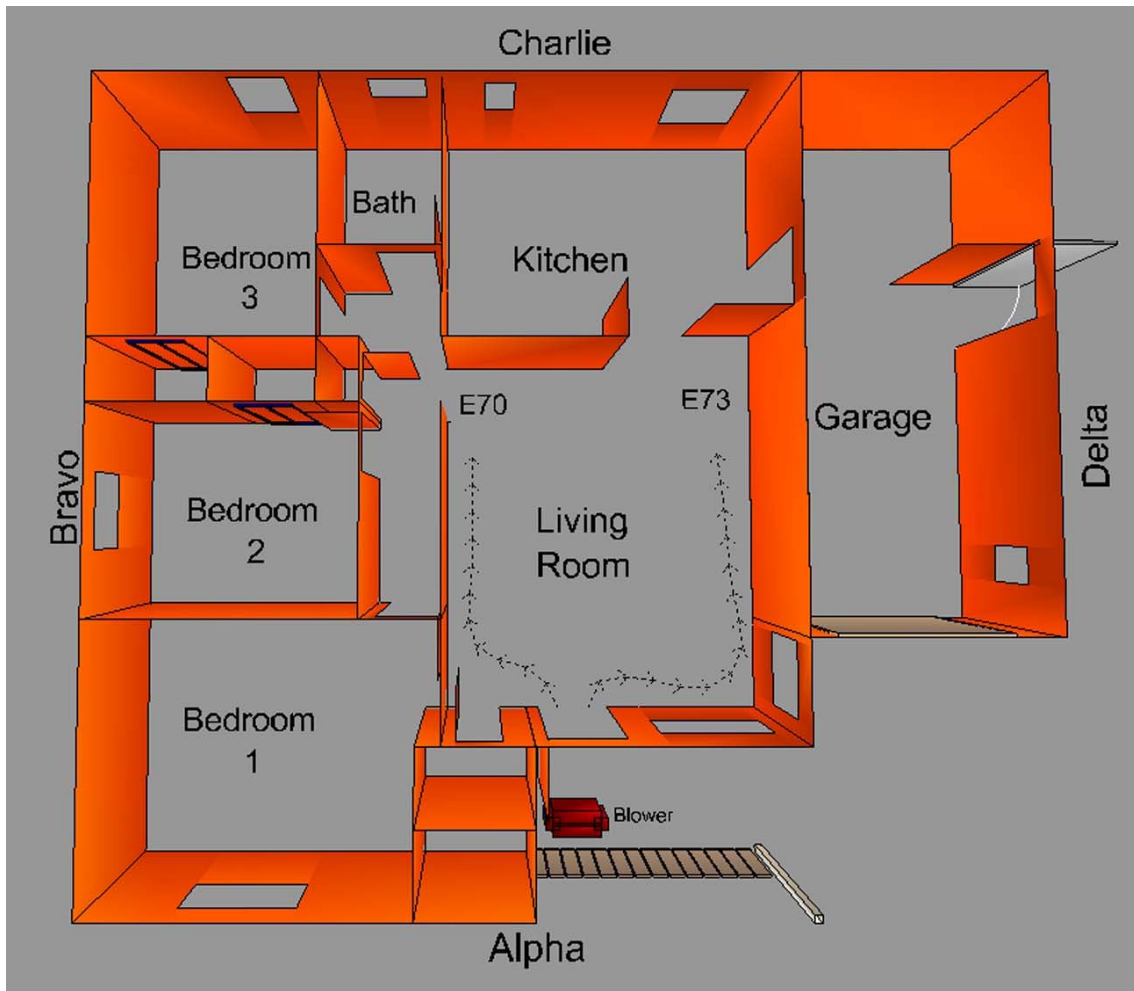
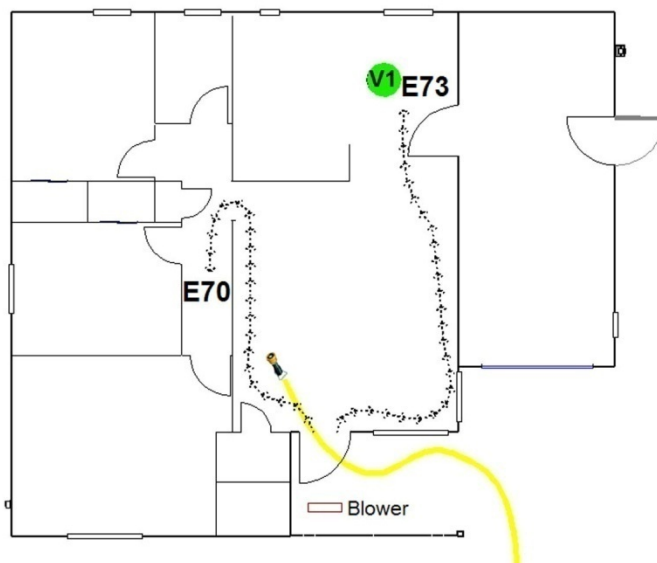


Figure 8 - Location of blower

Captain 73 and Firefighter 73 located an unresponsive female resident in the kitchen (Victim 1 "V1"). They felt a significant increase in heat and observed increased visibility. As they moved the victim from the kitchen, flames were observed on the living room ceiling near the hallway entrance.



Firefighter 73 referred to the conditions as “rollover”. As they approached the front door with the victim, Firefighter 73 tripped on the nozzle of the initial hoseline, which was located approximately three to five feet inside the door. Firefighter 73 then exited to get help with victim removal. Captain 73 picked up the nozzle and briefly darkened down the fire on the living room ceiling. He estimated that the nozzle was opened for about ten (10) seconds.⁹ He returned to the kitchen and quickly retrieved a flashlight, which he left behind when the victim was moved. As he made his way back to the front door, he moved the blower 90-degrees to clear the way for victim removal. Several members arrived at the front porch and assisted with moving the victim to the front yard.¹⁰ Captain 69 assigned Firefighter 69 to assist Engineer 73 and Firefighter 73 with emergency medical care, while Captain 69 and Engineer 69 went to the roof to ventilate. (Note: After the first victim was removed, the blower was repositioned facing the front door. The Investigation Team was unable to determine who repositioned the blower.)

At 01:58:14, American Medical Response Paramedic Unit 228 responded Code 2 to the incident.

At 01:59:30, Quint 76 (Q76) arrived on scene. Firefighter 76 exited the apparatus and stood briefly at the front bumper waiting for Captain 76 to don his SCBA. During this time, he took one (1) photograph and eight (8) seconds of video with a digital camera while looking toward the “Alpha” / “Delta” corner of the structure. The eight seconds of video was taken at approximately 02:00:00 hours and captured a sudden, significant

00:25:03 – A

00:15:19 – D

00:25:33 – A

00:15:49 – D

⁹ During the investigation interview, Captain 73 stated that he opened the nozzle briefly because he did not know the location of Captain 70 and Firefighter 70.

¹⁰ Victim treatment location

increase in fire activity (Photo 2). This activity occurred from both the “Alpha” side window (bedroom #1) and the “Bravo” side of the structure.



Photo 2 - Increased fire activity from Bedroom #1 window (Alpha side)

At the same time, Firefighter 73 was administering emergency care to occupant #1 on the front lawn. He reported that the bedroom #1 window, which had been partially cracked and venting smoke, failed suddenly and glass blew out onto the lawn area. He stated that for the next ten (10) to fifteen (15) seconds there was a large volume of fire venting from the window. Shortly after the window failed, Captain 73 reentered the structure and used the original hoseline to attack the fire.

Captain 76 directed Firefighter 76 to go check and see what help the on-scene crews needed. As Firefighter 76 walked up to the residence he observed Engineer 70

pulling a second 150' pre-connected 1 ¾" hoseline (125 GPM) from E70. Firefighter 76 made contact with Engineer 70 and asked him what was needed. Engineer 70 told him to help with patient care. Several personnel had initiated patient care in the front yard when Firefighter 76 asked if they needed assistance. He was told that help was not needed.

As Captain 76 approached the residence, he observed Captain 69 and Engineer 69 on the roof cutting a ventilation hole with a chainsaw. Captain 76 and Firefighter 76 advanced the second 1 ¾" hoseline through the front door for fire attack. Upon entering, Captain 76 and Firefighter 76 experienced poor visibility. They encountered Captain 73 with the low air alarm activated on his SCBA. Captain 73 stated that he was out of air and handed Firefighter 76 a 1 ¾" hoseline before he exited out the front door. (Note: Q76 personnel were not sure who handed them the hoseline and thought that it may have been a member of Engine 70). Firefighter 76 decided to use the hoseline handed to him and set down the hoseline that he had advanced into the structure.

After exiting the structure, Captain 73 rejoined Firefighter 73 on the front lawn where Firefighter 73 was providing emergency care. Captain 73 told Firefighter 73 that he was out of air and expressed concern that E70 personnel had to be out of air.

At 02:01:59, Battalion 7 arrived on scene and made face-to-face contact with Engineer 70 to determine the location of Captain 70. Engineer 70 told him that the crew was inside. (Note: Battalion 7 had not heard Captain 70 pass command to the second due unit, "Engine 74", and as a result believed that Captain 70 was the Incident Commander.)

At 02:03:37, shortly after arrival, Battalion 7 confirmed an ambulance was responding and requested CCRFCC to upgrade the ambulance to Code 3.

00:27:32 – A
00:17:48 – D

Captain 73 went to Battalion 7 and asked if the crew from E70 had exited. He informed Battalion 7 that he was concerned that they had to be out of air.

Battalion 7 continued trying to locate Captain 70 and Firefighter 70. He asked the other on-scene crews about the status and location of Captain 70 and Firefighter 70 and attempted to contact the missing personnel on the assigned tactical channel¹¹.

At 02:05:03, Battalion 7 requested a second alarm. Additional attempts were made to contact the missing members of Engine 70's crew on three other unassigned tactical channels in case their radios had been inadvertently placed on the wrong channel.

At 02:05:27, the IC (Battalion 7) transmitted a report of a missing firefighter, and identified himself as Michele IC for the first time. At 02:05:56, Michele IC (Battalion 7) requested an additional engine. CCRFCC dispatchers confirmed with Michele IC (Battalion 7) that he was requesting an additional engine in addition to a second alarm.

Missing Firefighters

At 02:06:06, Engine 74 (Pinole Fire Department), Engine 75 (Rodeo-Hercules Fire District), Engine 72 (El Cerrito Fire Department), and Battalion 71 (El Cerrito Fire Department) were dispatched as part of the second alarm assignment.

At 02:06:25, American Medical Response Paramedic Unit 228 arrived on scene.

At 02:07:32, CCRFCC called RCC to request E68 to respond on the second alarm. At 02:07:42, Battalion 64 self-dispatched to the incident and called CCRFCC to advise he was en route to the incident.

At 02:07:56, Michele IC (Battalion 7) tried to contact Captain 70 and Firefighter 70

00:30:36 – A
00:20:52 – D

00:31:00 – A
00:21:16 – D

00:31:39 – A
00:21:55 – D

00:31:58 – A
00:22:14 – D
00:33:05 – A
00:23:21 – D

00:33:29 – A
00:23:45 – D

¹¹ Radio traffic on the tactical channel could not be recorded. Battalion 7 stated that he attempted several times to contact the missing personnel on the tactical channels.

on the primary dispatch channel. At 02:08:07, RCC dispatched E68.

At 02:08:17, Michele IC (Battalion 7) tried a second time to contact Firefighter 70 and Captain 70 by radio. At 02:08:53, Michele IC (Battalion 7) requested an additional Code 3 ambulance and advised CCRFCC that the status of the missing firefighters was “still unknown.”

During the interior attack, Captain 76 and Firefighter 76 encountered poor visibility and high heat conditions as they entered the hallway. They observed heavy fire from bedrooms #1 and #2, with flames rolling across the hallway ceiling. They initially knocked down fire in bedroom #2 while pushing the fire back down the hall to bedroom #1 (Figure 9). Captain 76 scanned bedroom #2 with a TIC, but did not identify any victims. They continued to knock down the fire while advancing into bedroom #1. The hoseline was moved back to the doorway of bedroom #2. As Q76’s crew directed a straight stream into bedroom #2, the gypsum board between the two bedrooms failed, allowing the stream to penetrate into bedroom #1. From the doorway of bedroom #2, they observed heavy fire in the attic through a 4” hole in the hallway ceiling. They attempted to attack the fire in the attic through the hole with no noticeable effect.

00:33:50 – A

00:24:06 – D

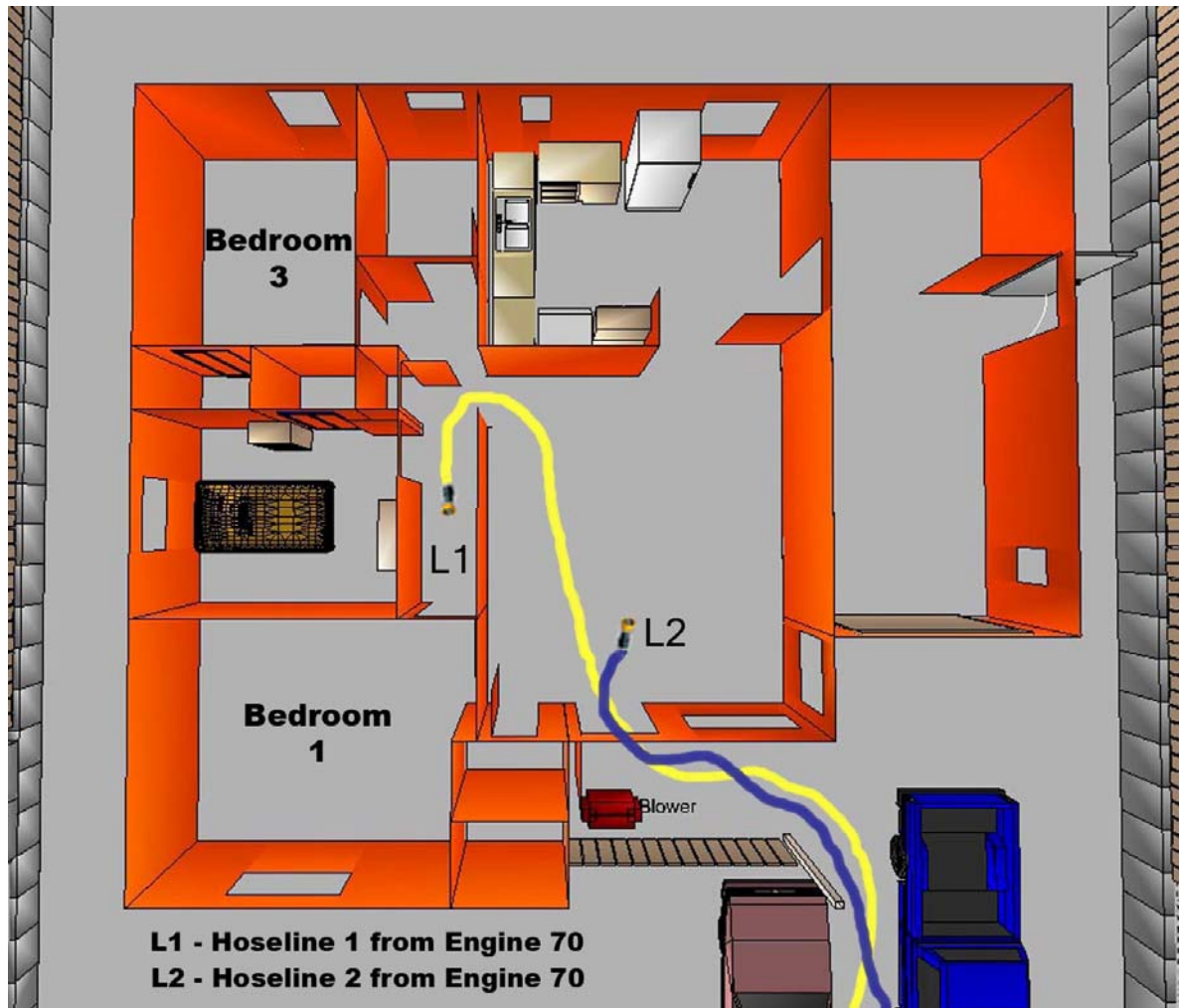


Figure 9 - Location of hoselines

Concurrent with Q76 attacking the fire, E69 cut a ventilation hole in the peaked roof. (Note: the peaked roof was added as a “rain roof” above the existing, original flat roof in 1991. See Section 7 of this Report.) They initially observed light smoke from the vent hole and a small amount of fire visible near the “Bravo” side gable vent. The ventilation crew was unable to breach the interior ceiling/roof, which consisted of flat, 2” X 6” tongue-and-groove wood plank overlaid with several layers of tar and gravel (original flat roof). This prevented crews from providing vertical ventilation for the interior of the structure.

As Captain 69 and Engineer 69 exited the roof, they heard a loud pop and saw flames venting 8' to 10' from the ventilation hole (Photo 3). After exiting the roof, Captain



Photo 3 – Fire venting from ventilation hole

69 and Engineer 69 went to the rear of the structure to break out windows for additional ventilation. Security bars were mounted on the exterior of all windows except those on the “Alpha” side. Captain 69 and Engineer 69 removed window

screens and broke a couple of windowpanes but did not get any significant release of smoke (Photo 4). They continued to the “Bravo” / “Charlie” corner and observed fire on the “Bravo” side from bedroom #2 window and the attic space above. Captain 69 and Engineer 69 returned to the “Alpha” side and met with Michele IC (Battalion 7) who directed them to continue the primary search for the second resident. Firefighter 69 completed resuscitation efforts on the first victim and rejoined his crew. Captain 69 directed Engineer 69 and Firefighter 69 to start the search while he replaced his SCBA air cylinder.



Photo 4 - Partially broken windows on Charlie side – rear of structure

Engineer 69 and Firefighter 69 entered the front door and picked up a hoseline from the floor, knocking down small amounts of fire as they advanced the hoseline toward the kitchen. At that point, Captain 76 and Firefighter 76 handed off a TIC to Engineer 69 as they exited with their SCBA low air alarms activated and sounding.

Still unable to account for the two missing firefighters, Michele IC (Battalion 7) directed Captain 76 and Firefighter 76 to conduct a search around the exterior of the structure after they had replaced their low SCBA air cylinders. While conducting a search around the exterior of the structure, they observed heavy fire conditions in the attic with flames venting 10' to 15' out of the “Bravo” side attic gable vent.

Captain 69 replaced his SCBA air cylinder and rejoined his crew inside to search for the second resident. Using a TIC, Engineer 69 located an unresponsive male resident in the

kitchen (V2, Figure 10). The patient was assessed where he was found and determined to be non-viable. The crew exited to obtain a tarp to remove the victim due to his large size.

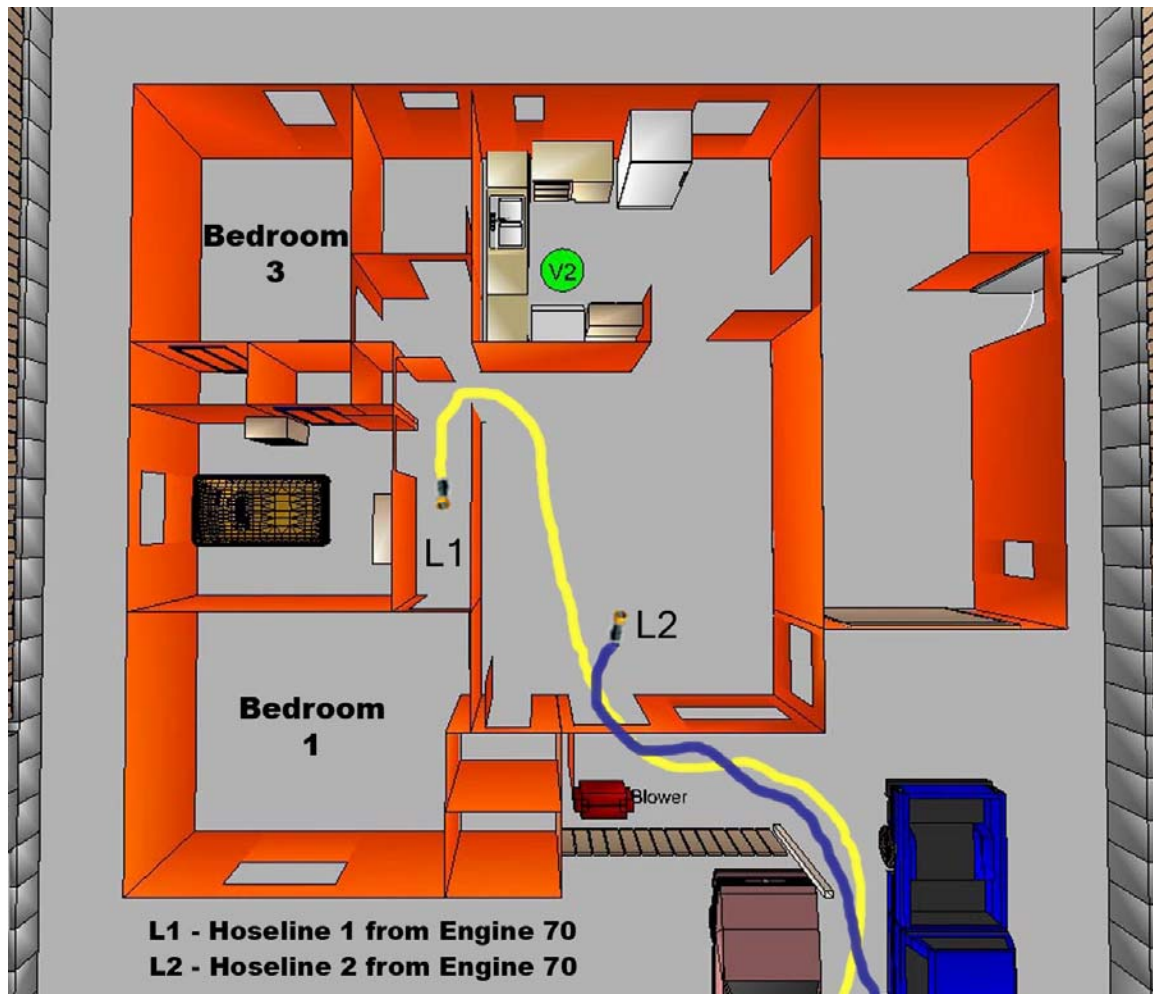


Figure 10 - Location of Victim 2 (V2)

Captain 69 informed Michele IC (Battalion 7) that a second victim was located, but was not viable. Michele IC (Battalion 7) ordered Captain 69 to defer removal of the second victim because he could not locate Captain 70 and Firefighter 70. He directed Engine 69 to go back inside and find them.

The crew from Engine 69 re-entered the structure to look for Captain 70 and Firefighter 70. They walked through the interior to verify that the crew was not working

inside. During the walk-through, they used a hoseline to knock down fire coming from the closet in bedroom #2. They exited, reported to Michele IC (Battalion 7), and informed him that Captain 70 and Firefighter 70 were not working inside. Michele IC (Battalion 7) stated that the two missing personnel must be inside and directed the crew from E69 to go back in and find them. The tone and urgency in his voice indicated to E69's crew that something was wrong.

At 02:17:00, Michele IC requested CCRFCC to conduct a "head count"¹². At 02:17:24, CCRFCC attempted to contact Captain 70 on the main dispatch channel. At 02:18:09, CCRFCC asked Pinole Fire Chief 7300 (self-dispatched) to conduct a head-count. Chief 7300 advised that he was almost on scene and would be switching to the tactical channel ("Tac C – Charlie") to conduct a head-count.

At 02:18:26, Battalion 64 arrived on scene.

At 02:18:48, Engine 74 arrived on scene.

At 02:19:13, Engine 75 arrived on scene.

At 02:20:59, Engine 68 arrived on scene.

At 02:21:08, Battalion 71 arrived on scene.

Firefighters Located

Engine 69's crew entered the structure a third time and conducted a detailed search for Captain 70 and Firefighter 70. At approximately 02:21 hours, Michele IC (Battalion 7) ordered an apparatus air horn to sound to evacuate personnel in order to conduct a head-count. Captain 69 heard apparatus air horns signaling personnel to

¹² Proper terminology is Personnel Accountability Report or PAR.

00:42:33 – A
00:32:49 – D

00:46:33 – A
00:36:49 – D

evacuate the structure, but based on the urgency of his assignment and the tenable conditions, he decided not to evacuate immediately. At approximately 02:22 hours, while searching bedroom #2, Engineer 69 spotted a leather turnout boot along the right side of the bed. After moving some light debris, he realized it was a downed firefighter (FF1, Figure 11). Engineer 69 rolled the firefighter on his side and determined that he was still wearing an SCBA facepiece and the low air alarm (secondary bell) was slowly ringing. He immediately began to extricate him, but struggled because parts of the SCBA straps and turnouts were damaged to the point of failure. He yelled to Firefighter 69 for assistance. Together they struggled to remove the firefighter, and were able to move him to just inside the bedroom doorway. Visibility in the room decreased as the smoke conditions worsened. Near the point of exhaustion and with his SCBA low air alarm activated, Engineer 69 was briefly disoriented. Firefighter 69 assisted Engineer 69 toward the front door.

00:47:33 – A

00:37:49 – D

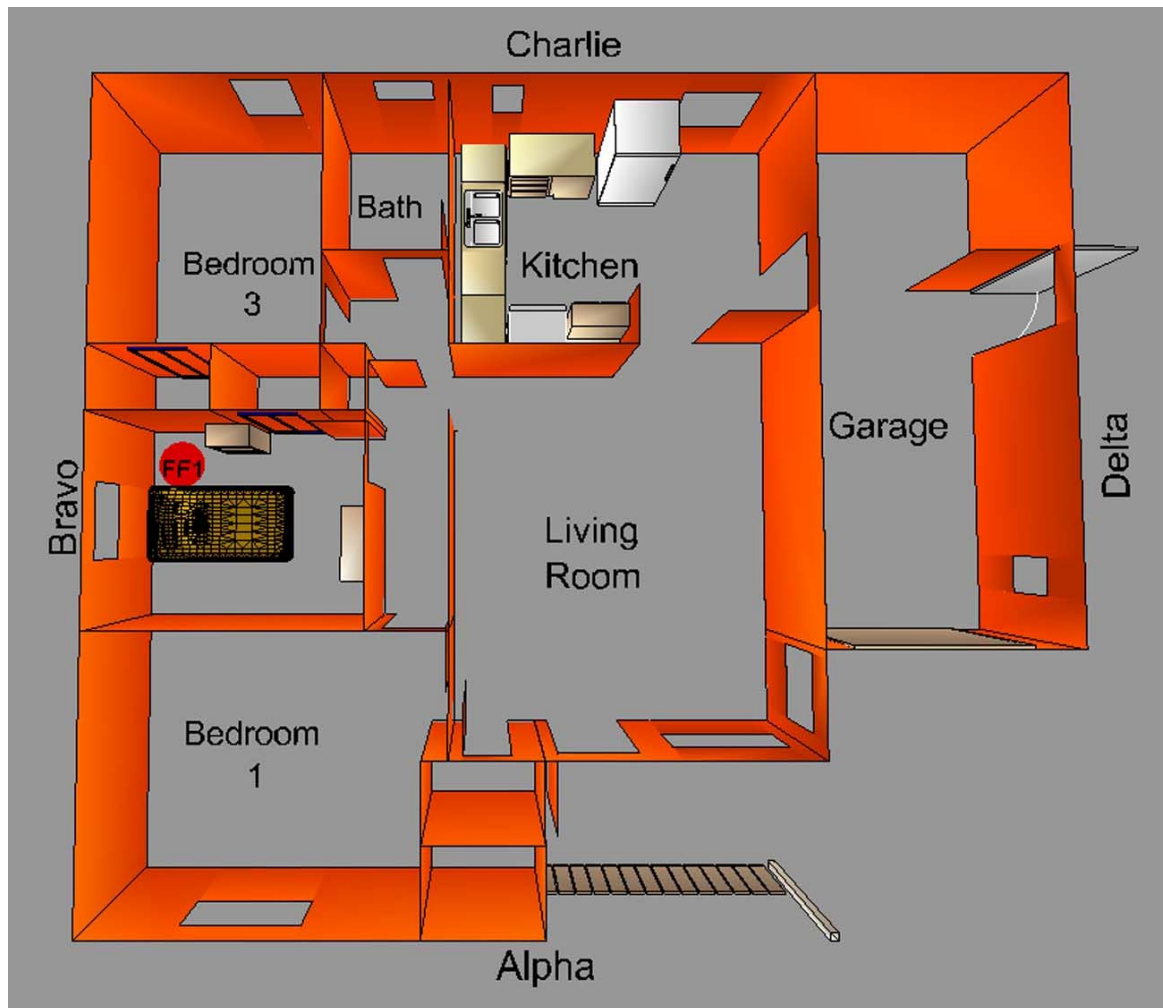


Figure 11 - Location of Firefighter 1 (FF1)

Michele IC (Battalion 7) directed Captain 76 and Firefighter 76 to assist with the interior search for E70 missing personnel. Firefighter 76 entered, and was passed by Firefighter 69 and Engineer 69 who were exiting. The only information he heard was “bedroom.” At the same time, Engineer 69 and Firefighter 69 exited and immediately informed Michele IC (Battalion 7) that they had located a firefighter, that the firefighter appeared to be deceased, and that they were having difficulty removing him.

When Firefighter 76 entered bedroom #2, he encountered a body just inside the doorway and quickly realized it was a firefighter (FF1, Figure 12). (Note: Firefighter 76

stated he was surprised to find a body in this location, as it had not been there a few minutes earlier when he was involved in fire attack.) Firefighter 76 yelled for assistance and a flashlight. Firefighter 76 lifted the victim's upper torso from behind as the fire began to increase along the wall between bedroom #1 and bedroom #2. He was quickly joined by additional personnel, including Captain 68 who grabbed the lower legs of the victim. They worked together to move the firefighter out of the bedroom and into the living room. Firefighter 69 re-entered and assisted Captain 69 with the removal. When they arrived at the front porch, they were joined by other personnel who helped move the firefighter to the front yard. Initial resuscitation efforts were initiated by Engineer 73 and Firefighter 73, but it was quickly determined that the injuries were fatal. (Note: The estimated removal time was 02:28 hours).

00:53:33 – A
00:43:49 – D

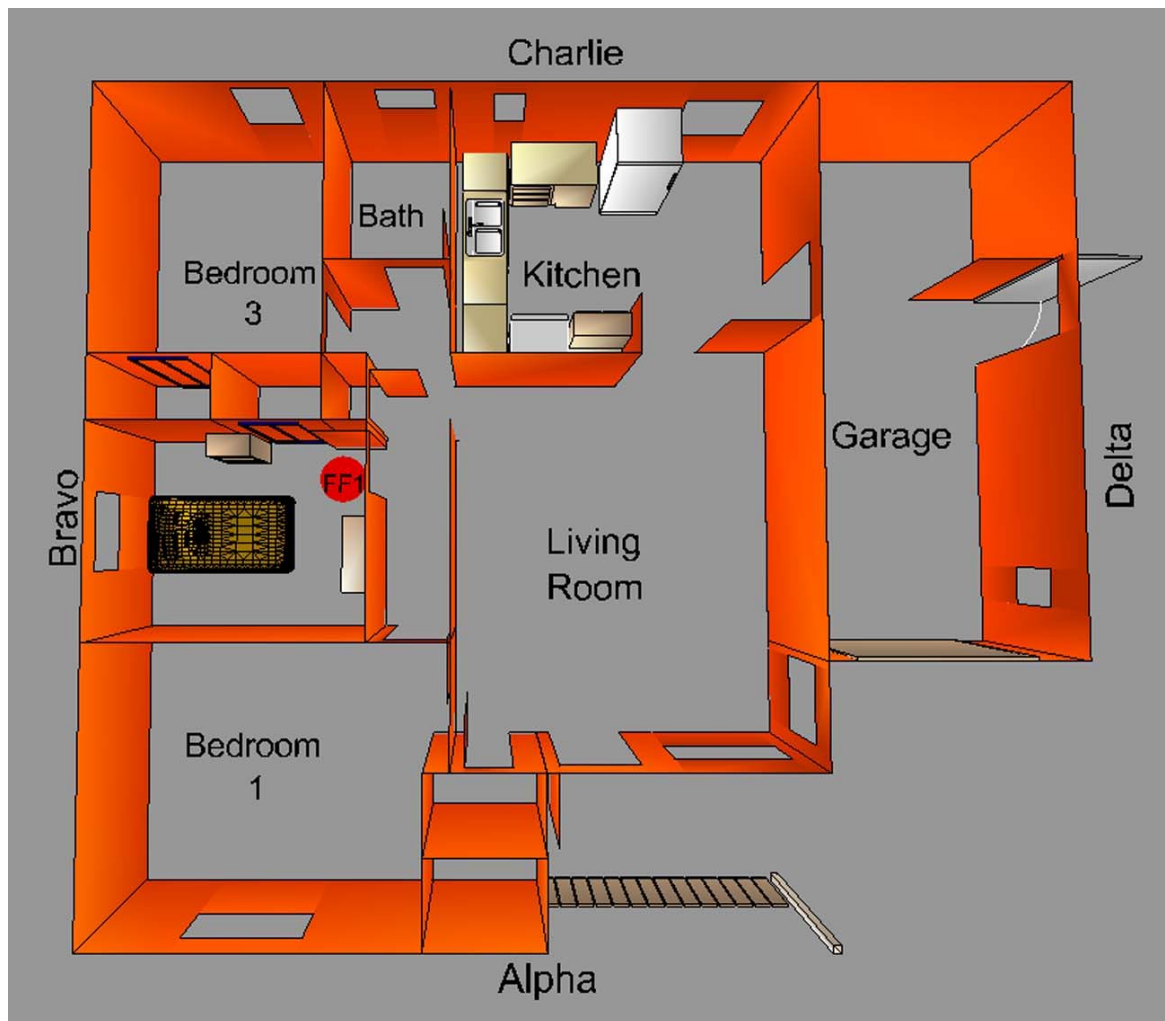


Figure 12 - Location of Firefighter 1 after being moved

At 02:30:14, Engine 72 arrived on scene.

Battalion 64 and Captain 76 entered through the front door to search for the second missing firefighter from Engine 70. Battalion 64 was at the doorway of bedroom #2 with Captain 76 directly behind him. Battalion 64 stated that he did not see the firefighter. Captain 76 entered the bedroom and dropped to his knees to conduct a search. He initially identified something on the left side of the bed. He quickly identified a breathing apparatus, and realized he had located the second firefighter lying face down (FF2, Figure 13). He rolled the firefighter onto his back, as Battalion 64 exited to get additional

personnel. Battalion 64 returned with a 1 ¾" hoseline followed by the crew from Engine 72. Captain 76 moved out of the way to make room. Battalion 64 and the crew of Engine 72 knocked down the remaining fire and utilized a backboard to remove the second firefighter (FF2, Figure 13). (Note: The estimated time of removal was 02:34 hours.)

00:59:33 – A
00:49:49 – D

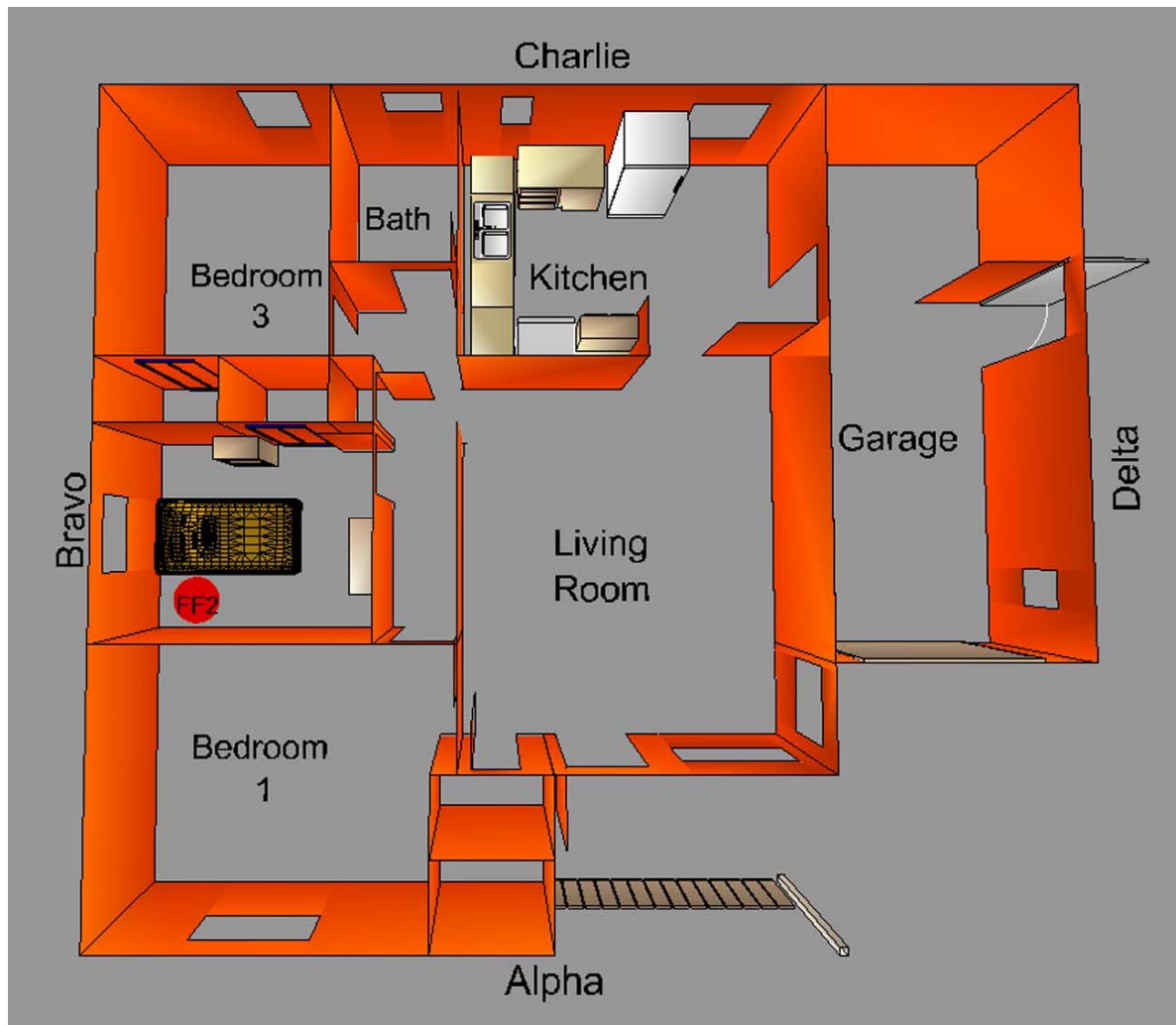


Figure 13 - Location of Firefighter 2 (FF2)

After the second firefighter was removed, the deceased male civilian victim who had been previously located in the kitchen was moved outside to the front lawn.

Personnel from Engines 74, 75, and 68 assisted with the removal.

Following the removal of the two firefighters and the second civilian victim, crews

initially involved with the fire and recovery operations were relieved of duties at the scene. Personnel were directed to Station 73 for an incident debriefing. Crews from the Richmond Fire Department (Engine 62 and Truck 64) and the El Cerrito Fire Department (Engine 72) completed extinguishment in a defensive mode.

FIRE INVESTIGATION SUMMARY

The fire investigation was a joint effort by the Contra Costa County Fire Protection District – Fire Investigation Unit, the California Department of Forestry and Fire Protection (CAL FIRE), and the Bureau of Alcohol, Tobacco, Firearms and Explosives. Assistance was also provided by the Contra Costa County Office of the Sheriff. A Supervising Investigator/Bomb Technician from CAL FIRE was designated as the lead fire investigator. The investigation consisted of the scene examination and interviews with witnesses and the first-alarm crews. Information was also obtained from family members of the deceased occupants.

The fire scene examination was conducted the same day of the fire (July 21, 2007). Fire District personnel had retained control of the scene on a continuous basis since Engine 70's arrival on scene. All aspects of the scene were documented by a combination of photographs, videotape and diagrams.

A thorough examination was made of the exterior and interior of the one-story wood frame single-family residence. Observations were made of the fire, heat and smoke damage. The burn patterns indicated that the fire had progressed from the bedroom hallway (west-side of house) into the living room, dining area and kitchen. The hallway provided access to the bathroom (north-end) and each of the three bedrooms. Further examination of the various burn indicators pointed to the middle bedroom (Bedroom #2) as the room of origin. Bedroom #2 was the same room where the bodies of Captain Burton and Engineer Desmond were recovered.

The burn patterns on the ceiling and walls and close examination of the burned contents from Bedroom #2 showed the most probable point of origin as being on or about the east end of the bed. There was no physical evidence of intentional or accidental ignition sources within the area of origin.

In the course of the fire investigation it was determined that both occupants smoked cigarettes. This fact, coupled with the location of the fire origin and the lack of any physical evidence of intentional or accidental ignition sources, led to the conclusion that the most probable source of ignition was the improper discard of smoking materials.

CAUSE OF DEATH

The Office of the Sheriff – Contra Costa County Coroner’s Division, conducted autopsies. The cause of death for both firefighters was identified as thermal injury and smoke inhalation.

Cal/OSHA INVESTIGATION FINDINGS

The State of California, Department of Industrial Relations, Division of Occupational Safety and Health (Cal/OSHA) conducted a separate independent investigation. The Cal/OSHA Compliance Engineer investigated the deaths of the two firefighters who died while performing search and rescue operations during a structural fire. It has been determined that no standard, rule, order or regulation set forth in Title 8, California Code of Regulations, and Division 5 of the California Labor Code, has been violated in connection with the above described industrial accident and/or occupational illness.

FIRE GAS IGNITION

The term “Fire Gas Ignition” covers a wide range of rapid fire phenomena where accumulations of gases and smoke ignite. There is a wide range of events that can be conveniently grouped under the heading Fire Gas Ignitions (FGIs) and such phenomena can generally be defined as:

“An ignition of accumulated fire gases and combustion products, existing in, or transported into, a flammable state.”¹³

Therefore, the NFPA reporting system has established the term “Rapid Fire Progress” to cover all situations where some form of fire phenomena led to an extreme event of combustion causing sudden transition from a small fire to a large fire, even where flaming is not sustained. NFPA refers to various sudden or extreme fire phenomena as falling into one of three categories.

- Flashover
- Backdraft
- Fire gas ignitions

The eight seconds of video recorded by an arriving crew captured a sudden increase in fire activity. The Team reviewed the video with outside experts who attributed the rapid increase of fire activity to a “fire gas ignition”. Their conclusion did not rely solely on the video. Photographs of the burn patterns in the room of origin and the condition of items retrieved at the floor level pointed towards this opinion. The fact that items at the floor level were undamaged after the increase in fire activity is consistent with this theory.

The team spent many hours reviewing the video, examining photographs and reviewing interviews of personnel on scene. The Investigation Team’s decision to define the rapid-fire progress captured on the video as a “Fire Gas Ignition” is based upon all available evidence

¹³ Grimwood, Paul. 3D Fire Fighting Training, Techniques, and Tactics: Fire Protection Publications, Oklahoma State University, First Printing, May 2005

gathered during the investigation, advice from technical experts, and a review of research documents.

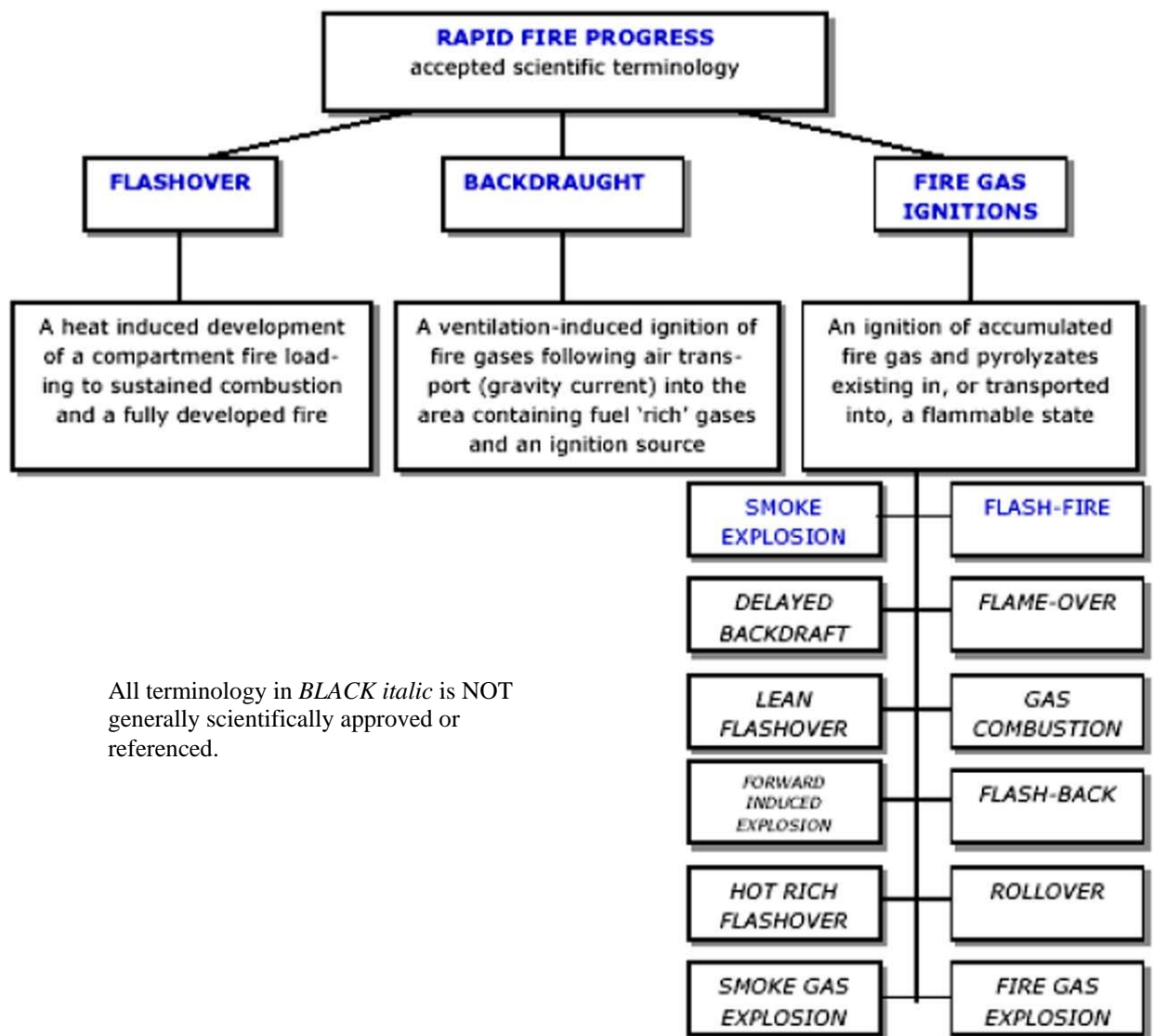


Diagram Reference - Grimwood, Paul. 3D Fire Fighting Training, Techniques, and Tactics: Fire Protection Publications, Oklahoma State University, First Printing, May 2005

SECTION 1

CONTRA COSTA REGIONAL FIRE COMMUNICATIONS CENTER

Overview:

The Contra Costa County Fire Protection District operates a multi-agency fire & emergency medical services (EMS) communications center known as the Contra Costa Regional Fire Communications Center (CCR FCC). The CCR FCC provides fire and EMS dispatch, coordination, and technical support services to Contra Costa County Fire Protection District, Crockett-Carquinez Fire Protection District, East Contra Costa Fire Protection District, Moraga-Orinda Fire Protection District, City of Pinole Fire Department, and Rodeo-Hercules Fire Protection District.

The CCR FCC has a daily minimum staffing level of four dispatchers. All of the dispatchers work a 24-hour shift schedule. When not assigned to one of the dispatch consoles, dispatchers have scheduled rest periods in the adjacent dormitories. During rest periods, dispatchers are subject to a thirty-second recall to the dispatch center when needed.

The jurisdictional law enforcement agencies serve as the public safety answering point (PSAP) for 9-1-1-calls. Calls requiring fire or emergency medical services are then transferred to the CCR FCC via direct ringdown lines. Dispatchers are trained and certified to provide Emergency Medical Dispatch (EMD). After interrogating the caller and determining the type of problem, they provide instructions for basic medical care until the arrival of firefighters or other EMS personnel. In 2007, the CCR FCC dispatched 72,874 calls for service.

Calls received by the CCR FCC are processed and dispatched based on a pre-determined priority level ranging from Priority One (highest priority) to Priority Nine (lowest priority). The goal is to process and dispatch emergency calls in one minute or less.

Finding:

1.1. The alarm monitoring company failed to report the fire to the Fire District.

Discussion:

The alarm monitoring company representative did call the Fire District and did report a fire alarm. However, the representative did not inform Fire District dispatchers that she had

spoken with the occupant, nor that the occupant had confirmed that there was a fire. The representative should have provided this important information to the dispatcher.

A residential structure fire is a Priority 2 call. At the time of the Michele Drive incident the first alarm response consisted of three engines, one quint, and one Battalion Chief. A residential fire alarm is Priority 4, consisting of a single engine response. The omission of this critical information resulted in an incorrect priority level and an inappropriate number of resources for the initial dispatch.

Finding:

- 1.2. The recall of additional dispatchers was inadequate for the volume of activity.

Discussion:

At the time of this incident, there were four dispatchers on duty. Two dispatchers were awake and were working at the dispatch consoles in the CCRFCC. The other two dispatchers were sleeping in adjacent dormitories and subject to a 30-second recall when needed. A high volume of activity occurred at the CCRFCC prior to and during this incident. A third dispatcher was recalled when the incident went to a second alarm. Recall of the fourth dispatcher did not occur. The recall of additional dispatchers was inadequate for the call volume, and as a result, contributed to a total call processing time of 7 minutes and 32 seconds.

Finding:

- 1.3. The alarm monitoring company reported the automatic fire alarm on a non-emergency phone line.

Discussion:

Alarm companies have the responsibility to use the appropriate emergency phone number. Companies providing alarm monitoring services are often located outside the fire district boundaries. The company that provided the monitoring services for this incident was located in the State of Florida. The call received on a non-emergency line was placed on hold to answer higher priority emergency calls. Once placed on hold, there is no mechanism in place for the caller to transfer to an emergency line if their situation changes.

Finding:

- 1.4. Important updated information obtained by dispatchers was not relayed to responding units in a timely manner.

Discussion:

Following the initial report of the fire alarm from the alarm company, CCRFCC received a call from the resident who reported a fire and stated her husband was still inside the house. Important information received by dispatchers subsequent to the initial dispatch can have a significant impact on strategic and tactical decisions. Dispatchers must relay information to responding companies in a timely manner.

Finding:

- 1.5. Attempts to verify the fire alarm delayed the initial dispatch.

Discussion:

Following standard practice, dispatchers attempted to verify the fire alarm by calling the residence prior to dispatching. Dispatchers made two attempts to contact the residence. The initial call resulted in a busy signal. There was no answer on the second attempt. This action contributed to the overall dispatch delay.

Fire alarms are often communicated to the monitoring station via the telephone line, rendering the phone unusable during the transmission, delaying the verification process.

Finding:

- 1.6. Staffing levels in the CCRFCC should be a minimum of two dispatchers.

Discussion:

When CCRFCC staffing is at the minimum of four (4) dispatchers, current practice allows for a minimum of one (1) dispatcher staffing the dispatch center between 0300-0630 hours. The other on-duty dispatchers are allowed scheduled rest periods in adjacent dormitories and subject to a 30-second recall when needed. The possibility of emergency incidents occurring simultaneously or in rapid succession is always present, and should mandate that staffing levels not be reduced below two (2) dispatchers.

Recommendations:

- 1.1.1. Develop and implement policies and standard operating procedures identifying the specific types of information to be obtained when interrogating callers reporting fires or automatic fire alarms. In addition to determining the type of alarm, address, and callback numbers, dispatchers must determine if the alarm company has contacted anyone at the premises and must attempt to obtain relevant information.
- 1.2.1. Develop and implement policies and standard operating procedures to establish specific benchmarks for initiating the recall of dispatchers from dormitories to ensure that available staffing is utilized when needed.
- 1.2.2. Establish a method to document the date and time of each dispatcher recall.
- 1.3.1. Develop and implement policies and standard operating procedures to address the receipt of emergency calls on non-emergency lines.
- 1.3.2. Upgrade the phone system to enable callers who have been placed on hold on a non-emergency line to transfer to an emergency line.
- 1.3.3. Identify and implement methods to ensure alarm companies have the correct emergency phone number.
- 1.4.1. Develop and implement policies, standard operating procedures, and training for dispatchers to identify the specific types of information that should be provided to responding units.
- 1.4.2. Ensure that dispatch personnel are regularly included in incident critiques to provide an exchange of information between CCRFCC dispatchers and the Operations Division.
- 1.5.1. Eliminate the current practice of delaying initial dispatch while calling the premise to confirm automatic fire alarms.
- 1.5.2. Review and modify existing CCRFCC policies and standard operating procedures to ensure that resources are dispatched to fire alarms prior to verifying the alarm.
- 1.6.1. Develop and implement a policy that establishes a minimum staffing of two (2) dispatchers in the CCRFCC at all times.

SECTION 2

INCIDENT COMMAND

Overview:

The first-in company officer at any multi-company incident is responsible for establishing and using the Incident Command System (ICS). This responsibility includes providing an initial on-scene condition report, establishing command, conducting a size-up, and developing an incident action plan. The Incident Command System helps to establish organization, bring control to the incident, and eliminate freelancing.

When there are extraordinary circumstances, such as a viable rescue, and the first-in company officer is unable to develop and maintain command perspective of the incident, that officer may pass command to the second-in company officer.

Finding:

- 2.1. There was a failed attempt to pass command from the first-in Company Officer to the second-in Company Officer.

Discussion:

Captain 70 established incident command on arrival. Shortly thereafter, when it was determined that two occupants could be inside, he attempted to pass command by radio to the Captain on the second arriving unit (Engine 73). (Note: Captain 70 referred to the second arriving unit as "Engine 74".) Captain 73 did not hear the radio transmission from Captain 70, and as a result, did not know that the first-in Captain had passed command.

When passing incident command from the first-in company officer to the second-in company officer, existing policy requires the first-in officer to notify the Communications Center (CCR FCC dispatch). The Communications Center is required to repeat the transmission for all responding units. The first-in company officer is expected to maintain incident command until the second-in company officer arrives on scene and notifies the Communications Center that s/he is assuming incident command. The Communications Center is required to repeat the transmission so that all personnel assigned to the incident know that there has been a change in command. Personnel did not follow this policy.

Upon their arrival, both Engine 70 and Engine 73 began search and rescue operations. It appears that neither company was aware that a breakdown of incident command had occurred. Following the attempt to pass command, Captain 70 acknowledged radio traffic directed to Michele IC one time. This may have contributed to confusion of who was in command.

Over ten (10) minutes elapsed from when Captain 70 passed command until the arrival of Battalion 7. During this time, Captain 70 may have believed that another officer had assumed command. Some personnel on scene believed that Captain 70 was still the Incident Commander. As a result, there was no one making important strategic and tactical decisions, coordinating the actions of on-scene personnel, or tracking personnel accountability.

Finding:

2.2. Personnel engaged in independent action.

Discussion:

Independent action or “freelancing” occurs when companies or individuals perform tasks separate from the incident command structure and from the overall strategic and tactical plan. Independent action compromises safety and personnel accountability. Although often well intentioned, it has been identified and documented as a contributing factor in a number of firefighter injuries and fatalities.

With the exception of Engine 70, all of the first alarm companies initiated independent action when they failed to check-in with the Incident Commander. Independent actions included fire attack, ventilation, and water supply. These actions resulted in an operation that lacked personnel accountability and proper coordination.

The passing of command from Captain 70 to Captain 73 was incomplete. The failure of crews to check-in and provide radio updates to the Incident Commander was a factor in personnel not recognizing the breakdown in transfer of command and not recognizing that there was no one in command prior to the arrival of Battalion 7.

The independent action also occurred at the command level. Although well intentioned, Battalion 64 requested additional resources independent from the Incident Commander and the CCRFCC.

Finding:

- 2.3. There was no radio announcement from Battalion 7 to CCRFCC when he assumed incident command.

Discussion:

While responding to the incident, Battalion 7 did not hear Captain 70's radio transmission when he attempted to pass command to Captain 73 ("Engine 74"). On arrival, Battalion 7 attempted to locate Captain 70, whom he believed was the Incident Commander. During the first few minutes, Battalion 7 requested additional resources using the radio identifier of "Battalion 7". Shortly thereafter, he started identifying himself as "Michele IC", without making a formal declaration that he was assuming the role of Incident Commander. A change in command without a formal announcement can lead to confusion for dispatchers and personnel assigned to the incident.

Recommendations:

- 2.1.1. Review and modify existing policies and standard operating procedures that address the transfer of command.
- 2.1.2. Provide additional training to line, staff, command, and dispatch personnel that specifically addresses transfer of command.
- 2.1.3. Reinforce policies and standard operating procedures that address transfer of command through training, drills, and incident critiques.
- 2.2.1. Review and modify existing policies and standard operating procedures to emphasize the importance and requirement for all personnel to check-in with the Incident Commander or designee upon arrival at the incident.
- 2.2.2. Provide training to all line, staff, and command personnel to address the issues of independent action and freelancing.
- 2.2.3. Reinforce policies and standard operating procedures that address independent action through training, drills, and incident critiques.

- 2.3.1. Ensure that policies and standard operating procedures for all Battalion 7 agencies regarding transfer of command are consistent in written content, training, and use at emergency incidents.
- 2.3.2. Review and modify existing policies and standard operating procedures to require the Incident Commander to make radio announcements on both the primary dispatch channel and tactical channel when s/he assumes command and require dispatchers at CCRFCC to repeat the announcement.

SECTION 3

STRATEGY AND TACTICS

Overview:

Strategy is the overall plan that the Incident Commander develops to control the incident with personnel and equipment on scene. Tactics are task-oriented, measurable objectives used to accomplish the strategy. Typically, there are multiple tactics occurring simultaneously during an emergency incident. A continual evaluation of strategy and tactics should occur throughout the incident to determine their effectiveness.

The unsuccessful transfer of command led to a breakdown of the Incident Command System. As a result, a strategic plan was neither developed nor communicated at the Michelle Drive incident. Although crews performed tactics, they were not coordinated with an overall strategy.

Finding:

3.1. The first-in Company Officer did not conduct a complete size-up.

Discussion:

Size-up is the mental process of evaluating an emergency incident taking into consideration critical fire ground factors that are used for developing strategy and tactical priorities. It is a continual process used throughout the incident to evaluate and adjust the strategy and tactics. Conducting a size-up and formulating a strategy and tactical objectives based on incomplete information can have serious consequences.

Captain 70 conducted the initial size-up and condition report after observing the “A” and “D” sides of the structure. The urgency of the reported rescue appears to have contributed to the crews instinctively taking action prior to completing a 360° size-up. The incomplete size-up did not allow crews to determine the location of the fire, area of involvement, or presence of security bars.

Finding:

3.2. Basic principles were not followed for a structure fire with rescue.

Discussion:

A structure fire with rescue is the one of the most stressful and demanding calls any firefighter will encounter. Teamwork, coordination, and quick action all play a part in successful rescues. Firefighters must address critical tactics during a rescue situation. “Basic principles” and essential components to manage a structure fire with rescue typically include:

- Cooling the atmosphere, removing toxic gases, and increasing the interior oxygen supply to improve conditions for victims and rescuers.
- Facilitating and supporting the primary search efforts to locate occupants, using hoselines to extinguish the fire and to protect both rescuers and occupants.
- Facilitating and supporting search efforts and fire attack efforts with back-up hoselines to assist with extinguishment and protect avenues of egress.
- Providing quick and effective ventilation of the interior atmosphere. The most expedient way to ventilate and remove heat, smoke and gases is to break out windows.
- Coordinating any use of positive pressure ventilation with IC, Operations, and particularly, with interior crews.
- Recognizing the need for additional fire suppression and EMS resources early in the incident, as part of the overall strategy.
- Determining the tactics necessary to accomplish the rescue.
- Conducting a risk/benefit analysis when determining appropriate strategy and tactics.
- Including an assessment of victim viability/survivability as part of the risk/benefit analysis, the rescue plan, and the overall incident action plan.
- Communicating clearly the strategy and tactics to be used.

Finding:

3.3. A charged hoseline was not used to protect the search teams.

Discussion:

After the initial knockdown, both E70 and E73 began an immediate search for the missing occupants. During the search, no one was assigned to the initial attack hoseline to protect the search teams, nor was a backup line deployed.

The lack of incident command contributed to the failure to coordinate the search with fire extinguishment, eliminating protection for the search crews and victims. The absence of written policies and standard operating procedures adequately addressing the use of back-up lines during search and rescue situations also contributed to this failure.

Finding:

3.4. Failure to properly implement and coordinate positive pressure ventilation (PPV).

Discussion:

After the initial knockdown, Captain 73 asked Engineer 70 to set up a gas-powered blower at the front door for ventilation. Engineer 70 confirmed with Captain 69 that positive pressure ventilation was appropriate. Engineer 70 started the blower shortly after personnel from Engine 70 and Engine 73 entered to conduct a primary search. (Note: Personnel on scene thought the fire had been knocked down.)

The blower was a Tempest, 21" direct-drive, gas-powered unit with a 5.5 HP engine. The rated capacity for the blower is 16,200 cubic feet per minute. Due to a small wall along the front of the porch, the blower was positioned approximately three feet from the front door.

The lack of command and control contributed to the implementation of positive pressure ventilation without consideration to the overall incident strategy or tactics. Adequate exhaust openings are a key element of positive pressure ventilation. There were no personnel assigned to this important task. The window adjacent to the front door had failed prior to arrival. However, all the windows on the rear of the structure were intact. Additionally, while the windows in bedrooms #1 and #2 had failed partially, portions of the windows were still intact. (Note: The conclusion that they had partially failed is based on video captured at the time of the fire gas ignition.) Overall, the exhaust openings were inadequate for positive pressure ventilation. It is imperative that communication with interior personnel occurs prior to starting positive pressure ventilation. Radio notification to interior personnel did not occur.

Recommendations:

- 3.1.1. Review and modify existing policies and standard operating procedures to emphasize the importance of conducting a 360° size-up whenever possible, prior to developing the incident strategy and tactical objectives.
- 3.1.2. Implement a policy and standard operating procedure that requires the initial incident commander to notify CCRFCC when s/he has been unable to complete a 360° size-up. The Communications Center shall repeat the transmission for all responding companies.
- 3.1.3. Reinforce policies and standard operating procedures regarding size-up through training, drills, and incident critiques.
- 3.2.1. Review existing policies and standard operating procedures addressing structure fires with rescues.
- 3.2.2. Develop and implement policies and standard operating procedures to address strategy and tactics for structure fire with rescues.
- 3.2.3. Provide training to line, staff, and command personnel to address structure fire strategy and tactics for structure fires with rescues.
- 3.3.1. Develop and implement policies and standard operating procedures requiring that a charged hoseline be in place to provide protection for crews engaged in search operations.
- 3.3.2. Develop and implement policies and standard operating procedures to address the use of backup hoselines during structural firefighting operations.
- 3.3.3. Reinforce policies and standard operating procedure regarding use of backup hoselines through training, drills, and incident critiques.
- 3.4.1. Conduct a comprehensive review of existing policies and standard operating procedures regarding PPV.
- 3.4.2. Develop and implement policies and standard operating procedures to address safe and efficient PPV. Policies and standard operating procedures should require notification and approval of the Incident Commander or designee prior to starting gas blowers.
- 3.4.3. Provide training to line, staff, and command personnel to address safe and efficient PPV.

- 3.4.4. Reinforce policies and standard operating procedures regarding PPV through training, drills, and incident critiques.

SECTION 4

OPERATIONS

Overview:

The Michele Drive investigation identified a number of issues related to emergency operations. To address and correct the issues discussed in this section, Contra Costa County Fire Protection District (CCCYPD) must:

- a. develop and implement new policies and standard operating procedures
- b. ensure compliance with and enforcement of existing policies and procedures

These operational issues are not solely related to CCCYPD. Effective implementation will require dialogue and consensus with the neighboring mutual aid and automatic aid agencies.

Finding:

- 4.1. Engine 73 did not have the correct apparatus identifier.



Discussion:

Although personnel from Station 73 were using the radio identifier "Engine 73", they were operating on a spare apparatus marked with the identifier "E74" (Engine 74). This

apparatus was in direct view of Captain 70 when he passed command to “Engine 74”. The incorrect apparatus identifier may have contributed to this mistake, as well as to Captain 73 not recognizing that Captain 70 was intending to pass command to him. *Contra Costa County Fire Service Information Bulletin #2, Fire Station Number Master Plan*, states that “units assigned to a station will have the same number, i.e. Engine 31 at Station 31”. In recent years, some of the involved agencies have moved away from systems that allow the flexibility of changing the apparatus identifier when a spare unit is placed into service.

Finding:

- 4.2. Structure fire response in Battalion 7 was inconsistent with the response in other battalions, resulting in fewer resources being sent on a first alarm assignment.

Discussion:

CCCFPD increased first alarm structure fire responses to five companies and a Battalion Chief approximately two years ago. This addressed the needs to have sufficient resources on scene, to comply with the OSHA Two-In/Two-Out rule, and to provide personnel for a rapid intervention company. In January 2007, the structure fire response in Battalion 7 was increased from three to four companies. The involved agencies could not reach consensus for the addition of a fifth company. Subsequent to the Michele Drive incident, a fifth company was added to structure fire responses in Battalion 7 to increase response effectiveness and improve firefighter safety. The enhanced response was implemented on August 14, 2007.

Finding:

- 4.3. Additional resources should be dispatched to structure fires with rescues.

Discussion:

Structure fires with rescues require the simultaneous actions of fire confinement, ventilation, and search. Often there is a need to provide emergency medical care for fire victims. These demands can tax first alarm resources, even with a five-unit response.

Previous CCCFPD policy dictated a second alarm dispatch for all structure fires with a reported rescue. When the response to structure fires was increased to four companies, the

requirement for an automatic second alarm was rescinded, and the responsibility to request additional alarms and resources was left to company officers and chief officers.

For structure fires with rescues, Incident Commander should request the appropriate number of additional resources or the number of resources or alarms should be automatically increased by CAD.

Finding:

4.4. The ambulance response for this incident was inadequate.

Discussion

The Incident Commander is responsible for requesting an appropriate ambulance response that will effectively manage patient care and quickly relieve fire personnel for firefighting operations.

CCCFPD operates engine-based paramedic companies. A private ambulance company provides transportation. The current response plan for structure fires includes dispatch of a Code 2 ambulance for all second alarm incidents. Following a report from Captain 70 indicating that two people were inside the home, an ambulance was dispatched Code 2. The ambulance was upgraded to Code 3 by Battalion 7 shortly after his arrival. A minimum of one Code 3 ambulance should be immediately dispatched when there is a reported rescue. Additional Code 3 ambulances should have been requested following the report of missing firefighters.

Finding:

4.5. The response to automatic fire alarms should include a minimum of two companies.

Discussion:

Current response policy for residential automatic fire alarms is to send the first-due company as a single unit Code 3. Commercial automatic fire alarm dispatch (including multi-residential) sends the first-due company Code 3 and second-due company Code 2.

The majority of fire deaths occur in residential occupancies. When a single company arrives on scene and encounters a confirmed fire, with no indication of a reported rescue, the Two-In/Two-Out requirement limits the three-person company's ability to enter an IDLH atmosphere. The addition of second company will provide for a quicker response and

compliance with Two-In/Two-Out in the event of a confirmed fire. Further, for instances where there is a confirmed fire and a rescue and operations may be initiated without Two-Out, additional personnel will be available sooner to support whatever operations are initiated.

Finding:

4.6. Thermal Imaging Camera (TIC) was not deployed during initial actions.

Discussion

Currently, there is no policy requiring the TIC to be deployed during the initial actions. Individual company officers determine when the TIC is deployed. Captain 70 and Firefighter 70 made an initial attack on the fire in an IDLH environment with a rescue. After knockdown of what was believed to be the main body of fire, Captain 70 and Firefighter 70 exited the structure to obtain the TIC from E70. When available, the TIC should be deployed as part of the initial company actions. This allows immediate use of the TIC in rescue and firefighting situations when visibility is usually most compromised by severe smoke conditions.

Finding:

4.7. The number of overhead/command resources on the first alarm assignment for a working fire with rescue was inadequate.

Discussion:

More firefighter fatalities occur in residential structures compared to fires in any other type of structures. The current initial dispatch for a residential structure fire consists of four engines, one quint, and a Battalion Chief. This response does not provide sufficient personnel to fill additional command functions when needed. Augmenting the initial response with second Battalion Chief will allow the Incident Commander to establish an Incident Safety Officer, Accountability Officer, or Division/Group Supervisor earlier into the incident.

Finding:

4.8. An incident time clock was not utilized on the incident.

Discussion:

An incident time clock can be a valuable tool to assist the Incident Commander in making strategic and tactical decisions based on total elapsed time from the arrival of the first

unit. NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, addresses the use of an incident time clock. Section 8.2.4 states,

“The fire department communications center shall start an incident time clock when the first arriving unit is on-scene of a working structure fire or hazardous material incident, or when other conditions appear to be time sensitive or dangerous.”

The standard also says that time stamps shall be relayed to the Incident Commander every 10 minutes. The incident time clock announcements should continue until the Incident Commander advises communications that it is no longer required.

In the past, the CCRFCC has had stand-alone electronic clocks for use as an incident time clock. The current Computer Assisted Dispatch system in the CCRFCC has the capability to implement an incident time clock. CCCFPD has not had a standard, consistent practice of using an incident time clock.

Finding:

4.9. CCCFPD lacks an effective plan to utilize an Incident Safety Officer at emergency incidents.

Discussion:

An Incident Safety Officer (ISO) can assist the Incident Commander by identifying hazards and unsafe conditions occurring at emergency incidents, and taking immediate measures to correct them. Safety Officers can develop an incident safety plan and assist with monitoring personnel accountability. They can also provide support for a post-incident analysis. It is imperative that the person who functions in this position has knowledge and experience in emergency scene operations.

An effective plan should include policies and standard operating procedures, criteria for dispatch, and the minimum qualifications required to fill the position. The ISO position was not utilized on this incident. As the incident progressed, a number of safety issues could and should have been recognized and address by an ISO. These included accountability, crew integrity, lack of back-up hoseline, and fireground emergency procedures.

Finding:

- 4.10. Consistency is lacking in the written policies and procedures for the three Battalion 7 agencies (CCCFPD, Pinole, Rodeo-Hercules) as well as other agencies with whom Battalion 7 personnel regularly respond on automatic aid (El Cerrito, Richmond, Crockett-Carquinez).

Discussion:

Written policies and standard operating procedures are essential to safe and efficient emergency operations. Each agency in Battalion 7 has policies and standard operating procedures that are specific to the individual organization. These documents vary in content and depth.

While some of the policies and procedures are common and consistent, others are not. Many are outdated or non-existent. The interagency implementation, distribution, and training on new policies and standard operating procedures have been ineffective.

A lack of common and consistent written policies and procedures contributed to the breakdown in transfer of command, improper ventilation, lack of critical radio updates, deployment of backup hoselines, and ineffective firefighter emergency procedures.

Recommendations:

- 4.1.1. Comply with *Contra Costa County Fire Service Information Bulletin #2, Fire Station Number Master Plan*.
- 4.1.2. Develop and implement a system that provides the ability to change the apparatus identifier.
- 4.1.3. Develop and implement a method to cover permanent apparatus identification markings when they do not correctly represent the unit identifier.
- 4.2.1. Provide a minimum of a five companies for all reported structure fire responses.
- 4.2.2. Recommend the Contra Costa County Fire Chiefs Association adopt a standard response of five companies for all reported structure fires.
- 4.3.1. Conduct a review of District response policies and procedures to identify the number of additional resources necessary when there is a reported rescue.
- 4.4.1. Dispatch one Code 2 ambulance to all confirmed structure fires.

- 4.4.2. Dispatch a minimum of one Code 3 ambulance to all structure fires with a reported rescue.
- 4.4.3. Request the sufficient number of ambulances for any fireground emergencies involving missing, lost, or trapped firefighters.
- 4.5.1. Modify District response policy to dispatch a minimum of two companies to all automatic fire alarms.
- 4.5.2. Modify current District policy (RSP-PP1) to eliminate cancellation of the second unit prior to completion of a size-up.
- 4.6.1. Provide a thermal imaging camera (TIC) to every front line engine and quint company.
- 4.6.2. Develop and implement a policy requiring use of the TIC for structure fires and other appropriate incidents.
- 4.6.3. Provide additional TIC training to all line, staff, and command personnel.
- 4.7.1. Modify the first alarm residential structure fire response to include a second Battalion Chief.
- 4.8.1. Develop and implement policies and standard operating procedures requiring the use of an incident time clock, as referenced in NFPA 1500, Section 8.2.4.
- 4.8.2. Provide additional training to line, staff, command and dispatch personnel regarding the use and importance of an incident time clock.
- 4.9.1. Develop and implement policies and standard operating procedures to establish the position and assignment of Incident Safety Officer.
- 4.9.2. Dispatch additional qualified personnel to fill the Incident Safety Officer position on confirmed fires and other hazardous incidents.
- 4.10.1. Ensure that the policies and procedures used by Battalion 7 agencies are consistent with those used by CCCFPD.
- 4.10.2. Provide timely distribution of new policies and standard operating procedures to all involved agencies.
- 4.10.3. Provide proper training to all suppression personnel when new policies and standard operating procedures are developed and implemented.

4.10.4. Reinforce policies and standard operating procedures through drills, simulations, and incident critiques.

SECTION 5

RADIO COMMUNICATIONS

Overview:

Clear and concise radio communications combined with good radio discipline are key elements of safe and efficient emergency operations. Improper use of mobile and portable radios can negatively affect the safety and efficiency of personnel operating at the incident. Poor fireground communications are frequently identified as a contributing factor in firefighter fatality incidents.

In March 2007, Contra Costa County Fire Protection District upgraded its existing inventory of portable radios with new Motorola XTS2500 Model III digital portable radios. A radio is provided for each suppression position. The radios are equipped with a lapel microphone and have an emergency button on both the radio and lapel microphone. When either button is depressed, it transmits a distress signal to the CCRFCC alerting the dispatchers to a potential firefighter emergency. The signal is transmitted on the primary dispatch channel, while the radio remains on the selected channel. The other agencies involved in this incident also provide a portable radio for each suppression position.

Finding:

5.1. Personnel did not communicate significant information to the Incident Commander.

Discussion:

The Incident Commander (IC) is responsible for making strategic and tactical decisions throughout the emergency incident. Timely updates from personnel identifying conditions, actions and needs are a key component to the decision making process. Personnel operating at an incident can provide invaluable updates to the IC. Without these updates, the IC could be making decisions based on incomplete information.

Although all personnel operating on the incident had a portable radio, updates to the Incident Commander on the tactical channel were limited. Personnel stated that the majority of the fireground communications occurred face-to-face. Some of the significant information that should have been immediately transmitted on the radio included:

- Civilian victims located
- Initiation of positive pressure ventilation
- Deteriorating fire conditions
- Inability to complete the roof top ventilation
- Presence of security bars
- Windows broken out for horizontal ventilation
- Emergency traffic
- Missing firefighters
- Missing firefighters located
- Operational retreat

Finding:

5.2. The radio system infrastructure lacks the capability to monitor, transmit or record tactical channels at the central dispatch center (CCRFCC).

Discussion:

CCRFCC utilizes a conventional VHF simulcast system for three regional dispatch channels, which are recorded digitally. There are four fireground tactical channels (designated A, B, C, and D) which can be assigned for incidents. There is limited capability to monitor, transmit and record Tactical Channel A. The radio system infrastructure lacks the capability for CCRFCC to monitor, transmit, or record Tactical Channels B, C, or D, which are limited to line-of-sight transmission and reception.

Finding:

5.3. The radio system infrastructure prohibits the effective use of an incident dispatcher.

Discussion:

Utilizing an incident dispatcher to monitor the tactical channel can enhance fireground safety by reducing the potential for missed radio traffic. There is a real possibility for the Incident Commander to become distracted and to miss important radio traffic when involved with multiple radios or channels, face-to-face communications, and cellular phone calls. In addition, the noisy fireground environment is often a factor that contributes to missed radio

traffic. Working in a controlled environment, an incident dispatcher can monitor and relay important radio traffic that may be unheard by the Incident Commander or other personnel on the fireground. The inability to monitor and transmit tactical radio traffic between the incident and CCRFCC precludes having an assigned incident dispatcher to monitor the tactical channel.

Recommendations:

- 5.1.1. Develop and implement training for effective radio communications. Provide training to all line, staff, command, and dispatch personnel.
- 5.1.2. Develop and implement policies and standard operating procedures that identify the types of updates to report to the Incident Commander.
- 5.2.1. Provide the necessary upgrades and enhancements to the current radio system to allow tactical channel communications between CCRFCC and incidents throughout the CCRFCC service area.
- 5.2.2. Provide the necessary upgrades and enhancements to record tactical channels.
- 5.3.1. Assign a dedicated incident dispatcher to monitor tactical channel(s) during structure fires and other critical incidents.
- 5.3.2. Provide incident dispatchers with the capability to digitally record and, when necessary, immediately play back and review tactical radio traffic.

SECTION 6

PERSONNEL ACCOUNTABILITY

Overview:

Personnel accountability is a critical component of safe and efficient fireground operations and is an integral part of incident management. Overall responsibility for maintaining accountability at the incident rests with the Incident Commander.

A personnel accountability system can help the Incident Commander with tracking personnel and discouraging freelancing. Independent action or freelancing occurs when companies or individuals perform tasks separate from the incident command structure and overall strategic and tactical plan. Independent action compromises safety and personnel accountability. Although these actions are often well intentioned, they are frequently a contributing factor in firefighter injuries and fatalities.

The Contra Costa County Fire Chiefs Association has adopted *Contra Costa County Fire Service Information Bulletin No. 19, Personnel Accountability System*. This system identifies use of the T-Card system for “Level 1 accountability” and Personnel Accountability Tags for “Level 2 accountability.”

To facilitate Level 1 accountability, the company officer is responsible to ensure each apparatus is equipped with a T-card accurately identifying the assigned personnel. Standard T-card holder placement is on the inside of the Captain’s door. At all multiple alarm incidents, the Incident Commander is responsible to designate someone to gather the T-cards from apparatus that have already arrived on scene and begun operations. Units arriving on subsequent alarms are expected to report to the established Staging Area or Base with a completed, accurate T-cards.

To facilitate Level 2 accountability, Personnel Accountability Tags (“PATs”) are used to track firefighters in the hazard zone(s). The hazard zone is defined as any area requiring an SCBA, or in which a firefighter is at risk of becoming lost, trapped, or injured by the environment.

Crew integrity is an important component of personnel accountability. Company Officers are responsible for the safety of their assigned personnel and should maintain an awareness of their location at all times. Company Officers should make every effort to keep the personnel together and function as a crew whenever possible.

Finding:

6.1. Crew integrity was not maintained at the incident.

Discussion:

Maintaining crew integrity and personnel accountability is essential to the overall safety of the incident. Companies were split up and operating independently of each other at numerous times throughout this incident. At one point during the incident, Captain 73 reentered the structure alone to attack the fire. These actions occurred without notifying the Incident Commander.

According to the Contra Costa County Fire Service Informational Bulletin #19, all fire and rescue personnel in Contra Costa County fire agencies are responsible for their own personal safety and the safety of their assigned personnel. This directive applies to volunteer, paid-on-call, and reserve personnel. Each member is expected to maintain a constant awareness of the position and function of all personnel working with him or her.

Finding:

6.2. There was no personnel accountability system used at the incident.

Discussion:

The T-card accountability system adopted by the Contra Costa County Fire Chiefs Association is designed for use on major incidents. At all multiple alarm incidents, the IC is expected to designate someone to gather the T-cards from the apparatus or vehicles that have already arrived on scene and begun operations. Subsequent alarm units reporting to an established staging area or base will provide T-cards to the Staging or Base Manager. Accountability systems should be simple and easy to use. Ideally, it should be a system in use by all fire agencies in the County. For personnel to be familiar and competent with the system, it should be implemented on all multi-company incidents. Waiting to put the accountability

system into operation until a multi-alarm incident is a reactive effort rather than proactive effort. The current T-card system is ineffective and rarely used.

Finding:

6.3. There is no system for developing a Battalion 7 daily roster.

Discussion:

CCCFPD utilizes a computer software program (Telestaff) to manage personnel and create a daily roster. A copy of the roster can be carried on the apparatus and used as a tool to help maintain personnel accountability. The other Battalion 7 partner agencies utilize different systems for personnel management that do not integrate with CCCFPD's system. As a result, there is no common roster for the entire battalion. This hinders personnel accountability.

Recommendations:

- 6.1.1. Review and modify existing policies and standard operating procedures to emphasize the importance of crew integrity. This review should include *Contra Costa County Fire Service Information Bulletin 19*.
- 6.1.2. Reinforce policies and standard operating procedures through training, drills, and incident critiques.
- 6.2.1. Review and modify existing policies and standard operating procedures that address personnel accountability.
- 6.2.2. Develop and implement an effective personnel accountability system and ensure that it is implemented at all multi-company incidents.
- 6.2.3. Provide personnel accountability training to line, staff, and command personnel.
- 6.2.4. Reinforce policies and standard operating procedures regarding personnel accountability through training, drills, and incident critiques.
- 6.3.1. Develop a system that will provide a daily roster for Battalion 7 personnel.

SECTION 7

BUILDING CONSTRUCTION

Overview:

The incident occurred at 149 Michelle Drive, San Pablo, an unincorporated area of Contra Costa County. The neighborhood is known as Montalvin Manor and consists primarily of single-family dwellings constructed in the 1950's. The homes were originally built with flat, tar-and-gravel roofs. A few of the homes have been modified by adding a "rain roof" or a second story addition over the original flat roof.

The single-story home has wood-frame construction with stucco exterior (Type V) built in 1953. The house is approximately 1,224 square feet, including the attached one-car garage. The original flat roof was constructed with 2" X 6" tongue-and-groove planking with a tar-and-gravel overlay. In 1991, the home was modified with the addition of a pitched rain roof placed over the original roof. The rain roof was constructed of 2" X 6" wood trusses covered with plywood and asphalt composite shingles. For aesthetic purposes, the ridge of the rain roof was laid out parallel to the street and to the front of the house, running from the "B" side to the "D" side of the structure. The gable ends of the roof on the "B" and "D" sides of the house consisted of unfinished plywood siding and included a small attic vent. The homeowners used the attic space created by the rain roof for storage. Access to the attic space was from a pull-down ladder installed in the garage ceiling.

Security bars covered all of the windows of the home, with the exception of the living room and bedroom #1. Local ordinance prohibits bars on windows that face the street. The front door was the primary exit to the exterior. An additional exit door led from the kitchen into the garage. There was a security door leading from the garage to the exterior on the "D" side. The garage was used primarily for storage.

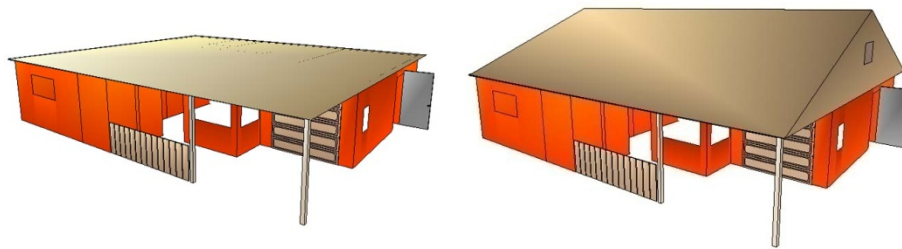
The interior walls in the structure were covered with gypsum board. Wood veneer paneling was added to some of the rooms. The ceilings were exposed 2" X 6" tongue-and-groove wood planks with an interior height of 8'. The kitchen was the only ceiling that had been covered with gypsum board.

Finding:

7.1. The rain roof constructed over the original flat roof made vertical ventilation ineffective.

Discussion:

The roof modification prevented effective vertical ventilation of the living space. The hole cut in the roof only provided ventilation of the attic space. The ventilation crew was unsuccessful in the effort to breach the flat roof. The ventilation crew failed to identify the addition of the rain roof. The ventilation tactics employed for this type of roof construction were ineffective.



Original Flat Roof

Rain Roof (Built 1991)

Finding:

7.2. The interior construction materials contributed to an increased rate and extent of fire spread.

Discussion:

The majority of residential structures in the Fire District have walls and ceilings covered with either gypsum board or lath and plaster. These materials possess heat-absorbing qualities that do not readily produce combustible fire gases. In addition, they inhibit fire spread and limit involvement of the structural members. In contrast, tongue-and-groove ceilings and wood veneer paneling generate combustible gases, which produce rapid-fire spread and increased temperatures.

Recommendations:

7.1.1. Provide additional training on building construction to line, staff, and command personnel.

- 7.1.2. Develop and implement a pre-fire planning process that will incorporate unusual construction information in the computer aided dispatch system and mobile data terminals.
- 7.1.3. Develop and provide training to line, staff, and command personnel on effective ventilation tactics to use when a flat roof has been modified with a rain roof, and for other situations where firefighters encounter multiple roof assemblies.
- 7.1.4. Identify and provide training on effective tactics for attacking fires in attic spaces between an original tar-and-gravel roof and a rain roof.
- 7.2.1. Develop and implement training to identify various types of interior finishes and structural components, the effects that these materials can have on fire behavior, and appropriate tactical options.

SECTION 8

FIREGROUND EMERGENCY PROCEDURES

Overview:

Battalion 7 did not hear Captain 70's radio transmission passing command to "Captain 74". Therefore, while en route to the fire and immediately after arrival, Battalion 7 believed that Captain 70 was the Incident Commander. Battalion 7 proceeded to attempt to locate Captain 70 to initiate a transfer of command after arriving on scene.

Michele IC (Battalion 7) did not locate and was unable to account for Captain 70 or Firefighter 70 during the first four minutes after Battalion 7 arrived on scene. The Incident Commander was unable to physically locate personnel or contact them by radio after several attempts on both the primary and tactical channels. He then notified CCRFCC that there was the possibility of a missing firefighter.

The inability of Command Officers to make radio contact with personnel operating at the incident should be considered a firefighter emergency until proven otherwise. Locating and rescuing lost, trapped, or missing firefighters is a time critical operation. Overall, the existing policies and procedures for addressing fireground emergencies were not properly implemented.

Finding:

- 8.1. There was no Two-Out Team or Rapid Intervention Company established during the incident.

Discussion:

Although the imminent rescue situation at this incident allowed for a deviation from the Two-In/Two-Out requirement, the establishment of a rapid intervention company (RIC) should have been a higher priority when additional companies arrived at the incident.

District policies address the suspension of the Two-In/Two-Out requirement when an imminent life-threatening situation exists where immediate rescue activities may prevent the loss of life or serious injury. These same policies do not adequately address the need and/or

requirement for implementing a fully staffed RIC when a rescue situation exists and the incident is beyond the initial stages.

Both NFPA Standards 1500, *Standard on Fire Department Occupational Safety and Health Program*, and 1561, *Standard on Emergency Services Incident Management System*, address the requirement for standby members during the initial stages of an incident. The NFPA standards also address the establishment of a RIC for subsequent stages of the incident and/or once a second crew is assigned or operating in the hazardous area. A rapid intervention company should have been established and deployed as soon as it was determined that personnel were missing.

Finding:

8.2. Emergency Traffic procedures were not implemented.

Discussion:

Contra Costa County Fire Service Information Bulletin Number 18 identifies specific guidelines for the use of “Emergency Traffic”. This standardized terminology is consistent with the FIREScope Field Operations Guide and is used to clear the designated radio channels at an incident to make way for important radio traffic for a firefighter emergency or change in tactical operations.

Any member in serious peril or who is aware of an emergency (firefighter down, missing or trapped) shall immediately request “Emergency Traffic” on their radio. The Incident Commander, dispatchers, and personnel assigned to the incident failed to initiate emergency traffic procedures during this incident. This resulted in the transmission of routine radio traffic and status changes during the fireground emergency.

Finding:

8.3. Personnel accountability reports were not properly conducted.

Discussion:

Contra Costa County Fire Service Bulletin Number 19 identifies specific situations that require a personnel accountability report (PAR). One such situation is the report of missing firefighters. The Incident Commander requested the CCRFCC to conduct a “head-count”

approximately twelve (12) minutes after the firefighters were first reported missing. The term “head-count” is not standard terminology.

Furthermore, the CCRFCC could not effectively conduct a PAR since dispatchers could not monitor or transmit on the assigned tactical channel. The Incident Commander or his designee should have conducted the PAR at the incident.

Finding:

8.4. Operational retreat procedures were not properly implemented or followed.

Discussion:

Contra Costa County Fire Service Bulletin Number 19 identifies guidelines for an operational retreat, a procedure used to provide for an orderly evacuation of an emergency scene work area. It includes a standardized air horn signal used to indicate evacuation and is used in conjunction with emergency traffic procedures. The policy requires all personnel to immediately evacuate the hazard area when the signal is activated.

The Incident Commander directed personnel to sound an apparatus air horn approximately sixteen (16) minutes after the first report of missing firefighters. One of the interior crews acknowledged in the post-incident interview that they did not evacuate immediately, based upon the conditions that they saw inside the structure.

Recommendations:

- 8.1.1. Evaluate and modify existing policies and procedures for Two-In/Two-Out and rapid intervention to address implementation during a rescue situation.
- 8.1.2. Ensure the Two-In/Two-Out and rapid intervention policies and procedures are consistent with the requirements identified in NFPA 1500 and 1561.
- 8.1.3. Provide additional training to line, staff, and command personnel regarding Two-In/Two-Out and rapid intervention.
- 8.1.4. Enforce existing policies and procedures and monitor compliance through drills, simulations, and post incident analysis.
- 8.1.5. Recommend the Contra Costa County Fire Chiefs Association adopts operational area rapid intervention company and two-in/two-out policies.
- 8.2.1. Conduct a comprehensive review of the Emergency Traffic policy.

- 8.2.2. Implement an Emergency Traffic Tone identified in the existing policy.
- 8.2.3. Provide a weekly test of the Emergency Traffic Tone.
- 8.2.4. Provide additional training to line, staff, and command personnel on the Emergency Traffic policy.
- 8.2.5. Ensure that all fire agencies in Contra Costa County have consistent policies and procedures for Emergency Traffic.
- 8.2.6. Develop and implement a training program to insure that all Incident Commanders are properly prepared to manage a fireground emergency.
- 8.3.1. Develop and implement a District policy for personnel accountability reports (PAR).
- 8.3.2. Provide training to line, staff, and command personnel regarding PAR's.
- 8.3.3. Enforce policy and monitor compliance through drills, simulations, and post-incident analysis.
- 8.3.4. Ensure that all fire agencies in Contra Costa County have consistent policies and procedures for personnel accountability reports.
- 8.4.1. Conduct a review of the Operational Retreat policy.
- 8.4.2. Provide training to line, staff, and command personnel regarding Operational Retreat.
- 8.4.3. Ensure that all fire agencies in Contra Costa County have consistent policies and procedures for Operational Retreat.

SECTION 9

TRAINING DIVISION

Overview:

The Contra Costa County Fire Protection District (CCCYPD) Training Division is located on nine acres in the City of Concord. Originally built in 1968, the training facility consists of a four-story drill tower, two-story training house, driving course, classrooms, library, video production studio and locker rooms. In addition, there are confined space props, roof mock-ups, a vehicle disentanglement area, and a technical rescue training area.

The training staff consists of a Training Chief, four Training Captains, and clerical staff. Line personnel with advanced subject knowledge and specialized skills augment the training staff by teaching and conducting hands-on training on a regular basis.

Finding:

- 9.1. The District's training curriculum has lacked sufficient focus and emphasis on structural firefighting training.

Discussion:

In 1994, the Riverview Fire Protection District and West County Fire Protection District merged with CCCYPD. The consolidation of the three agencies with different levels of policies, procedures, and long established practices has created challenges for developing and delivering consistent standardized training.

The large geographical area of the Fire District creates challenges getting personnel to the training facility on a regular basis. Traffic patterns and congestion lead to extended travel time for companies attending training. Call volume has increased tremendously over the years. Companies scheduled for training are delayed either responding to calls or covering station areas or zones until sufficient units become available. Federal and State mandated training requirements consume hours of training staff time and limit the amount of time that can be dedicated to structural firefighting training.

The Fire District has experienced a large number of retirements. Because of the vacancies created, the focus of the Training Division over the last few years has been on

conducting recruit academies and probationary training for newly promoted line personnel. These retirements have also left the District with a younger work force with limited experience.

CCCFPD needs to adopt a philosophy and training plan that includes a “back to the basics” approach with emphasis on structural firefighting. The Training Division is not solely responsible for these deficiencies. All personnel need to be committed to improving the quality and quantity training.

Finding:

9.2. On-scene personnel failed to recognize, communicate, and respond to the critical fire conditions and potential firefighter safety issues in a timely fashion.

Discussion:

Captain 73 and Firefighter 73 experienced a sudden increase in heat and they observed rollover on the living room ceiling near the hallway as they moved the first civilian victim toward the front door. A sudden increase in temperature and rollover are warning signs of hostile fire events. Several personnel witnessed the fire gas ignition and sudden increase in fire activity from the front bedroom window. It is unclear if they recognized the significance of these changing conditions. It is important that personnel be properly trained to recognize these warning signs and to immediately communicate significant changes to the Incident Commander.

Finding:

9.3. CCCFPD policies and standard operating procedures must be reviewed regularly to ensure they remain current.

Discussion:

Many of the District policies and procedures have not received regular review and are in need of revision. Some recent operational changes that have been implemented have not been transferred into District training manuals. This makes it difficult for personnel to know some of the most recent policies and procedures. The District must regularly review policies and standard operating procedures to ensure that all personnel understand and follow the appropriate policies.

Finding:

- 9.4. CCCFPD should develop and implement a formalized, consistent process for developing an After Action Review (AAR).

Discussion:

An After Action Review can be a valuable learning tool for evaluating emergency incidents and training activities. AAR's can determine the effectiveness of operations and identify important safety issues. The lessons learned should not be limited to personnel who participated in the incident, but instead the goal should be to share the information with all District personnel. To achieve this goal, the District should develop a formal, consistent approach for creating, conducting, and distributing AAR's for all significant incidents.

The Training Division should have a direct role in the process and provide the necessary logistical support. A partnership between the Training Division and line personnel will be essential to developing a consistent product.

Recommendations:

- 9.1.1. Conduct a comprehensive review of Fire District training curriculum.
- 9.1.2. Establish short and long-term training goals and priorities.
- 9.1.3. Ensure that training includes an emphasis on structural firefighting
- 9.1.4. Evaluate the effectiveness of structural firefighting training through drills, simulations, and post incident review.
- 9.2.1. Provide comprehensive and on-going training to all line, staff, and command personnel regarding fire behavior and the warning signs of flashover, backdraft, and other hostile fire events.
- 9.2.2. Provide hands-on flashover simulation training to all line, staff, and command personnel.
- 9.3.1. Develop and implement a program that will provide periodic review of all District policies and standard operating procedures.
- 9.3.2. Ensure operational changes that occur in the District are documented in policies and standard operating procedures.

- 9.4.1. Develop and implement a formal, consistent process for developing, conducting, and distributing an After Action Review.

SECTION 10

STAFFING

Overview:

Contra Costa County Fire Protection District (CCCYPD) daily suppression staffing consists of ninety-three (93) line personnel per shift. The District staffs a combination of twenty-four (24) engine companies, and six (6) quint companies, and four (4) Battalion Chiefs. In the past twenty years, minimum daily suppression staffing has increased by just five (5) personnel.

Finding:

10.1. Company staffing levels did not provide sufficient personnel to simultaneously initiate search and rescue operations while adequately maintaining command responsibilities.

Discussion:

Staffing companies with three personnel often results in the first-in Company Officer operating at the tactical level when s/he should be functioning at the command level. A four-person company would have allowed the Company Officer to maintain incident command while initiating tactical objectives and assigning incoming units.

The National Fire Protection Association (NFPA) recommends that a minimum of four members respond on or arrive with each engine and each ladder company responding to any fire. These recommendations are based on experience derived from actual fires and in-depth fire simulations. The recommendations are also the result of critical and objective evaluation of fire company effectiveness. These studies indicate significant reductions in performance and safety where crews have fewer than four personnel per company.

For areas with high call volumes, tactical hazards, geographical restrictions and high hazard occupancies, NFPA 1710, *Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments*, recommends five and six personnel per engine and truck company, respectively.

The area served by CCCYPD meets all of the criteria mentioned above. Examples of tactical structural hazards throughout many areas of the Fire District include high-rise buildings,

multi-story, multi-residential buildings with interior corridors, “big box stores” and warehouses, “updated” retail buildings with new facades and interiors that have 1940’s and 1950’s vintage bowstring truss roof structures, and some older residential and commercial buildings with basements. Examples of high hazard areas include petroleum refineries, steel manufacturers, chemical plants, and transportation corridors, including elevated and subterranean mass transit railway. CCCFPD protects a large number of senior housing developments. Wildland urban interface areas are prevalent throughout the District. Traffic patterns further complicate the problem contributing to long response times.

The most significant fact regarding staffing is that while the District population has increased by 126,000 since 1990, just five firefighters have been added per shift during that time. CCCFPD protects over 600,000 people with a daily staffing of 93 shift personnel.

Finding:

- 10.2. The current staffing model in Battalion 7 lacks a regularly-assigned 24-hour shift Battalion Chief.

Discussion:

Under the cooperative agreement between CCCFPD, Pinole Fire Department, and Rodeo-Hercules Fire Protection District, the three jurisdictions staff the Battalion Chief on a shared rotational basis. CCCFPD assigns one 24-hour Battalion Chief to fulfill its portion of the agreement. The other agencies staff the position using a Fire Chief or an administrative Battalion Chief, all of whom work 40-hour assignments and perform full-time administrative functions. On the weekdays that Pinole and Rodeo-Hercules 40-hours chief officers are assigned to be available for emergency response, they must fulfill their normally assigned administrative duties as well.

This staffing model does not promote shift continuity or consistency for training, personnel development, and effective communications that is normally found in the other three CCCFPD battalions with regularly assigned 24-hour shift Battalion Chiefs.

Finding:

- 10.3. The District lacks a dedicated full-time Health and Safety Officer position.

Discussion:

The duties and responsibilities normally associated with the Health and Safety Officer position have been assigned to an administrative Battalion Chief. Due to other assigned responsibilities, the Health and Safety Officer role has not received the proper level of attention.

NFPA Standard 1521, *Standard for Fire Department Safety Officer*, recommends that fire departments have a Health and Safety Officer. This position is responsible for monitoring the safety, health, and welfare of personnel during both day-to-day operations and emergency incidents. These can include but are not limited to, respiratory hazards, exposure to communicable disease, hazardous materials, failure to wear or improper use of protective clothing and equipment. Health and Safety Officers are expected to maintain knowledge of current applicable laws, codes, and standards.

Finding:

10.4. A single, three-person company for Station 70's area is inadequate for safe and efficient operations, given the call volume, the requirement for automatic aid on every structure fire response, the potential for lengthy response times for second-due companies outside of Station 70's area, and the nature of the hazards in Battalion 7.

Discussion:

In October 2007, a second engine company was added to Station 70 to improve area coverage and reduce response times. Engine 70 has consistently ranked among the busiest engine companies in the county. In 2007, Engine 70 responded to 3,410 calls for service.

The high call volume, complex jurisdictional boundaries, and inherent delays with automatic aid warrant the second company. The second company has enhanced in-service training by maintaining area coverage. The additional crew helps facilitate apparatus repairs and other administrative responsibilities.

The Richmond fire stations that border Station 70 and provide automatic aid are high call volume companies. This leaves the Station 70 response area vulnerable to long response

times when Richmond companies are unavailable. The addition of the second crew provides a remedy to a complicated problem. The temporary deployment of a second company at Station 70 should continue on a permanent basis.

Finding:

10.5. The Training Division staffing level is insufficient.

Discussion:

The Training Division does not have sufficient staff to keep pace with the volume of work. Retirements and promotions of personnel from the Training Division have had an impact on staff levels, which necessitates the periodic reassignment of suppression personnel to help facilitate recruit academies. Many needed projects, including curriculum development and policy and procedure updates, have been slow to occur.

Many of the recommendations in this report will put additional demands on the Training Division. A comprehensive review of the Training Division is necessary to identify the appropriate staff level to meet the day-to-day operational needs of the Fire District.

Recommendations:

- 10.1.1. Establish goals and timetables to increase minimum staffing levels in an effort to comply with NFPA 1710.
- 10.2.1. Assign a 24-hour dedicated Battalion Chief to each of the three shifts in Battalion 7.
- 10.3.1. Develop and implement a dedicated full-time Health and Safety Officer position using the qualifications and duties referenced in NFPA 1521.
- 10.4.1. Continue staffing the second engine company at Station 70 on a permanent basis.
- 10.5.1 Conduct a comprehensive review of the Training Division to identify the appropriate staffing levels needed to support District operations.

SECTION 11

PERSONAL PROTECTIVE EQUIPMENT

Overview:

Contra Costa County Fire Protection District (CCCYPD) policy requires personnel to don full turnouts and safety equipment for all structure fires. CCCYPD provides suppression personnel with two full sets of turnouts. Extractors are located at fire stations throughout the District to facilitate the recommended cleaning.

CCCYPD apparatus equipment inventory includes three self-contained breathing apparatus (SCBA) for every wildland engine and four SCBA for every Type 1 engine and Quint. CCCYPD provides individually-issued SCBA facepieces, mask-mounted regulators, and electronic voice amplifiers to every employee. Personnel are expected to carry and use individually-issued SCBA equipment when working regular assignments and relief assignments.

CCCYPD policy and standard operating procedure require that company personnel perform and document daily inspections of SCBA equipment.

Finding:

11.1. A District-wide turnout inspection was implemented in April 2007.

Discussion:

Both Captain 70 and Firefighter 70 were wearing the proper personal protective equipment (PPE). NIOSH investigators examined the turnouts and related safety equipment in August 2007. NIOSH investigators concluded that there would be no benefit to testing the equipment given the extensive damage to the turnout clothing and helmets.

The CCCYPD Investigation Team's investigation process included a review of the turnout records for both personnel. In April 2007, the District implemented a program to inspect and test turnouts. One set of turnouts from each employee was collected and sent to an authorized testing and repair facility. Turnout gear not passing the inspection was repaired or replaced as needed. The turnouts for Captain 70 and Firefighter 70 were inspected in May 2007.

Captain 70 was wearing the following personal protective equipment:

Helmet:	Cairns 1010 with 4" face shield. Nomex shroud attached to helmet.
Turnout Coat:	Globe P.B.I. Matrix, 40% P.B.I. moisture barrier (RT7100)
Turnout Pant:	Globe P.B.I. Matrix, 40% P.B.I. moisture barrier (RT7100) 60% Kevlar thermal liner (Aralite)
Gloves:	Shelby structure glove (Model 5227)
Boots:	Warrington pro leather boots (Model 4132)
Flash hood:	Lifeline P.B.I.
Suspenders:	Globe heavy duty

Firefighter 70 was wearing the following personal protective equipment:

Helmet:	Cairns 1010 with 4" face shield. Nomex shroud attached to helmet.
Turnout Coat:	Globe P.B.I. outer shell, 40% P.B.I. moisture barrier (RT7100)
Turnout Pant:	Globe P.B.I. outer shell, 40% P.B.I. moisture barrier (RT7100) 60% Kevlar thermal liner (Aralite)
Gloves:	Shelby structure glove (Model 5227)
Boots:	Warrington Pro leather boots (Model 4132)
Flashhood:	Lifeline P.B.I.
Suspenders:	Globe heavy duty

Finding:

11.2. The integrated PASS devices failed to activate.

Discussion:

CCCFPD respiratory protection policies and procedures are contained in a detailed, OSHA-compliant, written Respiratory Protection Operations Manual. This manual lists the policies and standard operating procedures governing the use of respiratory protection equipment, including self-contained breathing apparatus (SCBA) and integrated Personal Alert Safety System devices (PASS), by District personnel. The Operations Manual also provides information and technical guidance for day-to-day inspection, use, and maintenance of the equipment in the fire station, during training activities, and during field operations.

Each SCBA backpack frame has a unique three-digit number for testing and tracking purposes. NFPA standards/guidelines call for a full operational check to be performed annually, which includes a flow test and a test of the PASS device. Captain 70 and Engineer 70's SCBA were in compliance. CCCFPD's practice is to also replace the two (2) 9-volt PASS batteries as preventive maintenance whenever annual flow tests are performed. Quantitative facepiece fit testing had been conducted for Captain Burton and Engineer Desmond within the twelve months preceding July 2007. The daily check-off sheets indicated that both of the SCBA's had been checked that day.

CCCFPD upgraded all District SCBA in 2001 to have "integrated" PASS units that activate automatically whenever the SCBA cylinder is charged.

In late 2005, the National Fire Protection Association (NFPA) published an alert notice entitled "PASS alarm signals can fail at high temperatures." This was prompted by contact from the National Institute for Occupational Safety and Health's (NIOSH) Fire Fighter Fatality Investigation and Prevention Program. NIOSH reported that between 2001 and 2004 during the investigation of four firefighter fatalities, PASS devices were either not heard or were barely audible. Tests by the National Institute of Standards and Technology (NIST) have shown that sound reduction begins to occur at temperatures as low as 300 degrees Fahrenheit.

At no time during the incident did personnel hear PASS alarm activation from Captain 70 or Firefighter 70.

NIOSH investigators examined the two SCBA in August 2007. NIOSH investigators concluded that there would be no benefit to testing the equipment given the extensive damage.

The following information describes the SCBA worn by Captain 70 and Firefighter 70. Captain 70 was wearing the following self-contained breathing apparatus:

SCBA: Scott Life-Pak Fifty, with an integrated Pak-Alert SE Pass device (SCBA purchased new in 2001-2002, with integrated PASS installed and with a redundant, secondary low-air alarm bell)

Facepiece: AV-3000, equipped with electronic voice amplifier

Firefighter 70 was wearing the following self-contained breathing apparatus:

SCBA: Scott Life-Pak Fifty, with an integrated Pak-Alert SE Pass device (SCBA purchased in 1996, integrated Pass installed in 2001)

Facepiece: AV 3000, equipped with voice amplifier

Recommendations:

- 11.1.1. Develop a program for regular and reoccurring inspection, testing, repair and replacement of all personal protective equipment by an authorized facility, in accordance with manufacturer recommendations and NFPA standards.
- 11.2.1. Work with manufacturers to identify the limitations of existing PASS devices under high heat conditions.
- 11.2.2 Provide additional training to all suppression personnel regarding the limitations of existing PASS devices.
- 11.2.3. Monitor developments with new PASS technology, new equipment, changes to NFPA performance standards, and any additional NIOSH alerts to ensure that personnel are provided the most reliable equipment and that District policy, procedure, and training related to PASS devices is as effective as possible.



SCBA



SCBA Facepiece

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SECTION 12

AUTOMATIC AID

Overview:

The Contra Costa County Fire Protection District (CCCYPD) and the Richmond Fire Department (RFD) entered into an automatic aid agreement on July 11, 2006, with the intent of dispatching the closest resource(s) to emergency incidents regardless of jurisdictional boundaries.

CCCYPD operates the Contra Costa Regional Fire Communications Center (CCRFCC), which provides fire and EMS dispatch services for CCCYPD and five other fire agencies in the County. Calls received by the CCRFCC are processed and dispatched based on a pre-determined priority level ranging from Priority 1 (highest priority) to Priority 9 (lowest priority). At the time of the Michele Drive incident, the automatic aid agreement called for use of the closest resource(s) for Priority 1, 2, or 3 calls, regardless of jurisdiction. The automatic fire alarm on Michele Drive was a Priority 4 incident, which did not dictate the use of automatic aid.

CCRFCC utilizes a computer-aided dispatch (CAD) system integrated with global positioning system (GPS) and automatic vehicle location (AVL) technologies to track apparatus status and location. This allows the closest unit to be dispatched to an emergency incident. All agencies dispatched by CCRFCC have apparatus equipped with mobile display terminals and other related equipment, which provides real-time dispatch information, GIS mapping, and integrated status messaging to the CAD. This same equipment is installed in RFD apparatus and utilized when they are dispatched for automatic aid calls by CCRFCC.

The CAD system generates dispatch recommendations based on status, location, and station crew level. In order for the system to work effectively, company officers must maintain an accurate up-to-date status for the apparatus using the appropriate status button on the mobile display terminal. A single crew station should have a station crew level of one (1) when the crew is in quarters, and zero (0) when the crew is out of station. When an apparatus leaves the station, the Company Officer must select the appropriate status (responding, available on radio, etc.). This causes the station crew level to drop to zero (0). When a apparatus returns to

station and the Company Officer changes status to available in quarters (AIQ), the crew level is increased to one (1). This system enables a company to cross-staff different apparatus assigned to the station. When the station crew level drops to zero (0), all remaining apparatus in the station becomes unavailable in the CAD. When unit status is not managed correctly, it can cause the station crew level to increase to a number greater than one (1). If this occurs, the CAD will recommend multiple apparatus from the same station, even though there is only one crew in station.

The City of Richmond operates the Richmond Communications Center (RCC), which provides dispatch services for both RFD and the Richmond Police Department. Currently, RCC does not utilize the technology to track the location of RFD or CCCFPD resources. As a result, resources are dispatched using a pre-determined run progression based on fire station location.

Neither CCRFCC nor RCC have the capability to dispatch each other's resources directly. When the jurisdictional agency's CAD recommends an automatic aid resource, the request must be made via a direct ring-down line. The agency providing the automatic aid must then enter the data in their CAD and dispatch the requested resource(s). The process of using two dispatch centers creates an inherent delay for automatic aid. To adjust for the delay, the CAD is programmed to add two (2) minutes to the estimated response time for RFD units, before recommending the closest available unit.

The inability for either agency to directly dispatch automatic aid resources, combined with crew status reporting that is sometimes inaccurate, often result in situations where the closest unit does not always have the best overall response time.

The inherent delays associated with the use of two dispatch centers will continue until the appropriate changes are implemented. Providing the capability for either agency to directly dispatch the other agency's resource(s) for automatic aid would reduce the overall call processing and dispatch times.

Anything short of a single-point dispatch, accurate up-to-date unit status, and use of GPS and AVL technology to determine the closest unit reduces the effectiveness, efficiency, and reliability of automatic aid.

Finding:

- 12.1. The closest resource(s) should be dispatched on all Code 3 responses including automatic fire alarms.

Discussion:

RFD Station 68 is the closest fire station to Michele Drive at a distance of 1.4 miles. Station 70 is the next closest fire station to Michele drive at a distance of 2.8 miles. Although Station 68 is closer to Michele Drive than Station 70, it does not always have the quickest overall response time due to the delays that result from using two dispatch centers to process and dispatch the call.

Finding:

- 12.2. Engine 68 should not have been cancelled when Engine 73 became available for response.

Discussion:

When CCRFCC received a call from the resident reporting a fire, the initial fire alarm dispatch was upgraded to a residential structure fire dispatch, which added two additional engines, one quint, and one Battalion Chief. The initial CAD recommendation for this upgrade included RFD Engine 68 and Truck 68, along with Engine 69 and Battalion 7. Incorrect status changes from Station 68 had resulted in a crew level greater than one (1). As a result, the CAD recommended two units from Station 68, even though there was only one crew in station. CCRFCC dispatchers immediately recognized that the recommendation of two units from Station 68 was incorrect. T68 was removed from the incident, and Q76 was added. E69, Q76, and BC7 were dispatched, and a call was made to RCC to request E68 for automatic aid.

Prior to E68 responding, E73 cleared a medical incident that was one-half (.5) mile from Michele Drive. E73 advised CCRFCC they were responding to the structure fire. Less than one minute after requesting E68 for automatic aid, CCRFCC notified RCC to cancel E68 because E73 was available. Even though Station 69 was located two miles farther away from the incident than Station 68, the decision was made to continue E69 because they had been dispatched to the incident prior to E68, and because E69 status had been changed to responding. Engine 68 was still in quarters when they were cancelled.

Based on the call from the resident confirming a fire, and a report from the caller indicating her husband was still inside, Engine 73 should have been added to the incident without cancelling any of the units that had already been dispatched.

Recommendations:

- 12.1.1. Modify the automatic aid agreement to ensure that the closest available resource is dispatched on all Code 3 responses including automatic fire alarms.
- 12.1.2. Develop and implement a system that will enable CCRFCC and RCC to dispatch automatic aid resources directly, reducing the overall call processing and dispatch time.
- 12.1.3. Ensure that RFD personnel have the appropriate training and technical support to use and maintain accurate up-to-date status on the CCRFCC CAD.
- 12.1.4. Conduct periodic audits to monitor the accuracy of automatic aid unit status, station crew levels, and overall response times for automatic aid resources compared to resources from the jurisdictional agency.
- 12.1.5. Eliminate the two-minute adjustment on RFD resources after providing both dispatch centers the ability to directly dispatch automatic aid resources and ensuring that accurate unit status and station crew levels are maintained consistently.
- 12.2.1. Develop policies and standard operating procedures to allow the dispatcher discretion to add additional units to incidents when appropriate, even though it may be above the standard alarm assignment.

Appendix 1

Transcribed Communications

Start	Type	Detail	Who	Narrative
1:36:39	CCRFCC	PHONE	Dispatcher 1	"Communications, (Dispatcher Name Omitted)."
			Alarm Co.	"This is Kendra with the command center for Pinnacle Alarm."
			Dispatcher 1	"Yeah, hold on just a moment."
1:36:45			Dispatcher 1	<CALL PLACED ON HOLD>

1:36:49	CCRFCC	PHONE	Dispatcher 1	<CALL ON HOLD ANSWERED>
			Dispatcher 1	"Go ahead."
			Alarm Co.	"OK, I'm calling to report a fire alarm."
			Dispatcher 1	"OK, where?"
			Alarm Co.	"1-4, uh, 1-4-9 Michele Drive"
			Dispatcher 1	"What city?"
			Alarm Co.	"San Pablo."
			Dispatcher 1	"OK, and what alarm company are you?"
			Alarm Co.	"Pinnacle."
			Dispatcher 1	"Your call back?"
			Alarm Co.	"1-800-432-6533."
			Dispatcher 1	"OK, residence phone number?"
			Alarm Co.	"Uh, it is 510-223-1745."
			Dispatcher 1	"OK, can you hold just a moment?"
			Alarm Co.	"OK."
1:37:26			Dispatcher 1	<CALL PLACED ON HOLD TO ANSWER 9-1-1 CALLS>

1:42:16	CCRFCC	PHONE	Dispatcher 2	<CALL ON HOLD ANSWERED>
			Dispatcher 2	"Thanks for holding."
			Alarm Co.	"I was calling to report a fire alarm."
			Dispatcher 2	"Where?"
			Alarm Co.	"At 1-4-9 Michele Drive"
			Dispatcher 2	"1-4-9 Michele Drive"
			Alarm Co.	"Yes sir."
			Dispatcher 2	"What city?"
			Alarm Co.	"San Pablo."
			Dispatcher 2	"Did you already call this one in?"
			Alarm Co.	"Yes I did."
			Dispatcher 2	"OK."
			Alarm Co.	"But she did not give me her operator ID, she just told me to hold on."
			Dispatcher 2	"OK, 13."
			Alarm Co.	"OK, thank you."
			Dispatcher 2	"Bye bye."
1:42:46			Alarm Co.	"Bye bye."

1:43:10	CCRFCC	PHONE	Dispatcher 2	<CALLING RESIDENCE TO VERIFY ALARM - NO ANSWER/BUSY SIGNAL>
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Start	Type	Detail	Who	Narrative
1:43:49	CCRFCC	CAD	Dispatcher 2	ENGINE 70 DISPATCHED TO RESIDENTIAL FIRE ALARM AT 149 MICHELE DRIVE
1:44:11	CCRFCC	RADIO	Dispatcher 2	Dispatch Tones
1:44:32			Dispatcher 2	"Engine 70, residential fire alarm, 149 Michele Drive, 1-4-9 Michele Drive, cross of Rachel and Lettia, for residential fire alarm, no answer at premise."
1:45:24	CCRFCC	CAD	AVL	E70 Responding from San Pablo Avenue/Van Ness St.
1:45:52	CCRFCC	PHONE	Dispatcher 1	"Fire Emergency."
			CHP	"Highway Patrol transferring from 1-4-9 Michele Drive for a house fire."
			Dispatcher 1	"OK."
			CHP	"Go ahead please."
			Dispatcher 1	"Hello?"
			Caller	"Hello?"
			Dispatcher 1	"Hello, this is the Fire Department."
			Caller	"I have a fire at 149 Michele Drive, San Pablo."
			Dispatcher 1	"OK, your house on fire?"
			Caller	"Yes it is."
			Dispatcher 1	"Everybody get out?"
			Caller	"No, I haven't got my husband out yet."
			Dispatcher 1	"OK, we'll be right there. They're already on their way ma'am. We had a report of a fire alarm. But we're on our way. OK, get everybody out."
			Caller	"I'm trying."
1:46:24			Dispatcher 1	"OK."
1:46:11	CCRFCC	CAD	Dispatcher 1	<Change Incident from Automatic Fire Alarm (Priority 4) to Residential Structure Fire (Priority 2)>
1:46:46	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue/Campo Verde Circle
1:46:57			AVL	E70 @ San Pablo Avenue/Road 20
1:47:06			AVL	E70 @ San Pablo Avenue/Lovegrove Avenue

Start	Type	Detail	Who	Narrative
1:47:10	CCRFCC	PHONE	Dispatcher 2	"Fire Emergency."
			Caller	"Hi, there is, there is a-a-a house on fire right now in a, in a San Pablo."
			Dispatcher 2	"149 Michele?"
			Caller	"Yes!"

			Dispatcher 2	"Yeah, we're on the way. Do you know if anyone is in the house?"
			Caller	"Yes."
			Dispatcher 2	"Is anyone inside the house?"
			Caller	"I don't know, I saw a lady..."
			Dispatcher 2	"Alright, we're on the way."
			Caller	"OK"
			Dispatcher 2	"Bye-bye."
1:47:32			Caller	"Bye."

1:47:16	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue to El Portal Drive
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1:47:31	CCRFCC	RADIO	Dispatcher 1	"Engine 70, Con Fire"
			E70	"70 by."
			Dispatcher 1	"This is a structure fire, I'm filling out your response."
1:47:44			E70	"70 copies."

1:47:37	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue/Lake St.
1:47:46			AVL	E70 @ San Pablo Avenue/Lancaster Drive
1:47:56			AVL	E70 @ San Pablo Avenue to Robert Miller

1:47:56	CCRFCC	RADIO	Dispatcher 1	Dispatch Tones
1:48:14			Dispatcher 1	Dispatch Tones
1:48:16			Dispatcher 1	"Engine 68, Engine 69, Quint 76, Battalion 7, Respond with Engine 70 for a reported structure fire. 1-4-9 Michele Drive, 149 Michele between Rachel Road and Lettia Road Map G-George-572-49, Tactical ConTac C, ConTac C Charles."

1:48:16	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue/La Puerta Drive
1:48:27			AVL	E70 @ San Pablo Avenue/Stanton Avenue

1:48:28	CCRFCC	PHONE	RMD Dispatcher	"Hello."
			Dispatcher 2	"Hi, can I get Engine 68 for a structure fire?"
			RMD Dispatcher	"For where?"
			Dispatcher 2	"1-4-9 Michele Drive"
			RMD Dispatcher	"Going with?"
			Dispatcher 2	"Engine 70, Engine 69, Quint 76. Battalion 7"

Start	Type	Detail	Who	Narrative
			RMD Dispatcher	"I'm sorry, because you said, Truck 76?"
			Dispatcher 2	"Yes."
			RMD Dispatcher	"I'll get em rolling for you."
			Dispatcher 2	"Thank you."
1:48:54			RMD Dispatcher	"Thanks, 'bye."

1:48:36	CCRFCC	CAD	AVL	E70 @ San Pablo Ave/Hilltop Drive
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1:48:38	CCRFCC	PHONE	Dispatcher 1	"Fire Emergency."
			Caller	"1291 Rachel Road There's, someone's going crazy, set up on a fire, on Rachel Drive"
			Dispatcher 1	"1081 Rachel?"
			Caller	"That's the, I'm on 1291 Rachel Road, and down the street someone is starting a fire."
			Dispatcher 1	"OK, we have a fire on Michele."
			Caller	"That's the one."
			Dispatcher 1	"OK, we're already on our way."
			Caller	"OK, 'cause I..."
			Dispatcher 1	"Alright, bye-bye."
			Caller	"Cause I literally saw someone that was doing it."
			Dispatcher 1	"You saw someone setting the fire?"
			Caller	"I heard it. I heard someone literally going crazy and I walked down there."
			Dispatcher 1	"OK, what did you hear ma'am?"
			Caller	"I went down there and then I saw smoke and I heard a lady saying, 'What are you doing? What are you doing? Put it out.'"
			Dispatcher 1	"OK, S/O?"
			Caller	"Some guy..."
			Sheriff	"Yeah, I'm here."
			Dispatcher 1	"OK, hang on ma'am. Sheriff, are you there?"
			Sheriff	"Yeah, I'm here."
			Dispatcher 1	"You want to take this information?"
			Sheriff	"Yeah, sure."
1:49:20			Dispatcher 1	"Thank you."

1:48:58	CCRFCC	RADIO	E73	"Con Fire, Engine 73 is available on radio. What was the address again on Michele?"
1:49:05			Dispatcher 1	"1-4-9, 149."

1:49:07	RMD	RADIO	Dispatcher	Dispatch Tones
				"ENGINE 68 RESPOND TO AUTOMATIC AID AT 149 MICHELE DR, 1-4-9 MICHELE DR IN MONTALVIN MANOR. WILL BE RESPONDING WITH 70, 69, TRUCK 76, BATTALION 74 FOR A STRUCTURE FIRE FOR ENGINE 68."

Start	Type	Detail	Who	Narrative
1:49:12	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue/Richmond Pkwy.
1:49:20	CCRFCC	RADIO	Dispatcher 2	"Engine 73, confirming that was you responding to Michele?"
1:49:24			E73	"Affirmative, we're responding."
1:49:26	CCRFCC	CAD	AVL	E70 @ San Pablo Avenue/Kay Road
1:49:37			AVL	E70 @ Kay Road/Madeline Road
1:49:37	CCRFCC	PHONE	RMD Dispatcher	"Hello."
			Dispatcher 2	"Yeah, you can cancel 68, 73 just cleared. They're right across the street."
			RMD Dispatcher	"OK."
			Dispatcher 2	"Thanks."
			RMD Dispatcher	"Thank you."
			Dispatcher 2	"Right."
1:49:43			RMD Dispatcher	"Bye-bye"
1:49:43	RMD	RADIO	Dispatcher	"AND 68 YOU CAN CANCEL PER CON FIRE."
1:49:46	CCRFCC	CAD	AVL	E70 @ Kay Road/Rachel Road
1:49:47	CCRFCC	CAD	MDT	E69 Responding from Appian Way/Unnamed Street
1:49:56	CCRFCC	CAD	AVL	E70 @ Christine Drive/Rachel Road
1:50:07			AVL	E70 @ Rachel Road/Montalvin Drive
1:50:09	CCRFCC	CAD	MDT	Q76 Responding from Refugio Valley Road/Partridge Drive
1:50:09	CCRFCC	RADIO	E70	"Con Fire, Engine 70, we have smoke showing a block out."
1:50:14			Dispatcher 1	"Copy 70, smoke showing a block out."
1:50:16	CCRFCC	CAD	AVL	E70 @ Rachel Road/Sheryl Drive
1:50:19	CCRFCC	RADIO	Dispatcher 1	"Engine 70, the resident was still trying to get her husband out of the house. It's unknown if he made it."
1:50:28			E70	"70 copies, we're on-scene. We have heavy smoke and fire from a single story residential structure. Establishing Michele IC."
1:50:46			Dispatcher 1	"70 on-scene, heavy smoke and fire from residential structure, establishing Michele IC."

Start	Type	Detail	Who	Narrative
1:50:50	CCRFCC	PHONE	Dispatcher 1	"Fire."
			Sheriff	"How are you?"
			Dispatcher 1	"Uh, slammed. What do you need?"
			Sheriff	"For the house out on Rachel..."
			Dispatcher 1	"Uh-huh."
			Sheriff	"The lady said she heard the screaming..."
			Dispatcher 1	"Uh-huh."
			Sheriff	"She said they went back into the house that's on fire."
			Dispatcher 1	"Yup, we know. We're there."
1:51:00			Sheriff	"OK, thanks, 'bye."

1:51:01	CCRFCC	RADIO	E73	"73 is on-scene."
1:51:03			Dispatcher 1	"73 on-scene."

1:51:05	CCSO	PHONE	Sheriff	"911."
			Caller	"I think that my house is on fire!"
			Sheriff	"OK, you think your house is on fire?"
			Caller	"I think so."
			Sheriff	"OK let me transfer you to Fire, Hon."
				<CALL TRANSFERED TO CCRFCC>
			Sheriff	"If there's people in the house, you need to start getting them out, OK?"
			Caller	"OK, bye."
			Sheriff	"Oh hung up. Hello?"

	CCRFCC	PHONE	Dispatcher 1	"Fire department, where is your emergency?"
			Sheriff	"Hey, she disconnected. 170 Linda Drive in San Pablo. She said, 'I think my house is on fire.' I had to tell her to start getting people out of her house."
			Dispatcher 1	"OK, it's probably the same fire."
			Sheriff	"I know it's in the area of that other fire..."
			Dispatcher 1	"I'll call her, thank you."
			Sheriff	"OK thanks, 'bye."

1:51:10	CCRFCC	CAD	MDT	BC7 On Radio <(BC7 inadvertently pushed <i>available on radio</i> button rather than <i>responding</i>)>
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1:51:21				<DISPATCHER 1 CALLING RP AT 170 LINDA DRIVE>
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1:51:23	CCRFCC	RADIO	E70	"Con Fire, Engine 70, we've got a report of two people inside. We're making entry with an inch and three-quarter line."
1:51:32			Dispatcher 1	"The report of two people inside, making entry."

Start	Type	Detail	Who	Narrative
1:51:34	CCRFCC	PHONE	Caller	"Hello?"
			Dispatcher 1	"Hello ma'am, this is the Fire Department. Is it your house that's on fire?"
			Caller	"Is it?"
			Dispatcher 1	"No, I'm asking you. You told the PD it was."
			Caller	"I smelled smoke...I opened the front door and I smelled smoke."
			Dispatcher 1	"OK ma'am listen, LISTEN TO ME. We're working a fire on Michele."
			Caller	"OK."
			Dispatcher 1	"OK? So do you see flames or are you just scared 'cause you smell smoke?"
			Caller	"No, I smell it."
			Dispatcher 1	"OK, we're working a fire on Michele."
			Caller	"What's the address you're at?"
			Dispatcher 1	"149."
			Caller	"OK, I live at 170."
			Dispatcher 1	"I know that. It's not your house, right?"
			Caller	"OK, right."
			Dispatcher 1	"Because you're one block over."
			Caller	"OK."
			Dispatcher 1	"OK, so you're OK."
			Caller	"OK."
			Dispatcher 1	"You see fire, call back."
			Caller	"OK, 'bye."

1:51:46	CCRFCC	RADIO	E70	"Engine 74, Engine 70, Michele IC, I'm passing command."
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1:52:43	CCRFCC	RADIO	BC7	"Battalion 7 responding."
1:52:46			Dispatcher 1	"Battalion 7 responding."

1:53:03	CCRFCC	RADIO	E69	"Con Fire, 69, confirm Tac?"
1:53:06			Dispatcher 1	"C Charles."

1:53:54	CCRFCC	RADIO	Dispatcher 1	Dispatch Tones
1:53:57			Dispatcher 1	"Engine 43 move up, cover Station 69. Engine 43 move up, cover Station 69, working structure fire."

1:54:43	CCRFCC	RADIO	E70	"Con Fire."
1:54:49			Dispatcher 1	"IC, go ahead."
1:54:55			E70	"We got the fire" garbled) "roof top ventilation to the first truck."
1:55:10			Dispatcher 1	"Michelle IC, I'm unable to copy."
1:55:17			E70	"First due Truck, and that's rooftop ventilation."
1:55:36			Dispatcher 1	"Michele IC, all I copy is 'roof ventilation'."
1:55:46			Dispatcher 1	"Engine 69, Con Fire, were you able to copy?"
1:55:50			E69	"Con Fire, 69, appears Captain 70 needs some rooftop ventilation."
1:55:56			Dispatcher 1	"Copy."

Start	Type	Detail	Who	Narrative
1:55:04	CCRFCC	CAD		PM228 Dispatched
1:57:13	CCRFCC	CAD	MDT	E69 On Scene
1:57:24	CCRFCC	RADIO	??	"Supply"
1:57:58			E43	"Con Fire, 43 is moving up to 69."
1:58:01			Dispatcher 1	"43 to 69."
1:58:14	CCRFCC	CAD		PM228 Responding from AMR Operations
1:59:30	CCRFCC	CAD	MDT	Q76 On Scene
2:00:05	CCRFCC	RADIO	Q76	"Rachel IC, Quint 76, do you have an assignment?"
2:01:59			BC7	"Con Fire, Battalion 7 on-scene."
2:02:02			Dispatcher 1	"Battalion 7 on-scene."
2:02:14	CCRFCC	RADIO	BC7	"Con Fire, Battalion 7, the ConTac was B Boy?"
2:02:17			Dispatcher 1	"C Charles."
2:02:21			BC7	"C Charles."
2:03:37	CCRFCC	RADIO	BC7	"Con Fire, Battalion 7."
2:03:40			Dispatcher 1	"Battalion 7."
2:03:42			BC7	"Do you have AMR responding?"
2:03:44			Dispatcher 1	"Affirm, Code 2. Do you want them upgraded?"
2:03:47			BC7	"Code 3 please."
2:03:50			Dispatcher 1	"Copy, Paramedic 228, Con Fire, upgrade to Code 3."
2:03:55			PM228	"228 copies."
2:04:49	CCRFCC	RADIO	BC7	"Con Fire, Battalion 7."
2:04:54			Dispatcher 1	"Battalion 7."
2:05:00			Dispatcher 1	"Battalion 7."
2:05:03			BC7	"Give me another alarm please."
2:05:27	CCRFCC	RADIO	BC7	"Con Fire, IC."
2:05:30			Dispatcher 1	"IC."
2:05:32			BC7	"We got a missing fire... <STATIC> firefighter, I believe."
2:05:36			Dispatcher 1	"Copy, missing firefighter."
2:05:42				Dispatch Tones
2:05:56	CCRFCC	RADIO	BC7	"Con Fire, IC."
2:05:58			Dispatcher 1	"IC."
2:06:01			BC7	"Yeah, I need another engine."
2:06:05			Dispatcher 1	"Copy a second alarm and an additional engine?"
2:06:09			BC7	"Affirmative."
2:06:11			Dispatcher 1	"Copy."

Start	Type	Detail	Who	Narrative
2:06:25	CCRFCC	CAD		PM228 On Scene
2:06:46	CCRFCC	RADIO	Dispatcher 1	Dispatch Tones
2:07:00			Dispatcher 1	"Engine 74, Engine 75, Engine 72, Engine 68, Battalion 71. Second alarm structure fire in San Pablo. 1-4-9 Michele Drive, 149 Michele, between Rachel Road and Lettia Road Map G-George 5-72-49. Tactical Channel ConTac C, ConTac C Charles."
2:07:32	CCRFCC	PHONE	RMD	"HELLO."
			Dispatcher 2	"HI, CAN WE GET ENGINE 68 FOR THAT FIRE ON MICHELE? WE JUST WENT TO A 2ND ALARM"
			RMD	"OH! YOU JUST NEED 68 THEN?"
			Dispatcher 2	"YEAH, 149 MICHELE DR"
			RMD	"ALRIGHT. 149 MICHELE. ALRIGHT."
			Dispatcher 2	"WE'RE ALSO SENDING 72 AND BATTALION 71. BUT WE JUST DID THEM DIRECTLY."
			RMD	"OH, OK."
			Dispatcher 2	"ALRIGHT."
			RMD	"THANKS."
			Dispatcher 2	"UH-HUH."
			RMD	"BYE-BYE."
2:07:47	CCRFCC	RADIO	Dispatcher 1	TONES
2:07:56	CCRFCC	RADIO	BC7	"Engine 70, IC, Firefighter 70, IC."
2:08:04	CCRFCC	RADIO	Dispatcher 1	"Repeating for Battalion 71. Second alarm structure fire in San Pablo. 1-4-9 Michele, 149 Michele Drive, between Rachel Road and Lettia Road"
2:08:07	RMD	RADIO	Dispatcher	Dispatch Tones
				"ENGINE 68 AUTOMATIC AID FOR CON FIRE AGAIN AT 149 MICHELE, 1-4-9 MICHELE.....BE OUT THERE WITH 70, AND I CAN'T REMEMBER THE OTHER UNITS, BUT IT'S NOW GONE TO A 2ND ALARM."
2:08:17	CCRFCC	RADIO	BC7	"Firefighter 70, IC. Captain 70, IC."
2:08:21	CCRFCC	CAD	MDT	E75 Responding from 3rd St./Garretson Avenue
2:08:27	CCRFCC	RADIO	E72	"Con Fire 72."
2:08:29			Dispatcher 1	"Engine 72."
2:08:33			E72	"Con Fire, 72. 72's en route."
2:08:37			Dispatcher 1	"Copy."
2:08:40	RMD	RADIO	E72	"RICHMOND FIRE, ENGINE 72."
			Dispatcher	"ENGINE 72 YOU'RE ALSO ROLLING."
			E72	"WE'RE ENROUTE TO THAT CALL. WE'RE SWITCHING OVER TO HI-BAND, CON FIRE."

Start	Type	Detail	Who	Narrative
			Dispatcher	"10-4."

2:08:42	CCRFCC	CAD	Dispatcher 2	BC64 Dispatched
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2:08:53	CCRFCC	RADIO	BC7	"Con Fire, IC."
2:08:56			Dispatcher 1	"IC."
2:08:58			BC7	"Give me another ambulance Code 3 please."
2:09:01			Dispatcher 1	"Copy, additional ambulance Code 3."
2:09:04			BC7	"Still unknown on my missing firefighters."
2:09:08			Dispatcher 1	"Copy, still unknown on missing firefighters."

2:09:11	CCRFCC	CAD	Dispatcher 1	BC71 Responding from San Pablo Avenue/Manila Avenue
2:09:12	CCRFCC	CAD		PM227 Dispatched

2:09:14	CCRFCC	RADIO	BC71	"Con Fire, Battalion 71's responding."
2:09:18	CCRFCC	RADIO	Dispatcher 1	"Battalion 71 responding."

2:09:23	RMD	RADIO	BC71	"RICHMOND FIRE, BATTALION 71 IS GOING TO BE RESPONDING TO THE COUNTY STRUCTURE FIRE."
			Dispatcher	"10-4."

2:09:29	CCRFCC	CAD	MDT	E74 Responding from Pinole Valley Road/Adobe Road
2:09:38	CCRFCC	CAD		PM227 Responding from AMR Operations

2:10:20	RMD	RADIO	BC64	"RICHMOND FIRE, BATTALION 64."
			Dispatcher	"BATTALION 64, GO AHEAD."
			BC64	"** ENGINE, WE'LL BE EN ROUTE TO THAT STRUCTURE FIRE."
			Dispatcher	"10-4."

2:11:06	CCRFCC	RADIO	E74	"Con Fire Engine 74, activate recall for Pinole."
2:11:12			Dispatcher 1	"Engine 74 activating recall."

2:11:52	CCRFCC	RADIO	E72	"Con Fire, 72."
2:11:55			Dispatcher 1	"Engine 72."
2:11:57			E72	"Give us a cross street for 1-4-9 Michele please."
2:12:01			Dispatcher 1	"Rachel Road and Lettia."
2:12:09			E72	"Check."

2:12:11	CCRFCC	RADIO	BC7	"Con Fire, IC."
2:12:13			Dispatcher 1	"Michele IC."
2:12:16			BC7	"Still nothing to report. We have one victim out. CPR in progress, it's the homeowner."
2:12:23			Dispatcher 1	"Michele IC, one victim out. CPR in progress. It is the homeowner, and I didn't copy the rest."

Start	Type	Detail	Who	Narrative
2:12:30	RMD	RADIO	E68	"RICHMOND FIRE, MOVING TO CON FIRE'S CHANNEL."
			Dispatcher	"THAT'D BE 68."
			E68	"THAT'S AFFIRM."
			Dispatcher	"10-4"
2:12:34	CCRFCC	RADIO	Dispatcher 1	"Michele IC, any update on the fire personnel?"
2:12:49	CCRFCC	RADIO	E68	"Con Fire, Engine 68's en route."
2:12:53			Dispatcher 1	"68 responding."
2:12:59	CCRFCC	RADIO	Dispatcher 1	"Michele IC, Con Fire, any update on firefighter personnel?"
2:13:17	CCRFCC	RADIO	B64	"Con Fire, Battalion 64 will be en route to the structure fire as well."
2:13:22			Dispatcher 1	"Copy Battalion 64 responding."
2:14:41	CCRFCC	RADIO	B64	"Con Fire, this is Battalion 64. Is there any update on the possible missing firefighter? And if so, we have more resources available from Richmond."
2:14:52	CCRFCC	RADIO	BC7	"Con Fire, IC."
2:14:54			Dispatcher 1	"Michele IC."
2:14:56			BC7	"Who's my next closest, next due?"
2:15:00			Dispatcher 1	"Engine 68."
2:15:02			BC7	"Engine 68, IC."
2:15:10			BC7	"Engine 68, IC."
2:15:14			E68	"Engine 68, go ahead IC."
2:15:28			Dispatcher 1	"IC go ahead to Engine 68."
2:15:31			BC7	"Con Fire, have them come in from below. Have them come in where we're not already committed."
2:15:41			Dispatcher 1	"IC, you're breaking. I copied have them come in from below?"
2:15:53			BC7	"Con Fire, that's affirmative. Have them come in from below, grab a hydrant please. Have them come in from below, grab a hydrant."
2:16:00			Dispatcher 1	"Engine 68, come in from below, grab a hydrant."
2:16:04			E68	"68 copies, grab a hydrant."
2:16:13	CCRFCC	RADIO	E78	"Con Fire, Engine 78, en route to Station 73."
2:16:16			Dispatcher 1	"Copy."
2:16:17	CCRFCC	CAD	Dispatcher 1	PM227 On Scene

Start	Type	Detail	Who	Narrative
2:16:18	CCRFCC	RADIO	PM227	"Con Fire, AMR211/2287 show us on-scene."
2:16:24			Dispatcher 1	"Copy."
2:16:27	CCRFCC	RADIO	FF68	"Hey Larry, why don't they have a hydrant yet?"
2:16:37	CCRFCC	RADIO	Dispatcher 1	"Michele IC, Con Fire, any update on firefighter personnel?"
2:16:47	CCRFCC	RADIO	FF68	"Right behind us."
2:17:00	CCRFCC	RADIO	BC7	"Con Fire, I need a head count. Can you call them for me please?"
2:17:06			Dispatcher 1	"Copy, requesting a head count. Captain 70, Con Fire, acknowledge."
2:17:24			Dispatcher 1	"Captain 70, Con Fire, acknowledge."
2:17:35			Dispatcher 1	"Engineer 70, Con Fire, acknowledge."
2:17:39	CCRFCC	RADIO	FF68	"Side ya." (Unintelligible)
2:18:06	CCRFCC	RADIO	7300	"Con Fire, 7300, what was the Tac channel assigned?"
2:18:09			Dispatcher 1	"It's ConTac C, I believe all units are over there. Can you do a head count for me?"
2:18:16			7300	"Almost on-scene, I be switching to Charlie."
2:18:19			Dispatcher 1	"Copy. Let me know if you need a list of rigs."
2:18:29	CCRFCC	RADIO	B64	"Con Fire, Battalion 64 is on-scene."
2:18:32			Dispatcher 1	"Battalion 64 on-scene."
2:18:43	CCRFCC	RADIO	E74	"Con Fire, Engine 73 on-scene, switching to Tac."
2:18:47			Dispatcher 1	"Copy 73 on-scene."
2:18:48			E74	"Break, sorry, Engine 74 on-scene, switching to Tac."
2:18:53			Dispatcher 1	"Copy."
2:18:54	CCRFCC	RADIO	FF68	"Don't they want 73 to catch water right there?"
2:18:59	CCRFCC	RADIO	7300	"Con Fire, you're coming over on the channel."
2:19:02			Dispatcher 1	"Negative, that's a unit on-scene on the main."
2:19:05			7300	"Sorry."
2:19:06	CCRFCC	CAD	Dispatcher 1	E176 On Scene
2:19:11	CCRFCC	RADIO	E75	"Con Fire, Engine 75 on-scene, switching to Tac."
2:19:13			Dispatcher 1	"75 on-scene."
2:19:34	CCRFCC	RADIO	FF68	"They don't have nothing yet."
2:19:43			FF68	"Get 73 to grab water."
2:19:46			Dispatcher 1	"Unit to Con Fire, you're on the main channel."

Start	Type	Detail	Who	Narrative
2:20:35	CCR FCC	RADIO	E43	"Con Fire, 43 is at 69."
2:20:40			Dispatcher 1	"43 at 69."
2:20:59	CCR FCC	RADIO	E68	"Engine 68 is on-scene." (Evacuation Air Horn Sounding In Background)
2:21:05			Dispatcher 1	"68 on-scene."
2:21:07	CCR FCC	RADIO	B71	"Con Fire, Battalion 71's on-scene, switching over to Tac C."
2:21:11			Dispatcher 1	"Copy, Battalion 71 on-scene."
2:24:35	CCR FCC	RADIO	E78	"Con Fire, Engine 78, show us at Station 73."
2:24:39			Dispatcher 1	"78 at 73."
2:25:00	CCR FCC	RADIO	Dispatcher 1	"Michele IC, Con Fire."
2:25:17	CCSO	PHONE	Sheriff	"911 Police and Fire Emergency."
			Caller	"Um, there is a huge fire in Montalvin Manor."
			Sheriff	"OK, stay on the line, let me connect you. Hold on."
				<CALL TRANSFERRED TO CCR FCC>
	CCR FCC		Dispatcher 2	"Fire Emergency."
			Caller	"Um, there is a huge fire in Montalvin."
			Dispatcher 2	"It's over on Michele Drive?"
			Caller	"On Sheryl."
			Dispatcher 2	"Yeah, no, it's on Michele..."
			Caller	"It's on Michele?"
			Dispatcher 2	"Yeah, and we're on scene."
			Caller	"Oh, you're on scene?"
			Dispatcher 2	"Uh-huh."
			Caller	"OK."
			Dispatcher 2	"Alright."
			Caller	"Thank you, 'bye."
			Dispatcher 2	"Bye bye."
2:25:43	RMD	RADIO	BC64	"RICHMOND FIRE, BATTALION 64."
			Dispatcher	"BATTALION 64."
			BC64	"LET'S GO AHEAD AND ACTIVATE A MEDICAL HELICOPTER AT THIS TIME. GIVE THEM HILLTOP MALL AS A LANDING ZONE. WE HAVE A MISSING FIREFIGHTER, MAYBE TWO. I WILL ADVISE YOU IN A MINUTE."
			Dispatcher	"10-4."
2:26:27	CCR FCC	RADIO	Dispatcher 1	"Michele IC, Con Fire."
2:26:33			7300	"Con Fire, 7300, I'll give you a landline now."
2:26:37			Dispatcher 1	"Copy."

Start	Type	Detail	Who	Narrative
2:26:50			BC7	"Con Fire, IC."
2:26:52			Dispatcher 1	"Michele IC."
2:26:54			BC7	"Yeah, contact your Chief please."
2:26:59			Dispatcher 1	"Copy, I have him on hold."
2:27:05			BC7	"Con Fire, also I still don't have the conditions."
2:27:11			Dispatcher 1	"Still no conditions."

2:27:52	CCRFCC	CAD		PM267 Dispatched
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2:27:58	CCRFCC	CAD	Dispatcher 1	Added Comment "michele ic capt/ff still in the bldg found engineer partial collapse"
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2:28:17	RMD	RADIO	Dispatcher	"BATTALION 64, RICHMOND FIRE."
			BC64	" ** " ([POSSIBLY "STANDBY/HOLD ON JUST ONE")

2:28:18	CCRFCC	CAD		PM267 Responding from AMR Operations
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2:28:29	RMD	RADIO	BC64	"RICHMOND FIRE, BATTALION 64."
			Dispatcher	"BATTALION 64, REACH 2 IS EN ROUTE WITH A 34 MINUTE ETA."
			BC64	"RICHMOND FIRE, BATTALION 64."
			Dispatcher	"BATTALION 64."
			Dispatcher	"BATTALION 64, HOW DO YOU COPY?"
			BC64	"COPIED. SHOOT ME ENGINE 62 AT THIS TIME."
			Dispatcher	"COPY."

2:28:43	CCRFCC	CAD	Dispatcher 1	Added Comment "bldg still heavily involved in fire"
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2:29:02	CCRFCC	CAD		Reassigned PM267
2:29:12	CCRFCC	CAD		PM216 Dispatched
2:29:15	CCRFCC	CAD		PM216 Responding from AMR Operations

2:29:33	RMD	RADIO	Dispatcher	Dispatch Tones
			Dispatcher	"ENGINE 62, IT'S ALSO AUTOMATIC AID. 149 MICHELE DR, 1-4-9 MICHELE DRIVE COVER BATTALION 64. BE EN ROUTE."
			BC64	"RICHMOND FIRE, BATTALION 64."
			Dispatcher	"BATTALION 64."
			BC64	"GET ME AN UPDATE ON THE HELICOPTER. I'LL ADVISE ON THE FIREFIGHTERS' CONDITION. ALSO ACTIVATE TRUCK 64 AT THIS TIME AND HAVE THEM EN ROUTE."
			Dispatcher	"I COPY. CAN YOU ADVISE OF THE WEATHER CONDITIONS. I HAVE HELICOPTER ON LINE NOW."

Start	Type	Detail	Who	Narrative
			BC64	"I THINK IT'S PRETTY CLEAR RIGHT NOW AT THIS TIME. I'LL ADVISE FURTHER IN A SECOND. ALSO ADVISE CON FIRE BY PHONE THAT **<UNINPHONELIGIBLE>** PLEASE"
			Dispatcher	"CONFIRM THEY ADVISE CON FIRE TO EVAC FOR ADDITIONAL UNITS PER OUR SIDE?"

2:30:00	CCRFCC	RADIO	E72	"Con Fire, 72."
2:30:02			Dispatcher 1	"Engine 72."
2:30:09			Dispatcher 1	"Engine 72, go ahead."
2:30:14			E72	"Con Fire's on-scene, 72's on-scene."
2:30:17			Dispatcher 1	"Copy."

2:30:55	CCRFCC	CAD	MDT	7500 Dispatched
2:30:55	CCRFCC	CAD	MDT	7500 Responding from Rachel Road Christine Drive
2:31:02	CCRFCC	CAD	MDT	7500 On Scene

2:31:03	RMD	RADIO	E62	"RICHMOND FIRE, ENGINE 62."
			Dispatcher	"62."
			E62	"62'S EN ROUTE 1-4-9 MICHELE DRIVE ARE WE MOVING TO THE CON FIRE TAC C"
			Dispatcher	"BATTALION 64 FROM RICHMOND FIRE."

2:31:33	RMD	RADIO	Dispatcher	TONES
			Dispatcher	"ENGINE 62 FROM RICHMOND FIRE."
			E62	"62 GO AHEAD."

			Dispatcher	"62 AFFIRM, YOU RESPOND ON OUR FIRE'S CHANNEL."
			E62	"62 COPY, I WAS REQUESTED ON C, BUT I'LL CALL CON FIRE MYSELF."

2:31:50	CCRFCC	PHONE	Dispatcher 2	"Comm Center, (Dispatcher Name Omitted)."
			7300	"Uh, 7300."
			Dispatcher 2	"Yes."
			7300	"Uh, you got two firefighter fatalities."
			Dispatcher 2	"OK."
			7300	"It's, uh, gonna, uh, be your captain and your firefighter. I guess it's Burton, and, uh, I'm not sure who your firefighter was today."
			Dispatcher 2	"It was uh..."
			7300	"Who is it?"
			Dispatcher 2	"Scott Desmond."

Start	Type	Detail	Who	Narrative
			7300	"Desmond?"
			Dispatcher 2	"Scott Desmond."
			7300	"Alright."
			Dispatcher 2	"OK. I believe, uh, Richter's on his way out there."
			7300	"I'll gonna work with the Sheriff. I'll make sure he's, well, once he sends someone out, make sure he's considering it a crime scene just for the evidence situation."
			Dispatcher 2	"OK."
			7300	"Alright."
			Dispatcher 2	"Alright."
			7300	"Thank you."
			Dispatcher 2	"You bet."

2:31:56	CCRFCC	CAD		PM216 On Scene
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2:32:06	CCRFCC	CAD	Dispatcher 1	T64 Dispatched
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2:32:54	CCRFCC	CAD	Dispatcher 2	Added Comment "per 7300 2 firefighter fatalities"
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2:33:06	CCRFCC	RADIO	E62	"Fire Engine 62."
2:33:09			Dispatcher 1	"Engine 62."
2:33:11			E62	"62's en route 1-4-9 Michele Drive Could you tell me, are they working the fire on, on Con Fire B?"
2:33:20			Dispatcher 1	"Con Fire Tac C, C Charles."
2:33:23			E62	"Check and thanks, C Charles."

2:33:32	CCRFCC	CAD	Dispatcher 1	E62 Dispatched
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2:37:30	RMD	RADIO	Dispatcher	TONES
2:37:56	RMD	RADIO	T64	"RICHMOND FIRE, TRUCK 64 IS EN ROUTE."
			Dispatcher	"COPY TRUCK 64 EN ROUTE."

2:38:45	CCRFCC	CAD	MDT	E62 On Scene
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2:39:33	CCRFCC	CAD	Dispatcher 2	Added Comment "BC7 cancel helicopter-"
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2:41:23	CCRFCC	RADIO	REACH2	"Good morning Con West, REACH2."
			Dispatcher 1	"REACH2."
			REACH2	"Yes, Ma'am, just want to confirm we're cancelled. Apparently, we were on the wrong frequency before."
			Dispatcher 1	"That's affirm."
			REACH2	"OK, thanks for the call-out. Talk to you next time."

2:46:12	CCRFCC	CAD	Dispatcher 1	Added Comment "Chief Carpenter adv...calling out Champion, Rubin and Davis to resp w/trailer"
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Start	Type	Detail	Who	Narrative
2:46:41	CCRFCC	CAD	Dispatcher 1	T64 Responding from W RMD Sta 64
2:50:04	CCRFCC	RADIO	7300	"Con Fire, 7300."
			Dispatcher 1	"7300."
			7300	"Do we have adequate district coverage?"
			Dispatcher 1	"Affirm. Battalion 1 is on his way to cover the battalion out there."
			7300	"Copy"
2:52:16	CCRFCC	RADIO	T64	"Con Fire, Truck 64."
			Dispatcher 1	"Truck 64."
			T64	"Truck 64 is on scene."
			Dispatcher 1	"Truck 64 on scene."
2:58:26	CCRFCC	CAD	Dispatcher 2	1134 Dispatched
3:02:01	CCRFCC	CAD	Dispatcher 2	1122 Dispatched
3:07:07	CCRFCC	CAD	Dispatcher 2	1134 On Radio
3:07:19	CCRFCC	CAD	Dispatcher 2	1141 Dispatched
3:07:22	CCRFCC	CAD	Dispatcher 2	1141 Responding from CON Investigations
3:20:54	CCRFCC	RADIO	E14	"Con Fire, Engine 14 on Con West."
			Dispatcher 1	"Copy, 14 on Con West."
3:21:34	CCRFCC	RADIO	Dispatcher 2	Dispatch Tones
3:21:46			Dispatcher 2	"Station - Pinole firefighters report to your station for fire duty, second alarm, structure fire in San Pablo."
3:29:04	CCRFCC	CAD	MDT	1128 Dispatched
3:29:04	CCRFCC	CAD	MDT	1128 Responding from Duty Fire Chiefs
3:29:26	CCRFCC	RADIO	1116	"Con Fire 1116 out at Station 73."
3:29:30	CCRFCC	CAD		PM147 On Radio
3:31:15	CCRFCC	CAD		PM228 On Radio
3:31:57	CCRFCC	RADIO	E74	"Con Fire Engine 74 is en route to 73. Place us out of service and of other**."
			Dispatcher 1	"Copy."
3:32:13	CCRFCC	RADIO	Dispatcher 1	"7300, Con Fire."
			7300	"Go ahead."
			Dispatcher 1	"Can you call the Comm Center for 1102?"
			7300	"Affirm."

Start	Type	Detail	Who	Narrative
3:36:22	CCRFCC	CAD	Dispatcher 1	E74 On Radio
3:43:52	CCRFCC	CAD	Dispatcher 3	1141 On Scene
3:46:29	CCRFCC	CAD	Dispatcher 3	E75 On Radio
3:46:41	CCRFCC	CAD	Dispatcher 3	Q76 On Radio
3:51:05	CCRFCC	CAD	MDT	1128 On Scene
3:56:48	CCRFCC	CAD	Dispatcher 1	1122 Responding from Duty Fire Chiefs
3:57:35	CCRFCC	CAD	Dispatcher 1	Added Comment "BC7 scene turned over to bc1"
3:59:41	CCRFCC	CAD	MDT	7500 On Radio
3:59:55	CCRFCC	CAD	Dispatcher 1	BC7 On Radio
4:27:52	CCRFCC	CAD	Dispatcher 1	E68 On Radio
4:51:21	CCRFCC	CAD	Dispatcher 2	Added Comment "Cal/OSHA advd 602-6517"
4:56:40	CCRFCC	CAD	MDT	E72 On Radio
5:06:34	CCRFCC	CAD	Dispatcher 1	BC71 On Radio
5:35:31	CCRFCC	CAD	Dispatcher 1	1122 On Scene
6:22:20	CCRFCC	CAD	Dispatcher 3	Added Comment "bob Davis req to cont ALCO dispatch, to have arson invest task force coordinator call him reg mutual aid req for investigations"
7:53:42	CCRFCC	CAD	Dispatcher 2	Added Comment "CALFIRE ARSON INVESTIGATOR ERT"
8:55:37	CCRFCC	CAD	Dispatcher	E69 On Radio
8:55:38	CCRFCC	CAD	Dispatcher	E73 On Radio
20:45:36	CCRFCC	CAD	Dispatcher	Response Closed

Appendix 2
Additional Photos



Picture 1 - Alpha side



Picture 2 - Bravo side



Picture 3 - Charlie side with partially broken windows and security bars



Picture 4 - Charlie side with partially broken windows and security bars



Picture 5 - Charlie / Delta corner



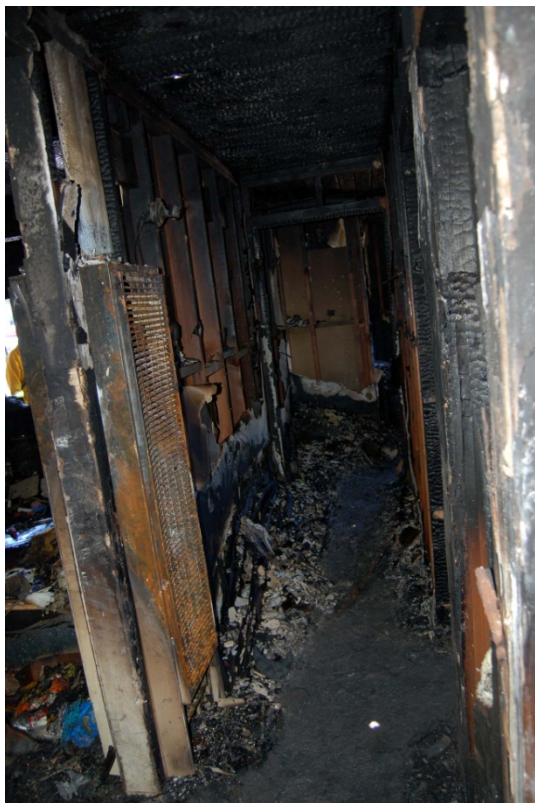
Picture 6 - Porch and gas blower



Picture 7 - Living room view from front door



Picture 8 - Living room view from front door



Picture 9 - Hallway looking towards Bedroom #1



Picture 10 - Hallway ceiling looking towards Bedroom #1



Picture 11 - Bedroom #2



Picture 12 - Fire from ventilation hole