Review of the Initial Response
to
Canyon 2 Fire

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for the:
Orange County Board of Supervisors

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Executive Summary

Preface

The Orange County Fire Authority (OCFA) is part of an established firefighting system within Orange County, that when executed properly, saves lives and property. As a key link in the County’s fire suppression network, OCFA is well-positioned to handle wildland fires efficiently and effectively. Troublingly, however, in the case of the Canyon 2 Fire (C2F), due to human error and potential “complacency,” 1 multiple warning signs were not heeded, and dispatch policies were not followed, resulting in a system breakdown during the initial stages of the fire response. The initial response to C2F is an important case study of how miscalculations and missteps in small but critical areas can result in significant damage and disruption to a community. The core issue is that after a 911 caller unequivocally reported the start of a wildland fire in Orange County, it took 1 hour and 11 minutes before the first fire suppression resources arrived on-scene.

Introduction

The C2F began the morning of October 9, 2017, on a declared high fire danger day, in Coal Canyon within the city of Anaheim. It was one-hundred percent contained eight days later, on October 17, 2017. Over its course, C2F burned 9,217 acres, damaged or destroyed 80 structures, and resulted in evacuation orders given to approximately 17,000 people.

Immediately following the outbreak of C2F, there were several concerns expressed from a variety of sources regarding the quality, timeliness, and the transparency of the initial fire suppression response. In response to these concerns, the OCFA Board of Directors voted to engage the services of an Independent Review Panel (IRP) to evaluate these issues and provide a written report of their findings. The IRP is comprised of two retired Fire Chiefs and one former City Manager. Shortly thereafter, the Orange County Board of Supervisors (who have two members on the OCFA Board) also chose to engage the services of SD Consulting to investigate the C2F initial response and provide a written report of findings.

The Board of Supervisors approved the following scope of work for its review of the initial response to C2F:

- A review and investigation of citizen complaints and news stories related to the initial response of C2F, and the appropriate use of resources and interagency coordination, including employee interviews as appropriate.

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1 In post-C2F dispatcher training, OCFA noted a “general sense of complacency” as a possible reason for the failure to initially send the appropriate response to C2F, due to potential “report fatigue” from receiving multiple calls of smoke sightings from the burn area of the previous Canyon Fire.
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- Whether all available resources in the county for combatting wildfires were used accordingly.

- A review of OCFA’s protocol for Red Flag days and vegetation fire response.

- Whether a policy exists that governs how incident response(s) commands are transferred from one entity to the other.

Background Information

To comprehensively evaluate the initial response to suppressing C2F, it is necessary to understand the complexities and nuances of the formal/informal regional fire protection system operating within Orange County. This system has developed over time alongside population and structure growth in Orange County, and in response to lessons learned from significant wildland fire events that have caused considerable damage. These lessons have been used as motivation to develop a fire prevention, education and suppression structure within the southern California area, and are incorporated into cooperative fire agreements, operating manuals, and policies and procedures. These lessons are extensively documented and communicated so that fire personnel can internalize the significance of quickly and comprehensively addressing wildland fires under extreme weather conditions.

Important factors involved in the fire protection of wildland areas within Orange County include:

- Wildland areas in Orange County are owned by multiple public jurisdictions: Orange County cities, the County of Orange, the state of California, and the federal government.

- Wildland fires often travel across multiple jurisdictions. Accordingly, formal regional fire protection systems have been set in place to effectively and efficiently respond to these fires with the closest available resources. These systems are undergirded by written agreements which detail how wildland fires will be responded to, by whom, and how the costs will be reimbursed.

- In larger wildland fires that endanger multiple jurisdictions, OCFA typically serves as the central emergency communications center, and as the central point for ordering all resources (fire personnel and equipment). Typically, local county fire resources are utilized first. If additional resources are needed, they are ordered and promptly made available through CAL FIRE (the state fire agency).

Pertinent background events/conditions important to understanding C2F include:

- Canyon Fire – Two weeks before the start of C2F (September 25, 2017), the Canyon Fire (CF) began 0.4 miles to the east. The CF burned 2,622 acres and damaged six structures. Like
C2F, it started on a declared high fire danger day. However, unlike C2F, fire suppression resources arrived on the CF scene 12 minutes after the initial 911 call reporting the fire (versus 71 minutes for C2F). Despite post-fire "mop-up" mitigations, there were still reports of reignitions of small unburned islands within the CF burn area. In fact, the determined ignition source of C2F was a smoldering oak tree located twenty-feet inside the CF perimeter, the embers of which were blown by high winds outside the burn area into fresh vegetation.

- Weather Conditions on October 9, 2017 – High winds and low relative humidity were forecasted well in advance of and on October 9, 2017. Accordingly, the National Weather Service had declared a Red Flag Warning for the area, and fire agencies had designated October 9 as a High Watershed Dispatch Level day, indicating extreme fire danger and pre-authorizing significant fire resources for dispatch to any reports of fire in wildland areas.

- Sierra Peak – In the late afternoon on October 8, 2017, an Anaheim Police helicopter crew reported a fire on a small unburned island within the CF burn area, on a north facing slope of Sierra Peak. Sierra Peak is at 3,046-foot elevation, 2.4 linear miles and 120 compass degrees southeast of the origin of C2F. This area is within federal lands protected by the US Forest Service in the Cleveland National Forest. After several minutes of discussion between US Forest Service and OCFA Emergency Command Center (ECC) staff, the US Forest Service decided to let the fire burn itself out due to its remote location within the CF burn area, and with no other combustible vegetation in its proximity. When the C2F fire started the next morning, this decision came under intense scrutiny and served as a catalyst for public attention, as some hypothesized that the embers from this unburned island fire could have traveled downslope and caused C2F. Fire investigators all firmly believe that the wind direction (54 to 78 compass degrees from the northeast) and other factors make this possibility highly improbable.

Initial Response to C2F

At 8:32 am on October 9, 2017, the first 911 call was received by the California Highway Patrol (CHP). The caller was traveling westbound on the 91 freeway and reported the outbreak of a small wildland fire in Carbon Canyon just south of the freeway. The call was immediately transferred to the OCFA ECC. The caller unequivocally stated three times that he saw a fire. Given the High Watershed Dispatch Level of the day, the mandated course of action for the ECC was to dispatch a "Vegetation-High" response that results in sending a robust, pre-authorized equipment/personnel contingent to the fire. ECC staff involved with the 8:32 am call, however, failed to comply with this policy and no fire resources were dispatched at that time. Since the conclusion of the previous CF, there had been several 911 calls reporting perceived fires that turned out to be ash or smoke from smoldering vegetation in the burn area. As such, despite a Red Flag Warning and a High Watershed Dispatch Level in effect on October 9, at least some members within the ECC appear to have been fixed on their initial conclusion that no fire existed, despite objective facts to the contrary and a policy that mandated a specific
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action. As a result, impromptu decisions were made by off-scene staff based on false assumptions, which initiated a cascading series of missteps that significantly delayed the appropriate dispatching of fire suppression resources. Attachment 10 serves as a revealing summary of the problematic communications taking place between the public, emergency dispatch centers, and fire agencies in the early stages of C2F.

Unfortunately, ECC staff involved with the 8:32 am call have failed to take ownership or responsibility for their actions. The 8:32 am call-taker (Dispatcher) claims to have immediately informed his/her (for anonymity) supervisor of the situation and took only those actions as directed by the Supervisor. In contrast, the Supervisor states the Dispatcher never informed him/her of the 8:32 am call.

Two Sheriff helicopters with water dropping capability were ready, willing and able to assist in the C2F fire suppression but were never requested. If requested at the time of the 8:32 am 911 call, it is estimated that the Duke 6 Sheriff helicopter would have been the first aerial resource on-scene, approximately 17 to 22 minutes before other helicopter resources. Surprisingly, no aerial support was ordered/requested by OCFA from any source, including OCFA’s own helicopters, until 9:43 am.

When patched together, the information gathered during this review indicates that significant resources could have been on-scene during the early stages of the fire, before it crested the hill it began on, and moved outside of Coal Canyon. The estimated time lost and the number and type of resources that could have been engaged earlier on in the fire are detailed in this report. Notwithstanding, however, it is unknowable, due to the extreme winds of the day, whether the fire could have been immediately contained before reaching structures.

Summary Findings

A summary of the more significant findings of this review includes:

- Orange County’s fire response system was substantially in place to be able to effectively and efficiently respond to C2F, as it did in the CF incident, if it had been properly executed.

- Although it is highly improbable that the October 8, 2017 unburned island fire adjacent to Sierra Peak caused C2F, the details surrounding the event offer important lessons in how to respond to situations like this in the future.

- Despite the warning signs prior to, and the High Watershed Dispatch Level in effect on October 9, 2017, there was a surprising lack of initiative and preparedness for these conditions demonstrated by some OCFA employees.
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- OCFA policies regarding the handling of a reported fire on a High Watershed Dispatch Level day were not followed by Dispatch staff on several occasions on October 9, 2017.

- OCFA ECC’s failure to properly categorize the October 9, 2017 8:32 am call as a “Vegetation-High” response was a catalyst that set-in motion a series of decisions driven by false assumptions, rather than objective thinking and adherence to policy, over the subsequent 71 minutes.

- Although it is unknowable if the C2F could have been contained without the significant loss of property, incurrence of significant expense, or significant public disruption due to necessary evacuations, the declaration of a Vegetation-High response immediately following the 8:32 am call, would have given firefighters a significantly better chance at minimizing its impact to the community.

Summary Recommendations:

A summary of the more important recommendations includes:

- Use the deficiencies identified in the initial response to C2F as a case study for OCFA and other fire agencies to identify system weaknesses and close the gaps.

- Consider whether a consolidation of fire suppression and emergency communication responsibilities in the 91/241 freeway corridor area might improve the efficiency and effectiveness of an initial fire response.

- Preventative measures should be implemented on High Watershed Dispatch Level days, particularly when they coincide with active reignition sites from a recently contained fire. These include the consideration of such measures as air patrols by fire and law enforcement agency helicopters, ground patrols in wildland areas, and formal reminder notifications to Dispatch staff at the beginning of their shift regarding their responsibilities on High Watershed Dispatch Level days.

- OCFA should take the appropriate and timely supervisory and disciplinary action with those responsible for not following OCFA policy in the dispatching of appropriate resources to a report of a vegetation fire on a High Watershed Dispatch Level day.

- Develop a more comprehensive training experience for Dispatch staff, including hands-on experiences in a variety of critical functional areas of OCFA.

- OCFA should institute a policy that automatically requests an initial response from CALFIRE-carded Sheriff helicopters/pilots for wildland fires when Sheriff helicopters can be the first on-scene.
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- OCFA and Sheriff helicopter crews should continue to look for and implement opportunities to work together, such as joint training, including Sheriff helicopters in the ROSS system, the integration of Fire paramedics on Sheriff helicopter crews, the use of Sheriff helicopter cameras to record fire progression and relay real-time video of fires as needed, and the examination of the Ventura and San Diego models to identify and implement workable solutions for Orange County.

- OCFA should consider placing cameras on its helicopters and acquiring a real-time video capacity that can be sent to Dispatch and Incident Commanders.

- OCFA staff must follow established policy and procedure related to the dispatching of resources to reported wildland fires according to the Watershed Dispatch Level designation in place.

- OCFA management and line staff should make decisions based on whether those decisions align with the organization’s strategic foundation: vision, mission, strategic goals, motto. Decisions made should be based on what is in the best interests of the citizens of Orange County, minimizing the parochial interests of employee associations, political considerations, or squabbles between public safety agencies.

- Identify and promote methods to electronically connect emergency dispatch centers from multiple jurisdictions together with initial notification and updates of critical fire events and weather conditions so that each can be simultaneously apprised of the situation and the current response underway.

- Fire staff should be cognizant that in today’s technological environment, fire communications and operational decisions and actions are open to public scrutiny.

Acknowledgements

SD Consulting would like to thank OCFA, County of Orange (CEO, County Counsel, Sheriff-Coroner Department), Anaheim Fire, Orange Fire, CAL FIRE/Riverside, and US Forest Service/Cleveland National Forest staff for their cooperation throughout this process.
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Introduction

The Canyon 2 Fire (C2F) began the morning of October 9, 2017 in Coal Canyon within the city of Anaheim. It was declared 100 percent contained on October 17, 2017. The fire began on wildland terrain, one-half mile south of the 91 freeway, mid-way up the slope of an approximate 800-foot hill above the Coal Canyon Truck Trail (Attachment 1). Anaheim fire investigators, with assistance and concurrence from OCFA and CAL FIRE investigators, determined that the ignition source of the fire was “most probably” burning embers from a smoldering group of oak trees located approximately twenty-feet inside the perimeter of the Canyon Fire (CF). The CF began two weeks earlier on September 25, 2017, which was declared 100 percent contained on October 3, 2017. Fire investigators opined that these embers from the CF burn area blew approximately seventy-feet west into the air, crossed the protective dozer trail created during the “mop-up” of the CF, and landed in two fresh vegetation spots just beyond the CF perimeter. Investigators opined that these two fresh vegetation spots (ten-feet from each other) were the points of origin of C2F (Attachment 2).

Historically, this wildland area has been highly susceptible to large scale fires under certain weather conditions, such as high winds, high air temperature, and low relative humidity. These conditions were all forecasted well in advance of the fire’s ignition, and accordingly, October 9, 2017, was declared a high fire danger day. The National Weather Service had issued an “Urgent Fire Weather Message” at 9:20 pm on October 7, declaring a Red Flag Warning from 3 am October 9 to 10 am on October 10. In addition, consistent with the National Fire Danger Rating System, regional and local fire departments within the area had designated October 9 as a “High Watershed Dispatch Level” day. A High Watershed Dispatch Level designation means that extreme fire danger conditions are present, and fire agencies have pre-authorization for the dispatch of a significant initial response to any reports of fire in wildland areas.

The first 911 call reporting flames for C2F was taken by CHP Dispatch and transferred to OCFA’s Emergency Command Center (ECC) at 8:32 am. The first fire equipment and personnel responded on-scene at 9:43 am (1 hour and 11 minutes later). The initial response was not able to contain the fire and it spread quickly in a southwesterly direction that was driven by significant Santa Ana winds which ranged from 25 mph up to a maximum recorded speed of 70 mph in Fremont Canyon. The fire expanded beyond the city of Anaheim wildlands into State Responsibility Area (SRA) land, then jumped the 241 Toll Road at approximately 10:42 am, and spread quickly into Wildland Urban Interface (WUI) areas in Anaheim Hills, Orange, and the unincorporated Cowan Heights area. A map detailing the area burned by C2F (and CF) is included as Attachment 3.

In total, C2F burned 9,217 acres, damaged 55 structures, and destroyed 25 more. The fire forced school closures and the issuance of evacuation orders to some 17,000 Orange County residents. CAL FIRE currently estimates the total cost of fighting the fire to be at $14.9 million. This includes $9.1 million in CAL FIRE reimbursements to federal, county and local governments.
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(US Forest Service, OCFA, cities). OCFA’s cost to fight the fire was $2.1 million, the entire amount reimbursed from CAL FIRE ($1.6M) and the federal government ($600K). A rough estimate of total personnel and equipment resources used to fight C2F include: 1,660 firefighters, 255 fire engines, 13 helicopters, 34 hand crews, 6 air tankers, and 13 dozers.2

Public Concern Regarding the Initial Fire Suppression Response

Following the outbreak of C2F, there were several concerns expressed from a variety of sources regarding the quality, timeliness, and transparency of the initial fire suppression response. These concerns included:

- The decision not to put out a small “unburned island fire” well within the CF burn area, just below Sierra Peak (elevation 3,064 feet), identified by an Anaheim Police helicopter on October 8, 2017 at 4:40 pm. Sierra Peak is approximately 2.4 linear miles uphill from the C2F points of origin (elevation 765 feet). Specifically, because a Red Flag Day was forecasted the following day with high winds, some speculated that the Sierra Peak island fire could have been the cause of C2F.

- The timeliness of the response from the first 8:32 am 911 call reporting the fire, to the time of the first personnel/equipment was inadequate because the response was initially incorrectly designated as a “Smoke Check,” resulting in only a two-fire engine response, code 2 (no lights or sirens).3

- Whether all closest and available resources were utilized in the initial response to the fire.

- Whether OCFA followed its own protocols in responding to a reported fire on a High Watershed Dispatch Level day.

In response to these concerns, the OCFA Board of Directors voted to engage the services of an Independent Review Panel (IRP) to evaluate these concerns and provide a written report of their findings. The IRP is comprised of two retired Fire Chiefs and one former City Manager. Shortly thereafter, the Orange County Board of Supervisors (who have two members on the OCFA Board) also chose to engage the services of SD Consulting to investigate the C2F initial response and provide a written report of findings.

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2 From Anaheim Fire, CAL FIRE ROSS system, and Computer Aided Dispatch system reports.

3 The Station 32 Fire Captain stated that due to weather conditions, he upgraded the response to Code 3 (with lights and sirens).
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Scope of Work for County Review

The Board of Supervisors approved the following scope of work for its review of the initial response to C2F:

- A review and investigation of citizen complaints and news stories related to the initial response of C2F, and the appropriate use of resources and interagency coordination, including employee interviews as appropriate.

- Whether all available resources in the county for combatting wildfires were used accordingly.

- A review of OCFA’s protocol for Red Flag days and vegetation fire response.

- Whether a policy exists that governs how incident response(s) commands are transferred from one entity to the other.

Review Methodology

During this review, the following activities were performed:

Research

Thousands of pages of documents, audio records, and videos were examined regarding internal and external information related to OCFA and other fire agencies responding to C2F:

- Internal OCFA information:
  - OCFA strategic foundation information: vision, mission, goals, motto
  - Pertinent OCFA operating manuals, and policies and procedures
  - Computer Aided Dispatch (CAD) records generated by OCFA’s Emergency Command Center (ECC)
  - Pertinent OCFA memos
  - Press releases
  - Training and certification records of relevant staff
  - OCFA/Sheriff helicopter issues
  - OCFA attorney timeline memo of C2F initial response

- External information:
  - Automatic Mutual Aid Agreements between Orange County fire agencies
  - Cooperative Agreements between regional fire agencies (CAL FIRE, US Forest Service/Cleveland National Forest)
  - Maps detailing the boundaries of cooperative fire agreements
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- Wildland Urban Interface fire threat matrices for high fire danger areas within Orange County
- Fire Incident Investigation Reports for CF and C2F
- CHP dispatch log for the morning of October 9, 2017
- Metro Net CAD information for CF and C2F
- CF Mop-up Incident Action Plan
- National Weather Service weather data for C2F
- Pertinent city of Anaheim and Orange Fire Department policies and procedures
- CAL FIRE's Resource Ordering and Supply System (ROSS) data for personnel/equipment resources ordered and provided during C2F
- Pertinent CHP, OCFA ECC, and Metro Net emergency dispatch center audio recordings
- Media coverage of C2F initial response
- CAL FIRE Post Action Report on C2F
- Location and ready-status of OCFA and Sheriff helicopters on October 9, 2017
- OCFA/Sheriff Helicopter Memorandum of Understanding
- Sheriff January 16, 2018 press release on helicopter issue
- Relevant audio and video recordings of OCFA/Sheriff helicopter joint responses

Interviews

59 interviews were conducted with:

- OCFA:
  - Executive Management
  - Division Chiefs
  - All Dispatch staff on duty October 9, 2017
  - Two helicopter pilots

- Other jurisdictions:
  - County Board of Supervisors
  - County Executive Officer
  - County Counsel staff
  - Sheriff Air Operations and Command staff
  - Phone interviews with CAL FIRE/Riverside office
  - US Forest Service/Cleveland National Forest
  - Anaheim Police Air Operations
  - Anaheim Fire Department command staff
  - Orange Fire Department command staff
  - Metro Net: the fire and emergency medical services communications center (located at Anaheim Fire headquarters) for the cities of Anaheim, Orange, Fullerton, Brea, Garden Grove, Huntington Beach, Newport Beach, and Fountain Valley
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Field Work

- Anaheim Police helicopter ride to view Sierra Peak
- Sheriff helicopter ride to examine CF and C2F burn areas
- C2F Ignition Source and Points of Origin locations with Anaheim Fire Investigators
- OCFA Station 53 in Yorba Linda
- Metro Net Dispatch center
- OCFA Emergency Command Center (ECC)

Fact Check Review

Both OCFA and the Sheriff’s Department were afforded an opportunity to review and comment on any factual inaccuracies contained in those portions of the draft report pertinent to their agencies. Changes were made to final report as appropriate.

Review Impediments

The following were real or perceived impediments to the conduct of this review:

- The California Highway Patrol was largely non-forthcoming with the County of Orange and SD Consulting in providing the information requested (in January 2018) in a timely manner. On March 29, 2018, the CHP stated they would ultimately provide the written information requested but declined to allow an interview with the responding patrol officer to the C2F incident. Once the written information is received, this report will be updated if necessary.

- The presence of union representatives in all non-executive OCFA staff interviews may have impacted the amount of information provided by some OCFA interviewees. As an example, multiple staff members responded “I don’t recall” when asked about several significant events on October 9, 2017.

- It was necessary to identify and work through some CAD data inaccuracies due to input errors; for example, it was necessary to conduct research to confirm on-scene arrival times for some fire equipment/personnel when fire staff did not login their arrival time when they first arrived on-scene at the C2F.

- Unavailability of some key OCFA employees who have since retired/left OCFA employment.
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Background Information

To comprehensively evaluate the initial response to C2F, it is necessary to understand the complexities and nuances of the formal/informal regional fire protection system operating within Orange County. This system has developed over time alongside population and structure growth in Orange County, and in response to lessons learned from significant wildland fire events that have caused considerable damage.

Multiple Ownership of Public Wildland Areas in Orange County

Wildlands within Orange County are owned by several public agencies, all of whom have responsibility for fire protection within their respective jurisdictions (Attachment 4):

Federal Wildlands

In Orange County, federal wildlands are primarily located in the Cleveland National Forest, owned by the federal government. Fire protection for this area is provided by the US Forest Service. C2F was in proximity to the Cleveland National Forest, which led to the involvement of the US Forest Service in the fire suppression response.

State Responsibility Areas (SRAs)

The state owns several public properties within Orange County which include wildland, park and beach properties. The state contracts with urban counties like Orange County (through OCFA) to provide fire protection to SRA lands within Orange County so as not to duplicate fire services already present in a large urban area. C2F began in the city of Anaheim but quickly spread into nearby SRA wildland territory along either side of the 241 Toll Road.

Unincorporated Orange County

Fire protection for unincorporated Orange County areas is provided by OCFA. Unincorporated areas impacted by C2F included: Cowan Heights, North Tustin, and North Santa Ana.

Cities

Some Orange County cities such as Anaheim and Orange have wildland areas within their city limits. Anaheim contracts with the CAL FIRE/Riverside office to provide wildland fire protection services for three wildland areas within Anaheim (Attachment 5). One of these areas includes the points of origin of C2F.
Significant Wildland Fire Events in Orange County

Unfortunately, Orange County “is prone to large scale wildfires,” having experienced 20 of them over the past forty years, as identified in OCFA’s 2016 Unit Strategic Plan:

- October 1978 Soquel Fire (5,428 acres)
- September 1979 Faseo Fire (3,644 acres)
- October 1980 Owl Fire (18,332 acres)
- November 1980 Carbon Canyon Fire (14,613 acres)
- November 1980 Indian Fire (28,408 acres)
- October 1982 Gypsum Fire (19,986 acres)
- September 1987 Silverado Fire (5,988 acres)
- September 1988 Ortega Fire (2,471 acres)
- July 1989 Ortega Fire (8,170 acres)
- October 1989 Assist #108-Mateo Fire (13,478 acres)
- June 1990 Carbon Canyon Fire (6,664 acres)
- July 1990 Yorba Fire (7,884 acres)
- October 1993 Laguna Fire (14,337 acres)
- October 1997 Baker Fire (4,835 acres)
- August 1998 Santiago Canyon Fire (7,760 acres)
- February 2002 Green River Fire (2,234 acres)
- February 2006 Sierra Peak Fire (10,506 acres)
- March 2007 241/Windy Ridge Fire (2,036 acres)
- October 2007 Santiago Fire (28,517 acres)
- November 2008 Freeway Complex Fire (30,305 acres)

Important lessons learned from these events, according to various OCFA documents, include:

- Large fires in Orange County are highly dependent on wind activity. In critical fire weather, fires burn with extreme behavior, high rates of spread, and long-range spotting. The Anaheim-East community (within the C2F burn area) is at the end of a historic fire corridor that has been subject to 14 major Santa Ana wind-driven fires in seventy-five years, with a cumulative loss of 432 homes. Fires typically will travel from the County line areas into this community in two to four hours. Fires starting on highway 241 may reach homes in minutes or travel along Weir Canyon. Fires at Windy Ridge (on the 241 highway) frequently spot far ahead into community interior fuel islands. Fires burning in the Santa Ana River have spotted across highway 91 during Santa Ana winds (3 prior occasions), establishing on the hillside southwest of the 91/241 interchange.
- A direct water attack is generally the fastest control method to contain the spread of wildland fire.
- A pre-planned and pre-approved initial response is the best way to ensure that appropriate and timely fire suppression resources are dispatched in response to
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reported wildland fires during high fire danger days. The decision to augment initial attack forces must be made at the earliest possible moment to enable units to arrive in a timely manner for their intended assignments.

- As drought conditions persist, the only definitive trend is that there are more fires, and a corresponding increase in the percentage of Unknown/Unidentified and Miscellaneous ignition causes.
- Perhaps the most pressing problem overall is public apathy and unawareness regarding wildfire risks. This requires an intense public education effort and implementation of fire mitigation efforts by home and business owners.
- Orange County is the second most densely populated county in California, with wildfire as its number one fire risk. The California Fire Alliance designates 24 Orange County communities as “Nationally Recognized Communities at Risk.”
- The necessity and contractual obligation to utilize the “closest available” fire resources regardless of jurisdiction for the initial attack.

These lessons have been used as the motivation to develop a fire prevention, education and suppression structure within the southern California area, and are incorporated into cooperative fire agreements, operating manuals, policies and procedures. These lessons are extensively documented and communicated so that fire personnel can internalize the significance of quickly and comprehensively addressing wildland fires under extreme weather conditions.

Cooperative Fire Agreements

Several agreements between federal, state, and local fire protection agencies have been established to maximize the effectiveness and efficiency of wildland fire responses. These agreements include the establishment of Mutual Threat Zones and a myriad of activities such as communications, pre-authorized equipment/personnel response levels, incident command protocol, financial reimbursement agreements, and other administrative responsibilities between agencies.

Mutual Threat Zones

Mutual Threat Zones (MTZs) are geographical areas that have historically shown a high fire danger and are at the intersection of multiple jurisdictions. MTZ agreements detail how these agencies will respond to the initial fire attack to ensure maximum efficiency, effectiveness, and safety. Orange County has the following MTZs:

- OCFA/Anaheim/Orange MTZ – Attachment 6 depicts the areas within this MTZ, which includes the points of origin of C2F. A Mutual Threat Zone Operations Guideline document outlines the responsibilities of each jurisdiction in this MTZ. The agreement designates OCFA ECC as the single-dispatching and Central Ordering Point for vehicle and vegetation
fires in this MTZ and requires that the dispatching of fire units will be based on the “closest unit” approach.

- **SOLAR** – SOLAR is a MTZ Response Plan for fires which occur near the borders of the following jurisdictions: San Bernardino, Orange County, Los Angeles, and Riverside. C2F is in the SOLAR area. The SOLAR agreement provides for the activation of fire resources with a predetermined initial response level, the identification of common communication frequencies that will be used by all fire agencies, and the operational responsibilities of each agency. The SOLAR agreement also designates OCFA ECC as the single-dispatching agency for vehicle and vegetation fires and the Central Ordering Point for equipment/personnel resources within the MTZ.

- **PROS** – PROS is a MTZ Response Plan for fires which occur near the intersection of the borders of the following jurisdictions: Camp Pendleton Marine Base, Riverside County, Orange County, and San Diego County. C2F was not in this MTZ.

**Agreements**

The more important cooperative agreements utilized during the C2F response include:

- **Annual Operating Plan (AOP) between CAL FIRE and OCFA**

CAL FIRE requires an AOP with each of its Contract Counties that provide fire protection services for SRA areas within urban county boundaries. Annually, the state pays these contract counties to support an initial attack on wildland fires. The funding is based on the objective of suppressing 95% of wildland fires within the county at 10 acres or less. Contract Counties use Appendixes A and J of the AOP as the authorization to dispatch a significant pre-determined initial response to vegetation fires on High Watershed Dispatch Level days.

Appendix A pre-authorizes and reimburses for a first alarm response consisting of 21 resources (command personnel, air support tankers and helicopters, fire engines, hand crews, dozers). It also authorizes an additional Type 3 Strike Team and one Wildland Urban Interface Task Force for Red Flag Days determined by the National Weather Service. (Attachment 7).

Appendix J allows for the augmentation of the above resources under certain weather conditions. For example, on a High Watershed Dispatch Level day such as October 9, 2017, Appendix J (Attachment 8) authorizes additional firefighters, fire engines, helicopters, dozes, hand crews, dispatchers, strike teams, and water tenders.

The AOP also requires the use of the “closest available” resources for the initial attack response. The agreement states that when a known state or federal resource is the closest
available resource, it will be substituted for the pre-approved like-resource listed in Appendix A.

- **Fire Danger Operating Plan (FDOP)**

The AOP also requires that each Contract County develop a Fire Danger Operating Plan (FDOP). The FDOP is based on a scientific analysis of historical fire and weather data from the National Fire Danger Rating System, that forecasts a fire danger level (i.e., Low, Medium, or High Watershed Dispatch Level) each day for the different weather zones within a jurisdiction. Orange County has three weather zones: Coastal, Inland, and Mountain. CF and C2F began in the Inland weather zone, in proximity to the Mountain zone. OCFA’s FDOP emphasizes that large fires within the county are “…highly dependent upon wind activity. Previous data analysis shows that the largest fires in Orange County have occurred due to low relative humidity levels and high wind gust speeds.”

OCFA’s ECC has the primary responsibility for implementing the FDOP in terms of deploying the appropriate resources, determined by Appendix A of the AOP, to reported fires based on the Watershed Dispatch Level and type of fire (vegetation, structure, vehicle, etc).

- **Operating Plan** between OCFA and the US Forest Service/Cleveland National Forest

The pertinent parts of this agreement include:

- US Forest Service is responsible for the prevention, protection and suppression of wildland fires on federal administered lands such as the Cleveland National Forest.
- The points of origin of C2F were within 1.2 miles of the Cleveland National Forest.
- OCFA may dispatch its resources to any wildland fire in the Cleveland National Forest that it believes imminently threatens structures or private property outside the Cleveland National Forest.
- During the initial attack of a wildland fire within the Cleveland National Forest, the US Forest Service will utilize the closest available resources.

- **Wildland Operating Plan** between CAL FIRE/Riverside and the city of Anaheim

The city of Anaheim contracts with CAL FIRE/Riverside to protect its wildland vegetation in three different areas within its city limits (a total of 4,405 acres), which includes the points of origin for both CF and C2F. The pertinent parts of this agreement include:

- The agreement includes the fire suppression of wildlands, but not the protection of structures within those wildlands.
- When Anaheim receives a report of a fire within these wildland areas, Anaheim is required to promptly notify CAL FIRE’s Perris Emergency Dispatch Center.
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- A Unified Command authority structure will be implemented consisting of a CAL FIRE/Riverside and Anaheim Fire representative.
- CAL FIRE/Riverside and Anaheim agree that OCFA will serve as the Central Ordering Point for resources needed to attack the fire.
- All initial attack resources will be considered mutual aid.
- Initial attack resources will always be based on the "closest available" resources concept.
- The implementation of the following pre-planned initial attack response for Vegetation fires on a High Watershed Dispatch Level day:
  - CAL FIRE/Riverside will dispatch: 1 Chief Officer, 3 Type-3 (4-wheel drive) engines, 2 dozers, 2 hand crews, 1 helicopter, 1 air attack aircraft, 1 air tanker
  - Anaheim Fire will dispatch: 1 Chief Officer, 2 Type-3 engines, 1 Type-1 engine

• Automatic Mutual Aid Agreements between OCFA and OC city fire departments

OCFA has mutual aid agreements with several Orange County fire agencies, including the cities of Anaheim and Orange, which were activated during C2F. Pertinent parts of those agreements include:

- Each agency will jointly respond to Vegetation fires in all areas containing wildland acreage, including those along the 241 Toll Road.
- The first arriving officer will assume Incident Command until that officer reassigns command or is relieved by the Chief Officer.
- The jurisdiction where the fire originates will be responsible for preparing the fire Incident Investigative Report.
- For fires originating in the unincorporated or State Responsibility Areas, the OCFA will become the Central Ordering Point and Incident Dispatch Center.
- If a requested fire unit is not in the station contacted, OCFA will ensure that the next closest unit will be dispatched, regardless of agency.

OCFA Organization

The following information is important in understanding the mission and operational practices of OCFA in addressing wildland fires:

Strategic Foundation

An organization's Strategic Foundation is based upon its vision and mission statements, as well as any other guiding documents such as motto statements, goals, etc. These documents declare the purpose of the organization to its staff and the public, the goals it will be pursuing with its resources, the values its personnel will demonstrate as it pursues these goals, and the criteria against which decisions will be based and later evaluated for their efficiency and effectiveness.
OCFA’s Strategic Foundation elements include:

- **Vision:** OCFA is a premier public safety organization providing superior services that result in no lives or property lost.
- **Mission:** We enhance public safety and meet the evolving needs of our communities through education, prevention, and emergency response.
- **Motto:** We visualize problems and solutions through the eyes of those we serve.

**Organization Chart**

![OCFA Organization Chart]

**Governance and Political Environment**

OCFA is a Joint Powers Authority governed by a Board of Directors comprised of 25 elected officials from the political jurisdictions that OCFA provides fire services. As such, the Orange County Board of Supervisors has no authority to direct the activities of OCFA.

99.5 percent of OCFA’s 1,400 full-time positions are represented by employee associations through collective bargaining agreements:

(see next page)
Sources both inside and outside of OCFA stated that these associations have significant influence over OCFA operations.

Standard Operating Procedures (SOPs)

In addition to Cooperative Fire Agreements, OCFA has a number of internal documents that outline the critical danger represented by wildland fires in Orange County, delineate OCFA’s goals in addressing these type of fires, and direct the practices that will be utilized in preventing and containing these fires. A summary listing of the more important internal documents, followed by a summary of the dangers/goals/standard operating practices contained in those documents, relevant to C2F include:

**OCFA Internal Documents:**

- **2016 Unit Strategic Fire Plan** -- As previously identified, the state contracts with OCFA to provide fire protection to State Responsibility Area (SRA) lands within Orange County. OCFA’s Unit Strategic Fire Plan was developed in 2010 and is periodically updated to serve as a planning and assessment tool to reduce total government costs and citizen losses from wildfire in Orange County.

- **Rapid Attack & Mobilization Plan (RAMP)** – used by OCFA/ECC staff, this plan summarizes the specific pre-planned fire suppression response that OCFA/ECC Dispatch staff will send for certain Watershed Dispatch Levels and types of fires, as well as drives the “move-up and cover” of fire stations whose resources have been dispatched to significant fire events. In the “Assault (Initial Response) Phase” of a wildland fire occurring on a High Watershed Dispatch Level day (such as C2F), the ECC Supervisor is pre-authorized to dispatch up to 35 OCFA engines, and to request up to 50 Mutual Aid fire suppression equipment/personnel from local fire agencies.
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- Wildland Urban Interface (WUI) Risk Assessment Matrices – these matrices serve as educational tools that document Orange County’s historical high fire danger risk areas and fire behavior patterns in these areas.

- Policies and Procedures:
  o OM Policy 209.08 “Wildland Fire Operations”
  o Operations Policy 06.43 “Resource Response Guidelines”
  o Operations Policy 02.09 “Red Flag Alert/Hazardous Fire Conditions Program”
  o Operations Policy 06.50 “Out-of-County and Mutual Threat Zone Response”
  o Communications Policy 02.05 “Wildland Watershed Dispatch Levels”
  o Operations Policy 06.27 “Move-Up and Cover Procedures”

- Memoranda:
  o May 25, 2017 “Annual Wildland Fire Season” memo to all OCFA Personnel
  o July 26, 2017 “Implementation of Wildland Dispatch Criteria” memo to all OCFA Operations Division personnel
  o March 7, 2018 “Move-up and Cover Procedures Update,” to all Operations and ECC personnel

**OCFA Wildland Fire Danger Warnings in Interdepartmental Communications:**

- Recent history illustrates that Orange County is prone to large scale wildfires in and near the SRA. 24 Orange County cities are nationally recognized as at-risk wildland fire communities.
- OCFA anticipates that the 2017 fire season will be a receptive source for wildland fire ignitions.
- The Anaheim Hills-East area (Attachment 9), where C2F originated, is a historical major fire corridor that has been subject to more than a dozen Santa Ana wind-driven major fires in seventy-five years with a total loss of 432 homes. In critical fire weather, fires in this area burn with extreme behavior, high rates of speed, and have long-range spotting capability.

**OCFA Goals for Preventing and Containing Wildland Fires in Interdepartmental Communications:**

- On August 1, 2017, OCFA will implement the Wildland Dispatch Criteria for all vegetation fires in identified watershed weather areas of the county (Coastal, Inland, Mountains). The Wildland Dispatch Criteria is part of the Fire Danger Operating Plan (FDOP), a requirement that CAL FIRE places on all Administrative Units and Contract Counties. The plan is National Fire Danger Rating System-based and establishes the forecasted fire danger (Low, Medium, High) in each of three weather zones in the County. The intent of this enhancement is to simplify the process for ordering resources in a timely manner to meet the CAL FIRE goal of keeping 95% of all wildland fires to 10 acres or less.
- A significant OCFA objective is to reduce wildfire ignitions and to change the general attitude of the public about wildland fire risks from apathy and unawareness to alertness and empowerment.
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- The basic philosophy is to stop forward progress of the fire as rapidly as possible.
- The Red Flag Alert program is an intensive, cooperative, watch-and-warning fire patrol, and public awareness program that is conducted by local, state, and federal fire services in conjunction with private cooperators during periods of extreme fire danger. Key goals of the program are:
  - Public cooperation in preventing fires
  - Fire prevention through patrols in high risk areas
  - Early protection and reporting of fires and identification of suspicious circumstances
  - Faster response to any fire
- A plan goal for both 2014 and 2015 was the establishment of a better working relationship with CAL FIRE.

**OCFA Standard Operating Procedures/Practices for Fighting Wildland Fires:**

- A direct water attack is generally the fastest control method to contain the spread of wildland fires.
- The fire danger in the county is established through the Fire Danger Operating Plan (FDOP). This plan sets the dispatch level and corresponding initial attack resources. OCFA’s ECC has primary responsibility for implementing the FDOP in terms of resource deployment based on the determination of the appropriate Watershed Dispatch Level. During fire season, the ECC will announce the Watershed Dispatch Level at 0800 each day on the primary dispatch and interagency frequencies. Watershed Dispatch Levels are classified as ‘Low,’ ‘Medium,’ and ‘High.’ Any change in the Watershed Dispatch Level during the day will be formally announced. These changes are monitored by partner fire agencies and cooperators, which may influence their wildfire danger perspectives and resource deployment.
- Watershed Dispatch Level changes are reflected in the Computer Aided Dispatch (CAD) information system to ensure appropriate resources are assigned at the time of dispatch. The closest available resources will be dispatched to wildland fires, and immediately respond Code 3 (lights and sirens) to the incident.
- On a report of a wildland fire on a High Watershed Dispatch Level day, OCFA will launch a “High Vegetation (VegH)” response consisting of:
  - 1 Assistant Chief
  - 2 Battalion Chiefs
  - 1 Division Chief
  - 1 dozer
  - 1 Duty Officer
  - 4 fire engines
  - 2 type-3 fire engines (4-wheel drive)
  - 2 hand crews
  - 2 helicopters
  - 2 fire investigators
  - 1 paramedic
  - 1 patrol/squad
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- 1 service support staff
- 2 water tenders

OCFA/Sheriff Helicopters

The helicopter equipment owned by OCFA and the Sheriff Department includes:

<table>
<thead>
<tr>
<th>Agency</th>
<th>Copter Type</th>
<th>Carded by CAL FIRE, US Forest Service</th>
<th>Water capacity</th>
<th>Available/Staffed on October 9, 2017</th>
<th>Location at 8:45 am on October 9, 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCFA:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-HC1</td>
<td>II</td>
<td>Yes</td>
<td>370 gallons</td>
<td>Yes/Yes</td>
<td>Fullerton Airport</td>
</tr>
<tr>
<td>-HC2</td>
<td>II</td>
<td>Yes</td>
<td>370 gallons</td>
<td>Yes/Yes</td>
<td>Fullerton Airport</td>
</tr>
<tr>
<td>-HC3</td>
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<td>Yes</td>
<td>370 gallons</td>
<td>Yes/No</td>
<td>Fullerton Airport</td>
</tr>
<tr>
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<td>Yes</td>
<td>370 gallons</td>
<td>No/No</td>
<td>Maintenance</td>
</tr>
<tr>
<td>Sheriff:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-Duke 1</td>
<td>III</td>
<td>Yes</td>
<td>210 gallons</td>
<td>Yes/Yes</td>
<td>John Wayne Airport</td>
</tr>
<tr>
<td>-Duke 2</td>
<td>III</td>
<td>No</td>
<td>108 gallons</td>
<td>Yes/Yes</td>
<td>John Wayne Airport</td>
</tr>
<tr>
<td>-Duke 3</td>
<td>III</td>
<td>No</td>
<td>210 gallons</td>
<td>No/No</td>
<td>Carlsbad, CA</td>
</tr>
<tr>
<td>-Duke 6</td>
<td>II</td>
<td>Yes(^4)</td>
<td>210-gallon Bambi bucket or 370-gallon belly tank</td>
<td>Yes/Yes</td>
<td>Irvine Lake (practicing fire water dropping)</td>
</tr>
<tr>
<td>-Duke 7</td>
<td>II</td>
<td>No</td>
<td>210 gallons</td>
<td>No/No</td>
<td>Maintenance</td>
</tr>
</tbody>
</table>

Historically, OCFA and Sheriff helicopter operations have operated independently within their established missions. OCFA responds to fire and emergency medical rescue events; Sheriff responds to law enforcement and search requests of missing persons. In 2014, when some Sheriff helicopters were equipped with hoists to lower and raise safety personnel and impacted members of the public, this provided Sheriff pilots with the capability to participate in the rescue of lost individuals as well as attend to emergency medical issues of the injured.

In terms of availability, in-service Sheriff helicopters are airborne approximately 10 - 11 hours per day, frequently on routine patrol throughout Orange County. In contrast, OCFA helicopters only deploy when they are dispatched, to either a search and rescue, fire, or to participate in training. As such, more-often-than-not, an already deployed Sheriff helicopter can respond quicker to an incident scene.

\(^4\) Duke 6 was carded for the Bambi bucket only at the time of C2F; it was subsequently carded by CAL FIRE for the use of the belly tank on October 20, 2017.
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Five Sheriff helicopters have the capability of dropping water on fires. In local responsibility areas (non-federal and non-state lands within Orange County), all Sheriff helicopters, per FAA Public Aircraft Operation exemption for aerial firefighting, may drop water on fires. In order to perform this role in state or federal responsibility areas, helicopters and pilots must be “carded” by CAL FIRE for state lands and the US Forest Service for federal lands. Two Sheriff helicopters (Duke 1 Type-III patrol, and Duke 6 Type-II hoist) and seven pilots have received this certification from CAL FIRE for State Responsibility Areas. The Sheriff does not have a contract with the US Forest Service for fire suppression, however, they are allowed to drop water as a first-on-scene responder to a fire event on federal lands, until other resources respond.

Typically, there is an initial public safety response provided by the first responder to the scene (law enforcement or fire). Once an officer (e.g., Fire Captain, Law Sergeant, etc.) arrives at the scene, that person becomes Incident Commander until other public safety assets arrive and the entity with the closest mission objective assumes Incident Command. For instance, if there is the potential for or the actual commission of a crime, then Law Enforcement assumes Incident Command; if it is a wildland fire, Fire assumes Incident Command. If the incident has elements of both law enforcement and fire such as a search and rescue mission, a Unified Command structure may be established where decisions are reached jointly. Incident Command is a formal term that carries with it certain legislative enforcement in how public safety incidents are handled according to the National Incident Management System (NIMS). All responding public safety resources (either Fire or Law Enforcement) must acknowledge and follow the directives of the Incident Commander of the scene.

Over the past few years, Orange County's regional fire protection system has largely excluded the use of Sheriff helicopters for fire suppression activities. OCFA characterizes Sheriff helicopters as “extra resources,” to be considered on an as-needed basis. In practicality, however, the evidence suggests that they are viewed as an air resource of last resort. This observation is sufficiently substantiated by the following information:

- The 2016-17 OCFA/Sheriff MOU and Aviation Operating Plan – OCFA responds to provide fire/rescue and emergency medical services at incidents occurring with the Orange County Operational Area; the Sheriff will respond to provide search and rescue for missing or lost persons and investigation of incidents that may involve criminal acts.

- Limited instances where a Sheriff helicopter was utilized for fire-related assistance – in 2016, six Orange County wildland fires utilized air resources for fire suppression: Tortoise fire in Coto de Caza (20 acres), Laguna Niguell fire (30 acres), Laguna Canyon fire (50 acres), Holy Jim fire (155 acres), Ladera Ranch fire (25 acres), San Juan Hills fire (58 acres). Sheriff helicopters were requested for fire suppression in one of those fires. In the September 2017 Canyon Fire, Sheriff helicopter support was requested and utilized to provide Helicopter coordinator (HLCO) service, but not for water dropping. OCFA management states that resource requests are based on the needs of the incident as requested by a fire agency Incident
Commander. OCFA states that in many smaller fires, additional air services were not necessary.

- OCFA policies and memos – pertinent sections include:
  - *Operations policy 06.43 “Resource Response Guidelines,” September 2016*
    - Requires the use of helicopters from OCFA and/or CAL FIRE/US Forest Service ordered through CAL FIRE South Operations for fire suppression activities.
    - A previous email stated that Duke 6 is now carded along with some OCSD [Orange County Sheriff Department] pilots. However, OCSD staffing patterns to ensure fire-qualified (“carded”) pilots are not fully understood and documented. There are many questions that need to be answered before we can consistently count on them as a firefighting resource.
    - Therefore, as an interim directive:
      - In all cases we will first utilize OCFA staffed helicopters to fill the response requirements. If additional Type-II water-dropping helicopters are needed, continue to request through South Ops (CAL FIRE) for the next closest and available Type-II helicopter.
      - In all medium and high watershed dispatches, the OCFA will check to see if the OCSD has a type-II helicopter available. If available, they will be added as an EXTRA resource to the response. This is to say, if the response requires two type-II helicopters and OCFA helicopter 1 and CAL FIRE helicopter 301 are already assigned, Duke 6 will be added as a third helicopter and EXTRA resource. The Incident Commander will be immediately notified of the extra resource. For now, Duke type-II helicopters will NOT be used to fill a response requirement.

- Interview comments – interviews with OCFA/Operations Command staff, OCFA/ECC dispatchers/supervisors, outside fire agencies, and Sheriff helicopter command staff, yielded the following responses related to OCFA’s use of Sheriff helicopters for fire suppression:
  - OCFA Executive staff state that they consider Sheriff helicopters as “extra resources” because: OCFA does not train regularly with Sheriff helicopter crews, not all Sheriff pilots are carded by CAL FIRE, and there is an absence of a “sense of comfort” regarding Sheriff pilot firefighting capabilities. As such, OCFA states that they prefer to utilize the known performance capabilities of fire agency helicopters and their pilots.
  - Some perceive that the fire unions are a factor in this issue, not wanting Sheriff helicopters to (1) encroach upon OCFA firefighting or emergency search and rescue operations (“mission creep”), or (2) result in the potential loss of OCFA jobs.
  - When the Sheriff Department requested that OCFA consider providing a OCFA paramedic on Sheriff helicopter crews, OCFA declined. The Sheriff subsequently utilized law enforcement personnel who were current paramedics with previous EMS experience and Reserve officer paramedics to staff their helicopters.
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- There is a general perception within OCFA that the Sheriff's department has a desire to control air operations in Orange County.
- OCFA's current emergency dispatch protocol is to "advise-only" Sheriff Dispatch regarding the outbreak of a wildland fire. OCFA ECC Dispatch staff state that they cannot on their own initiative request a Sheriff helicopter for a fire-related incident unless directed by OCFA command staff. If a helicopter is needed for a wildland fire event, OCFA Dispatch will first use its own helicopter equipment. If additional helicopters are needed, OCFA will contact CAL FIRE/Riverside and/or the US Forest Service. Only if other fire agency helicopters are not available, will OCFA request Sheriff Department helicopter support.
- Outside fire agencies generally wanted to remain neutral regarding the OCFA/Sheriff helicopter dispute, but the majority stated they would be amenable to using Sheriff helicopters as a closest available resource so long as Sheriff helicopter crews communicated with and followed the direction of Fire Incident Commanders.

- CAL FIRE's ROSS system - CAL FIRE uses a computerized Resource Ordering and Status System (ROSS) to solicit, obtain, dispatch, document and reimburse outside fire agencies who respond to requests and provide fire suppression services for large event fires around the state. The ROSS system allows CAL FIRE to control and coordinate personnel and equipment resources from qualified responders and provides a tracking mechanism so that outside agencies can be reimbursed by CAL FIRE for the services provided. When OCFA needs helicopter resources beyond its own fleet, it rarely directly requests assistance from the Sheriff's Department, but instead places an order through the ROSS system. ROSS provides readily available pre-authorized fire agency helicopter resources in proximity to Orange County (e.g., CAL FIRE/Riverside, US Forest Service/Cleveland National Forest). Pre-authorization ensures that responding agencies are certified and will get reimbursed for responding.

The Sheriff Department has a lease agreement with CAL FIRE for the "Intermittent Use of Aircraft" on a "Call-When-Needed" basis for helicopters Duke 1 and 6. As such, while they are in the ROSS database, they are not a pre-authorized fire resource. To obtain authorization to use a CAL FIRE-carded Sheriff helicopter, OCFA would have to specifically request it. As previously identified, it appears that the practice of OCFA is to request Sheriff helicopters for fire suppression resources as a last option. During the C2F firefight, OCFA requested 12 Type-II and 1 Type-III helicopters. Three OCFA helicopters and outside fire agency helicopters filled all 12 requests. CAL FIRE filled the single Type-III request from a nearby outside fire agency. No Sheriff helicopter assistance was specifically requested through ROSS for C2F, save a Type-III request to provide Helicopter Command coordination (HLCO).

Although not part of the scope of this study, it should be noted that several examples of the ongoing conflict between OCFA and Sheriff helicopter crews were observed or noted during this review. These included: unsafe flight maneuvers by some helicopter pilots responding to an incident; lack of communication from secondary aircraft entering occupied airspace; lack of
timely communication with Incident Command staff; and instances of unprofessional communication between airship crews. These observations were also noted by other public agencies interviewed during this study, as well as from audio/video recordings of these conflicts. These incidents fuel an uncooperative and tension-filled environment during the performance of public safety rescue and fire operations which increases the risk of an air collision. If these types of events were to occur during a major wildland fire, where multiple types of aircraft were being utilized, air resources would have to disengage from firefighting and wait until safe operations were restored before recommencing the firefight.

Canyon Fire (CF)

On September 25, 2017, at approximately 12:58 pm, the Canyon Fire began in the city of Anaheim, its point of origin 0.4 miles east of the origin of C2F, alongside the 91 freeway at the Green River offramp. According to Anaheim Fire’s Incident Investigative Report, the CF was most likely started by a Cal Trans’ lit flare that was hit by a motorist traveling eastbound on the 91 freeway, sending the flare into fresh vegetation just off the freeway. The fire subsequently burned 2,622 acres and damaged six structures.

The CF has several similarities to C2F: both started in the same general wildland area; both occurred on High Watershed Dispatch Level days with strong Santa Ana winds; both fires were initially reported to 911 by passing motorists on the 91 freeway; and the same OCFA ECC supervisor was on duty for both fires. However, there was one significant difference: OCFA ECC emergency dispatch staff responded to the first 911 report of fire and appropriately dispatched a Vegetation-High response to the CF within five minutes. Fire units were on the scene 12 minutes after the 911 call.

The CF was declared 100 percent contained on October 3, 2017. Joint “mop-up” (reignition mitigation) activities with combined fire agency crews commenced on September 30 and continued until October 3, 2017. During this time, resources from OCFA and Anaheim Fire (45 personnel) were assigned to provide mop-up for the area that would later become the determined ignition source of C2F. Mop-up activities assigned for this area included establishing a dozer fire line along the perimeter of the CF, the extinguishment of hotspots, and the mop-up of brush up to 100 feet inside the burn area. After October 3, each fire agency was then responsible for providing additional mop-up activities for their own jurisdiction’s property. From October 4, 2017 onward, Anaheim Fire did not have any record of additional mop-up activities being performed in the C2F ignition source area that was within their city limits.

October 8, 2017 Sierra Peak Unburned Island Fire Within the CF Burn Area

Sierra Peak is at 3,046-foot elevation, 2.4 linear miles and 120 compass degrees southeast from the origin of C2F (765-foot elevation). On October 8, 2017, at approximately 4:40 pm, an Anaheim Police helicopter crew (Angel 26) flying in the area noticed smoke approximately 100
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feet to the north of Sierra Peak. Upon arrival at the scene, the helicopter crew observed a fire in a small unburned green island within the vast burn area of the CF. Angel 26 called OCFA ECC to report the fire. Since this location is in the Cleveland National Forest, OCFA ECC contacted the US Forest Dispatch Center (Monte Vista) to inform them of the situation. Monte Vista stated that they currently had no crew in the area and ultimately advised OCFA to let the fire burn itself out as, in their estimation, it had nowhere to travel, being securely contained within the vast burn area of the previous CF. It was known at that time that the National Weather Service had forecast a Red Flag warning for the next day, with predicted high winds coming and low relative humidity, and that this area was at a High Watershed Dispatch Level for extreme fire danger.

Public safety radio communications, subsequent interviews with involved personnel, and a review of media reports of the October 8 event indicate the following:

- The Angel 26 crew was disturbed about the decision to let the fire burn itself out, given the weather forecast and high fire danger level for the next day.
- All Fire personnel interviewed state that it is common for fire agencies to let small unburned islands within the “black” to burn themselves out.
- During radio discussion of the event, OCFA informed its helicopter staff to standby for a possible deployment. A few minutes later, a OCFA ECC dispatcher talking with a OCFA helicopter pilot on the ground at Fullerton Airport, states: “Hey, we have been talking with Cleveland [US Forest Service/Monte Vista]. It doesn’t look like we’re going to launch anything because they were out there yesterday. However, Angel [26] says they see flames, so kind of your discretion, but we’re not going to be launching a response. We’re going to let Cleveland kind of do it.” OCFA pilot: “Yeah, that makes sense. I was listening to the whole thing on Alpha 5 [radio frequency], so.”
- Monte Vista Dispatch, after talking with its Operations staff, calls OCFA ECC back and states: “So, I think it just has to burn itself out, I think... That’s what I’ve been told.” ECC: “They don’t want us to launch a helicopter and just do a drop on it or whatever?” Monte Vista: “You know, he didn’t say. I guess we can ask, but I think they’re just letting it do its thing, from what I’ve been told.” ECC: “Okay. All right. I’ll let them know.”
- The ECC Dispatch Supervisor on October 8 was on a sleep break during the Sierra Peak event (OCFA Dispatchers work 24-hour shifts). The supervisor states that ECC staff never informed him/her (for anonymity) of the event when he/she returned from break. As a result, the supervisor was unable to pass along this information to the roll-on ECC Dispatch Supervisor at the start of the next day’s shift change at 7:00 am on October 9, 2017.
- There are no reports of any public safety personnel (fire or law enforcement) revisiting the unburned island fire near Sierra Peak after 4:40 pm on October 8, 2017 and before the start of the C2F on October 9, 2017.

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- A Sheriff Reserve paramedic was monitoring the public radio communication regarding the October 8 Sierra Peak event. The paramedic incorrectly told the media that Anaheim Police helicopter pilots reported the small blaze as being “outside the burn area” of the previous CF. The Anaheim pilots clearly reported the fire as being “within” the CF burn area. Notwithstanding, the paramedic was extremely upset by the decision not to launch a water drop given that high winds were forecast for the next day. When the C2F started the next day, 2.4 miles downhill from Sierra Peak, the paramedic informed the media of the situation. This began the intense media scrutiny of C2F, with speculation that embers from the Sierra Peak unburned island could have been the cause of C2F (this issue is further addressed in the “Findings and Recommendations” section).

- Sierra Peak is 2.4 linear miles and 120 compass degrees southeast of the origin of C2F. The wind direction on October 9, 2017 ranged from 54 to 78 compass degrees northeast from 5 am to 9 am that day. The wind speed ranged from 25 mph to wind gusts up to 40 mph at Sierra Peak.

Tubbs Fire (Sonoma County/City of Santa Rosa) Mutual Aid Request and Response

Late on October 8, 2017, OCFA received a request from the CAL FIRE ROSS system of an immediate fire suppression need to respond to the Tubbs Fire in Santa Rosa. At first, due to Reg Flag Warnings and a High Watershed Dispatch Level for October 9, Orange County declined to commit its resources. Santa Rosa, however, reiterated its immediate need, citing imminent danger to property and life. In response, on October 9 at 5:41 am, OCFA dispatched five of its Type-3 fire engines to Santa Rosa. Type-3 engines are smaller, 4-wheel drive engines that are used to fight wildland fires in difficult terrain. OCFA only has 13 Type-3 engines in its fleet distributed among fire stations abutting wildland areas. The Type-3 engines sent by OCFA were from OCFA fire stations 53 (Yorba Linda), 15 (Silverado Canyon), 45 (Rancho Santa Margarita), and 47 (Shady Canyon-Irvine). This deployment left Station 53 (the closest fire station to the C2F origin) uncovered for four hours, from 5:41 am to 9:40 am. There were clear mitigating options to effectively to address Station 53’s coverage issue. Anaheim Fire Station 10, the next closest fire station with a Type-3 engine was only a few miles farther away from the origin of C2F. In addition, OCFA has a “move-up-and-cover” policy that specifically dictates how vacancies created by fire units responding outside the County will be filled. Since the C2F, this policy has been revised to ensure that a Type-3 engine vacancy lasts no longer than one hour during fire season and High Watershed and Red Flag periods.
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Initial Response to Canyon 2 Fire

As previously identified, C2F began within the Anaheim city limits. The origin of the fire was in and near several fire jurisdictions and mutual threat zones:

- Within the area that Anaheim contracts with CAL FIRE/Riverside for the provision of wildland fire protection
- Within the SOLAR Mutual Threat Zone
- Within the Anaheim/OCFA/Orange Mutual Threat Zone
- Approximately 305 feet from the State Responsibility Area protected by OCFA per their contract with CAL FIRE (several acres of the SRA were burned by C2F)
- Approximately two miles from the Cleveland National Forest

As a result, several agencies participated in C2F fire suppression activities: OCFA, Anaheim Fire, Orange Fire, CAL FIRE/Southern Region Operational Areas (from San Diego in the south to Madera in the north), US Forest Service (Cleveland/Angeles/Los Padres National Forests), Laguna Beach Fire, Fullerton Fire, Brea Fire, Newport Beach Fire, Huntington Beach Fire, Fountain Valley Fire, and Garden Grove Fire. Per established agreement and policy, the following roles were assigned:

- Anaheim Fire led a Unified Incident Command team made up of Anaheim Fire, OCFA, CAL FIRE, and Orange Fire.
- Anaheim Fire was responsible for the Fire Incident Investigation Report.
- OCFA ECC served as the central emergency dispatch agency and the Central Ordering Point for fire suppression resources (personnel and equipment), as well as providing fire suppression resources.
- CAL FIRE, through its ROSS information system, took and filled fire suppression resource requests, including using its own fire suppression resources.
- US Forest Service provided fire suppression resources.
- After-incident joint mop-up activities by multiple fire jurisdictions.

October 9, 2017, was a Red Flag Day as declared by the National Weather Service and a High Watershed Dispatch Level day confirming an extreme fire danger. OCFA policy, as well as regional fire agency agreements, mandate that a “report” of a fire on a High Watershed Dispatch Level day be automatically call-typed as a “Vegetation-High” event, requiring the dispatch of a pre-determined significant level of fire suppression resources, and the immediate notification of impacted fire jurisdictions. One, and possibly two, OCFA ECC staff members failed to comply with this mandate on October 9, 2017.
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Emergency Dispatch Center Issues

Dispatch Logs and Audio Records

The first 911 call reporting the C2F was taken by the California Highway Patrol at 8:32 am on October 9, 2017, and immediately transferred to OCFA ECC. Without question, the resulting sequence of errors that occurred over the subsequent 71 minutes severely impacted the suppression of C2F. Attachment 10 provides a revealing synopsis of pertinent emergency communication center radio/telephone conversations of CHP Dispatch, OCFA ECC, and Metro Net Dispatch centers from 8:32 am to 11:44 am on October 9, 2017. Metro Net is the emergency fire and emergency medical dispatch center located at Anaheim Fire headquarters for the cities of Anaheim, Brea, Fullerton, Garden Grove, Orange, Huntington Beach, Newport Beach, and Fountain Valley.

A summary of the most pertinent events detailed in Attachment 10 which negatively impacted the initial response to C2F include:

- The OCFA ECC Dispatch Supervisor’s phone conversation at 8:32 am with an out-of-the-area firefighter (different than the 8:32 am 911 call) indicates that the ECC Supervisor was surprisingly unaware of high wind conditions present in Orange County that morning.
- The OCFA Dispatcher who took the 8:32 am 911 call, against policy, does not immediately “call-type” the call as a “Vegetation-High” response. The dispatcher instead contacts OCFA Fire Station 53 in Yorba Linda (approximately 1.1 miles from the C2F origin point) and requests that staff walk outside the station to see if they can see a fire across the 91 freeway. Station 53 staff report that they are getting a lot of ash from the previous CF making it look like smoke. In response, the ECC dispatcher call-types the 8:32 am call as “Information Only, Advised—No Response” in the CAD system. An event designated as this call-type is not forwarded to either the Primary Dispatcher or ECC Supervisor for their awareness or disposition.
- The 8:32 am call-taker (OCFA dispatcher) contacts CHP Dispatch and informs them that the fire is “…unfounded, it’s just ashes.” The CHP subsequently cancels its deployment of its CHP officer to investigate the incident. (Note: It has not been confirmed if the officer actually made it out to the location of the reported fire as the CHP has, to date, not made their officer available for interview for this review).
- CHP Dispatch staff appear to have inaccurately assumed that OCFA sent fire personnel to the scene, as over the next 40 minutes, CHP incorrectly informs ten 911 callers that it is not a fire and that fire personnel have already been on-scene. As a result, CHP Dispatch does not transfer any of these ten calls to fire emergency command centers. (Note: from 8:32 am to 9:24 am, there were at least five unambiguous reports of “fire”).
- The CHP officer that was dispatched based on the 8:32 am call, tells CHP Dispatch that he only sees smoke in the area. Over the next 82 minutes, despite being on patrol in this
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area, and on multiple occasions being asked to get a visual, the CHP officer is one of the last persons to confirm the outbreak of a fire at 9:54 am.

- At 9:24 am, CHP Dispatch calls OCFA ECC to inquire whether a fire crew has been dispatched to the area. OCFA ECC informs CHP Dispatch that the area would be in Anaheim’s jurisdiction, and offers CHP Dispatch the phone number to Metro Net. At 9:26 am, CHP Dispatch notifies Metro Net of multiple calls of fire being reported in the C2F area. (Note: Anaheim Fire should have been the first agency informed of the fire since it was in their jurisdiction. This would have also given Anaheim Fire an opportunity to declare a Vegetation High response).

- OCFA ECC delays the opportunity to get air support “eyes-on” in response to the multiple reports of fire, as OCFA helicopters are not requested until 9:32 am and not formally dispatched until 9:43 am. Sheriff helicopters are not contacted at all by OCFA. When Sheriff Dispatch offers OCFA its Duke helicopter resources at 9:54 am and 10:16 am, both offers are declined by OCFA, as OCFA and CAL FIRE responses have already been dispatched.

- There was a lack of notification or an update of the C2F event by OCFA ECC to relevant public safety jurisdictions. This is verified by the multiple requests for an update of the C2F event (i.e., 9:24 am, 9:35 am, 9:46 am, 9:50 am, 9:54 am, 10:10 am, 10:26 am, 10:27 am) from various jurisdictions (Metro Net, CHP, OC Sheriff, CAL FIRE, US Forest Service) to OCFA asking OCFA to confirm whether a fire had actually started.

- At 9:31 am, OCFA ECC inappropriately designates a “Smoke Check” call-type rather a “Vegetation-High.” This results in only two OCFA fire engines being dispatched code 2 (no lights or sirens).5

- At 9:35 am, OCFA Station 53 informs the ECC that they now see a spot fire from the station. At 9:36 am, an off-duty firefighter makes a 911 call stating that he sees small flames in the area. At 9:36 am, an OC Park Ranger also states that he has a visual on the fire. At 9:36 am, an OCFA Battalion Chief is dispatched to the scene. At 9:41 am, the Battalion Chief requests a Vegetation-High response be called. At 9:42 am, ECC upgrades its “Smoke Check” to a “Vegetation-High” fire response that results in significant fire resources being dispatched at 9:43 am from several jurisdictions.

- At 9:43 am, OCFA ECC requests resources from Anaheim Fire.

- At 9:52 am, CAL FIRE informs OCFA ECC that it is sending a Vegetation-High response.

- At 9:53 am, OCFA Battalion Chief 2 assumes C2F Incident Command.

- At 10:03 am, Anaheim assumes C2F Incident Command and forms a Unified Incident Command structure.

- At 10:26 am, Incident Command estimates that the fire will reach the 241 freeway at 11:11 am. The fire moves quicker than expected, crossing over the 241 freeway at 10:42 am.

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5 Based on weather circumstances, the engine commander changed the response to code 3 (with lights and sirens).
OCFA and Metro Net Computer Aided Dispatch (CAD) records, OCFA Automated Vehicle Locators (AVL), and audio recordings show the on-scene arrival of local and adjacent regional fire suppression resources. The on-scene arrival time of resources between 9:40 am and 11:50 am on October 9, 2017 include:

- 9:42 am: *(OCFA declares Vegetation-High Response)*
- 9:43 am: OCFA Engine 32 (previously dispatched at 9:31 am smoke check)
- 9:43 am: OCFA Battalion Chief 2 (previously dispatched at 9:31 am smoke check)
- 9:48 am: Anaheim Battalion Chief 1
- 9:49 am: OCFA Engine 53 (previously dispatched at 9:31 am smoke check)
- 9:52 am: Anaheim Engine 308
- 9:52 am: Anaheim Engine 9
- 9:50 am: Anaheim Engine 310
- 9:59 am: OCFA Engine 10
- 10:00 am: Orange Battalion Chief 1
- 10:00 am: OCFA Engine 23
- 10:07 am: Orange Engine 4
- 10:07 am: OCFA K2 bulldozer
- 10:08 am: OCFA helicopter HC1
- 10:15 am: OCFA helicopter HC2
- 10:15 am: OCFA K1 bulldozer
- 10:16 am: OCFA water tender W16
- 10:12 am: CAL FIRE helicopter 305
- 10:17 am: OCFA Engine 2
- 10:19 am: OCFA Public Information Officer
- 10:23 am: OCFA Ground Crews G1A and G1B
- 10:24 am: CAL FIRE Air Tanker 73
- 10:25 am: CAL FIRE Air Tanker AA12 and Lead Plane B9
- 10:25 am: OCFA water tender W32
- 10:28 am: CAL FIRE Air Tanker 10
- 10:30 am: OCFA Engine 72
- 10:31 am: OCFA Engine 75
- 10:34 am: OCFA Engine 70
- 10:34 am: OCFA Station 53 crew
- 10:35 am: OCFA Engine 21
- 10:48 am: OCFA Engine 35
- 10:50 am: OCFA Battalion Chief 9

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6 OCFA’s CAD report documents that HC1 arrives on-scene at 11:00 am. However, OCFA states that this data is incorrect. Voice recordings indicate HC1 was on-scene at 10:38 am providing initial air reconnaissance, and then dropped water between 10:20 to 10:25 am.

7 OCFA’s CAD report documents that HC2 arrives on-scene at 11:00 am. However, OCFA states this data is incorrect. OCFA states that voice recordings indicate that HC2 arrives on-scene to drop water between 10:10 and 10:15 am.
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- 10:57 am: Orange Engine 2
- 10:58 am: Fullerton Engines 1 and 5
- 11:09 am: OCFA Engine 355
- 11:29 am: OCFA Battalion Chief 4
- 11:35 am: OCFA Engine 327
- 11:48 am: OCFA Engine 350
- 11:49 am: Anaheim Battalion Chief 2
- 11:49 am: Fullerton Engine 3

OCFA ECC Dispatcher and Management Interviews

All OCFA ECC dispatch staff that were on-duty on October 9, 2017, were interviewed. Two additional dispatchers and one Dispatch Supervisor who were not on-duty that day were interviewed as well. In addition, the ECC Manager and Assistant Fire Chief/Support Services were interviewed. Significant information gathered from these interviews/meetings included:

- To a person, all OCFA ECC dispatchers, supervisors, and management confirmed that the appropriate dispatcher response to a reported fire on a High Watershed Dispatch Level day is to call-type it as a “Vegetation-High” (VegH) Response, which automatically sends the pre-planned significant fire suppression response.

- The ECC Dispatcher who took the 8:32 am call, call-typed it as “Information Only, Advised.” This dispatcher stated that he/she (for anonymity) assigned this call-type at the direction of the ECC Supervisor. The Dispatcher stated that immediately after taking the call, he/she informed the supervisor of the situation and any actions he/she subsequently took were at the direction of the supervisor. The Dispatch Supervisor, in contradiction, states that the Dispatcher never told him/her about the 8:32 am call, and he/she did not find out about the 8:32 am call until a couple days later when he/she was notified about it by the ECC Manager. When informed, the Dispatch Supervisor stated that he/she responded, “What 8:32 call?” Four other on-duty October 9 Dispatchers stated that they vaguely remember hearing the 8:32 am call-taker (Dispatcher) ask the Dispatch Supervisor how to handle a call. These other dispatchers, however, were unable to recollect what precisely they heard, or at what time of the morning they heard it. The 8:32 am call-taker (Dispatcher) only took three 911 calls between 8:32 am and 9:51 am; the other two calls were non-fire related.

- All dispatch staff stated that they have not formally inquired about the 8:32 am call with other dispatchers or supervisory staff. In addition, both the 8:32 am call-taker (Dispatcher) and the Dispatch Supervisor stated that they have not spoken to each other about the incident despite its significant ramifications.

- At 9:28 am on October 9, 2017, Metro Net Dispatch contacted the OCFA ECC to inform them that the CHP had reported that flames had started in the canyon area. However,
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OCFA ECC did not call a Vegetation-High response until 9:42 am, 14 minutes later. Metro Net subsequently asked OCFA management why the ECC did not call a Vegetation-High response until 14 minutes later. After examining records, ECC management decided to retain the services of an outside personnel investigator to formally investigate the reasons for the excessive delay. In conducting further research over the next couple of weeks, ECC management subsequently discovered the existence of the October 9, 8:32 am call. ECC management informed OCFA Executive Management of the 8:32 call on the morning of October 25, 2017. OCFA had a prescheduled C2F press conference later that day. As a result, OCFA Executive staff had to regroup that morning to incorporate the 8:32 am call and its ramifications for inclusion in the press conference. The outside personnel investigator was retained on October 24, 2017. As of March 22, 2018, the draft investigative report was with OCFA legal counsel for review.

- Many OCFA dispatchers claimed that since the end of the CF, the ECC had been receiving several calls of smoke in the CF burn area. In corroboration, the Anaheim Fire Incident Investigation Report of C2F stated that “according to Metro Cities Fire Authority Dispatch (Metro Net), the OCFA, and the National Forest Service, numerous reports of re-ignition were reported by passerby’s as being within the ‘black’ having occurred within the time between the end of the ‘Canyon Fire’ and the ignition of this fire [C2F].”

- The informal motto for OCFA dispatch staff when unsure about how to respond to a reported fire is to “Go Big.” If unsure, staff stated that they are expected to error on the side of caution. When asked, dispatch staff said that no dispatcher has been admonished or disciplined for sending too big a response to a reported fire.

- The Dispatch Supervisor on-duty from 7:00 am October 8 to 7:00 am October 9, 2017, stated that he/she (for anonymity) was on break when the October 8, 2017 4:41 pm call came in from Anaheim Police helicopter Angel 26 reporting the fire on a small unburned island just below Sierra Peak. The Dispatch Supervisor stated that his/her staff never informed him/her of the Sierra Peak call when he/she returned on duty. As a result, this Dispatch Supervisor was not able to pass-along this information to the Dispatch Supervisor who began duty at 7:00 am on October 9, 2017.

- OCFA ECC management and supervisory staff stated that OCFA’s response to the October 8, 2017 Sierra Peak island fire, although technically correct, could have been better. Supervisory/Management staff stated that while the US Forest Service has control over fires within their jurisdiction (i.e., Sierra Peak), OCFA could have dispatched its helicopter on the scene to get fire personnel “eyes-on” to make an evaluation of the incident, particularly given the extreme fire danger weather forecasted for the following day. OCFA staff stated that if fire staff responded, and subsequently
recommended that water should be dropped on the unburned island fire, they felt confident that the US Forest Service would not have objected.

Post-October 9, 2017 ECC Dispatch Initiatives and Directives

Following the events of October 9, 2017, OCFA ECC has taken several positive actions to address the deficiencies identified in responding to C2F. These actions include:

- The ECC Manager issued an October 25, 2017 memo entitled “ECC Communications—Vegetation Responses,” to all ECC staff, the pertinent parts of which read:
  - In the handling of 911 calls from the public, “it is imperative that we process the call information as reported to us. For example, when a caller is advising they see ‘fire,’ or ‘flames,’ it is not appropriate to handle these calls in the same manner that we would for a smoke check.”
  - It is important for our staff to provide the appropriate level of inquiry for each call received and not make assumptions or leave questions unanswered. This is also true when we communicate with other centers regarding reports received.
  - Effective immediately, our staff will take the appropriate actions:
    - Fires reported within the burn scar areas (or “black”) of a previous fire will result in the immediate dispatch of the closest unit or units (e.g., VEG, VEGM[edium watershed], VEGH[igh watershed], etc.)
    - Reports of “fire” or “flames” by the public will always be treated as a fire until proven otherwise. It is not appropriate to send as a “smoke check” response.
    - Do not let assumptions or speculation cloud judgment.
    - When there is a doubt on a response level, land on the side of caution and send an appropriate response.

- The January 2018 completion of one-on-one dispatcher training, customized around addressing the deficiencies that occurred in the C2F response.

- The January 2018 initiation of a comprehensive review of all ECC Dispatch policies and procedures.

- The March 2018 implementation of a new “Move-up and Cover” Operations procedure to replace fire staff and equipment vacancies resulting from OCFA responses to emergency Mutual Aid deployments. This includes ensuring a one-hour or less staff/equipment replacement policy during High Watershed and Red Flag periods, and stations with Type-3 engines.

Anaheim Fire’s C2F Incident Investigation Report

The Incident Investigation Report contains important information to evaluate the C2F initial response in the following areas:
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- Cause of the fire
- Start time of the fire
- Fire progression

Cause of the Fire

The C2F Incident Investigation Report determined that the “most probable” cause of C2F was smoldering oaks just inside the perimeter of the previous CF, that when stoked by high winds on October 9, 2017, blew embers outside the CF burn area into new vegetation some 70-feet away. It is noteworthy to acknowledge that these determinations were made from physical evidence at the scene, from fire behavior analysis, and from the in-depth experience of fire investigators from three agencies (Anaheim Fire, OCFA, CAL FIRE). It is also important to acknowledge that “cause” determinations are made based on a “preponderance of evidence” standard. This standard holds that the level of certainty that the fire was caused in the manner opined must be more likely true than not. As such, it is important to note that while the preponderance of evidence standard is utilized, on some occasions the public is informed of the cause of a fire in terminology that may indicate a higher certainty than may be warranted. For example, at times, when a fire agency states that a fire was “definitely” caused by x, this statement may (incorrectly) imply that there is a 100 percent certainty of the cause of the fire, when, in actuality, that percentage may be less.

A notable exclusion in the C2F Incident Investigation Report is its lack of mention of the October 8, 2017 small unburned island just below Sierra Peak. While the obvious rationale for excluding this incident is that, in the determination of fire investigators, it did not cause C2F, it was a known and critical area of concern to the public. The public would have been better served and informed by a discussion of the unburned island fire and the rationale for why fire investigators believe the Sierra Peak spot fire was highly unlikely to be the cause of C2F.

Start Time of C2F

The Incident Investigation Report does not list a time for the start of C2F. However, many other publications list the start time of the fire to be sometime between 9:45 to 9:51 am, apparently corresponding to 9:42 am Vegetation-High designation. Witness statements and photo/video evidence from the Incident Investigation Report, as well as 911 caller information, indicate that C2F most probably started at approximately 8:32 am or soon thereafter. Callers who stated with certainty that they saw flames were taken by various public safety emergency communication centers at 8:32 am, three calls between 8:44 and 9:24 am, 9:35 am, two calls at 9:36 am, and 9:37 am.

Fire Progression of C2F

Fire agencies typically produce a Fire Progression map detailing the distance spread of a fire over time. Unfortunately, the C2F Fire Progression map gives its first progression at 10:30 pm.
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on October 9 (Attachment 11). However, it is possible to approximate the early stages of the fire given 911 calls, photo/video documentation, and witness statements.

As previously identified, the first caller (travelling westbound on the 91 freeway) who stated with certainty that he saw a fire made his 911 call at 8:32 am. This caller subsequently met with fire investigators and was able to confirm the general location of where he saw the fire. It was in close proximity to the determined points of origin of C2F. Another witness who saw smoke from his Yorba Linda home across the freeway, at a higher elevation, took a photograph (Attachment 12) and short video of the area at approximately 9:13 am. The photograph clearly shows white and gray smoke on the east slope of a hill above the Coal Canyon Truck Trail (identified origin point of C2F). The photograph is significant for what it does not show. It shows no visible flames, and indicates that whatever is burning, appears to be limited to an area on the east slope of the hill. If a “Vegetation-High” response would have been called, per policy, immediately after the 8:32 am call, it is estimated that the first fire engine could have been on scene within 7 minutes. At this point, it appears the fire was still in its early stages.

The following information further approximates the progression of the fire, at its earliest stages:

- At 9:35 am, OCFA Station 53 reports that it sees a spot fire, that something is burning in the previous burn area (of CF).
- At 9:36 am, an off-duty firefighter reports small flames back over a hill.
- At 9:42 am, Station 53 reports that the fire is building.
- At 9:50 am, a 911 caller reports that the fire is moving down the hill and moving fast.
- At 9:54 am, a CHP officer reports that he can now see visible flames just west of the previous burn area, that the flames are on are on top of the ridge.
- At 9:55 am, the same CHP mobile unit states that the fire is pushing west from Gypsum Canyon.
- At 10:13 am, OCFA helicopter HC1 states that the fire is wind-driven at 25 mph and heading toward the 241 freeway.
- At 10:42 am, the fire jumps the 241 freeway.

Air Resource Response to C2F

The following chart details the air resources dispatched and which arrived on-station at C2F from local and regional resources from 9:40 am to noon on October 9, 2017, based on OCFA’s 9:43 am Vegetation-High dispatch:

(on next page)
OCFA helicopters typically do not fly on patrol. As such, OCFA helicopters HC1 and HC2 were on the ground at their Fullerton Airport headquarters at the time of dispatch. OCFA dispatched HC2 to the C2F scene at 9:43 am. HC2 diverted to obtain water at Irvine Lake, and arrived on-scene between 10:10 to 10:15 am to drop water, according to OCFA management. HC1 was on-scene providing aerial reconnaissance of the fire at 10:13 am. HC1 then diverted to obtain water at Rattlesnake Reservoir, arriving back on-scene at approximately 10:25 am.

Two CAL FIRE-carded Sheriff helicopters, equipped with water dropping capability, with six CAL FIRE-carded Sheriff pilots, were also available on October 9, 2017. At 8:44 am, Duke 6 was at Irvine Lake, practicing fire water dropping skills, six minutes away. By 9:42 am, Duke 6 had traveled to Huntington Beach. If Duke 6 would have been dispatched at 9:43 am like the OCFA helicopters, it is estimated that Duke 6 could have been on-scene with water by 10:04 am. Duke 1 was on the ground at John Wayne Airport, 20 minutes away from being able to drop water on C2F at approximately 10:03 am, contingent on wind limitations for a Type-III helicopter.

OCFA never contacted Sheriff helicopters on the morning of C2F for assistance. Upon learning of C2F, Sheriff Dispatch contacted OCFA ECC to offer their assistance at 9:54 am and 10:16 am. Both offers were declined by OCFA as OCFA and CAL FIRE resources were already responding. At 1:25 pm, OCFA requested a Sheriff Type-III helicopter to fly a fire official to perform helicopter flight command activities for C2F. Due to the logistics of whether a fuel tender would be available at the scene, ultimately the Sheriff helicopter was not used for HLCO (helicopter coordination) duties.

Over the course of C2F, 12 requests for Type-II helicopters and one request for a Type-III helicopter were made. Three OCFA helicopters filled six of the Type-II requests. The remaining helicopters and pilots/crew were ordered through CAL FIRE's ROSS system from nearby fire agencies just outside of Orange County. The ROSS ordering system does not identify Sheriff helicopters and pilots as a pre-authorized resource. Sheriff helicopters Duke 1 and 6 must be requested by OCFA or specifically ordered as a "Call-When-Needed" resource when other regional fire helicopters are not immediately available.
Sheriff helicopters are equipped with cameras that can take video footage as well as provide a real-time video link to Incident Commanders on the ground. OCFA helicopters do not have this capability.

Given the 8:32 am call first reporting C2F, OCFA missed a critical opportunity to dispatch all available aerial resources at least 63 minutes earlier (8:40 am versus 9:43 am). Using the actual response times noted in the previous chart, had the first aerial resources been requested by 8:40 am, the following estimated arrival times could reasonably be anticipated, as depicted in the chart below. As shown, if Sheriff helicopters would have also been dispatched at 8:40 am, it is estimated that the first air resources could have arrived on-scene 80-85 minutes earlier than the actual aerial dispatch that occurred at 9:43 am (8:50 am versus 10:10 to 10:15 am).

<table>
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<th>Updated Time of Request</th>
<th>Jurisdiction</th>
<th>Equipment</th>
<th>Estimated Arrival Time</th>
<th>Response Time</th>
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<tr>
<td>8:40 am</td>
<td>OC Sheriff</td>
<td>Helicopter Duke 6</td>
<td>8:50 am</td>
<td>10 min⁸</td>
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<tr>
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<td>OC Sheriff</td>
<td>Helicopter Duke 1</td>
<td>9:00 am</td>
<td>20 min</td>
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<tr>
<td>8:40 am</td>
<td>OCFA</td>
<td>Helicopter HC2</td>
<td>9:07-9:12 am</td>
<td>27-32 min</td>
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<td>Helicopter HC1</td>
<td>9:10/9:22 am</td>
<td>30/42 min</td>
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<td>CAL FIRE</td>
<td>Helicopter HC305</td>
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<td>CAL FIRE</td>
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<td>Air Tanker AA12</td>
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<td>Air Tanker 71</td>
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<td>Type I Helo 8HT</td>
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<td>Air Tanker 160</td>
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<td>CAL FIRE</td>
<td>Air Tanker 103</td>
<td>10:51 am</td>
<td>76 min</td>
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</table>

These facts are critical as OCFA OM Policy 209.08 states that a "direct water attack is generally the fastest control method to contain the spread of wildland fire.”

⁸ At 8:40 am, Duke 6 was four minutes out from Irvine Lake, thus the 10-minute response time.
Findings and Recommendations

Based on the evaluation of the information gathered during this review, the following findings and recommendations are offered for consideration:

Finding 1: Orange County has a robust fire prevention and suppression system in place, although refinements can be made based on lessons learned from the C2F initial response.

Over time, Orange County fire departments have expended considerable efforts in learning from past fire events, identifying geographical areas and weather conditions which substantially increase the propensity of a significant fire event, the logistical impediments which prevent a coordinated fire suppression effort, and then building coalitions, cooperative agreements, fire databases, and obtaining fire resources to address fire risks.

Orange County’s fire response system was substantially in place to be able to effectively and efficiently respond to C2F, as it did in the CF incident, if executed properly.

Recommendations:

1a: Use the deficiencies identified in the initial response to C2F as a case study for OCFA and other fire agencies to identify system weaknesses and close the gaps. OCFA’s After-Action Report process can facilitate this process.

1b: Consider whether a consolidation of fire suppression and emergency communication responsibilities in the 91/241 freeway corridor area might improve the efficiency and effectiveness of an initial fire response.

Finding 2: Although it is highly improbable that the October 8, 2017 unburned island fire adjacent to Sierra Peak caused C2F, it offers important lessons in how to respond to situations like this in the future.

Sierra Peak is 120 degrees southeast of the C2F origin. Santa Ana winds blowing on October 9, 2017 at the start of C2F were traveling from the northeast ranging from 54 to 78 compass degrees (Attachment 13). As a result, any embers that might have blown from the previous day’s Sierra Peak small island fire are highly unlikely to have blown in the direction of the origin of C2F. In addition, fire authorities with substantial fire behavioral knowledge/experience state that embers from the Sierra Peak unburned island typically would have spotted its way down the terrain in short increments. There is no evidence that this
occurred. As a result, fire officials from the US Forest Service, CAL FIRE, OCFA, and the city of Anaheim all firmly believe that embers from the unburned island below Sierra Peak were not the cause of C2F.

Notwithstanding this assessment, several fire executives, managers and support staff believed that the Sierra Peak unburned island situation could have been handled better. Specifically, it was noted that OCFA staff should have:

- Not made their decision based solely on radio reports without fire personnel being physically present to properly assess the situation, particularly when high winds were forecasted over the next several hours.

- Contacted the ECC Duty Officer to directly follow up with US Forest Service operations personnel on whether an OCFA helicopter should have been deployed to drop water. During the closing moments of the discussion on how to proceed, OCFA Dispatch inquires as to whether the US Forest Service would like OCFA to launch a helicopter response and drop water. USFS Dispatch responds, “Well, he didn’t say. I guess we can ask, but I think they’re just letting it do its thing, from what I’ve been told.” No one took the initiative to get this question answered.

In addition, OCFA’s response to the unburned island fire does not comport with its agency motto of “We visualize problems and solutions through the eyes of those we serve,” and was unfortunately the catalyst event for the intense scrutiny afforded C2F.

Recommendations:

2a: Fire personnel should get “eyes-on” all reports of fires in wildland areas in order to make an accurate assessment of the situation.

2b: OCFA Dispatch personnel should follow through and be accountable for ensuring that important questions are answered when making fire response decisions, including requesting supervisory or management assistance when needed. The documentation of these consultations and ultimate decisions within the CAD system is vital in conducting after-action reviews.

Finding 3: There were missed warning signs and multiple questionable decisions made prior to the start of C2F.

The following events occurred immediately prior to the start of C2F:
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- Weather considerations:
  o October 9, 2017 was forecasted as a Red Flag Day several days in advance by the National Weather Service, with predicted severe winds and low relative humidity conditions.
  o October 9, 2017 was a High Watershed Dispatch Level day.
  o At 7:00 am on October 9, 2017, there were recorded steady winds of 44 mph, with gusts up to 64 mph, in the C2F area.

- CF residual conditions:
  o There were numerous reports of reignition in the burned area of the CF reported by 911 callers between the end of the CF and the beginning of C2F. In fact, it is clear that CF mop-up activities did not sufficiently curtail reignition sources, even within 100 feet of the CF perimeter.
  o The Sierra Peak small unburned island fire at 4:40 pm on October 8, 2017 was a harbinger of the dangerous fire conditions still present.

- Despite policies recommending the use of ground or air patrols on High Watershed Dispatch days, and despite the existence of continuing reignition events in the adjacent CF burn area, neither Anaheim Fire or OCFA had air or ground patrols in place in that area on October 9, 2017.

- Sheriff helicopters were and still are not viewed by OCFA staff as a primary or secondary source of fire suppression or patrol resources.

- The closest OCFA fire station to C2F (Station 53) had its Type-3 engine and staff dispatched to Santa Rosa’s Tubbs fire at 5:41 am on October 9 and was subsequently unable to respond to the C2F until 9:40 am, when replacement staff arrived.

- OCFA Dispatch environment:
  o The pass-along de-brief at 7:00 am on October 9, 2017 between Dispatch Supervisors changing shifts did not include notification of the previous night’s Sierra Peak island fire, as the Dispatch Supervisor rolling off duty was on break at the time of the report and was never notified by Dispatch staff of the incident.
  o Based on phone audio, the Dispatch Supervisor on duty at 8:30 am on October 9, 2017 appeared to be unaware of high wind conditions present in Orange County at the time.
  o Several dispatch staff interviewed stated that the multiple reports of smoke without fire in the CF burn area during the previous week, may have desensitized staff to the fire reports on October 9.
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Recommendation: Preventative measures should be implemented on High Watershed Dispatch Level days, particularly when they coincide with active re-ignition sites from a recently contained fire. These include the consideration of air patrols by fire and law enforcement agency helicopters, ground patrols in wildland areas, the physical presence of the Duty Officer at the ECC, formal reminder notifications to Dispatch staff at the beginning of their shift regarding their responsibilities on High Watershed Dispatch Level days, and updated weather conditions provided to dispatch staff.

Finding 4a: OCFA policies regarding the handling of a reported fire on a High Watershed Dispatch Level day were not followed by Dispatch staff on several occasions on October 9, 2017.

It is the undisputed policy of OCFA, outlined in various manuals and policies and procedures, that a “Vegetation-High” response shall be called by Dispatch staff when a fire is reported in a wildland area on a High Watershed Dispatch Level day. This designation is not discretionary for either Dispatcher or Supervising Dispatcher staff. In fact, this policy was successfully implemented only two weeks earlier in the ECC’s response to substantially similar conditions at the start of the CF on September 25, 2017.

Instances of unambiguous reports of fire to OCFA Dispatch on October 9, 2017 that should have resulted in a “Vegetation-High” designation occurred at:
- 8:32 am (the first 911 caller repeatedly states that he sees a fire)
- 9:24 am (CHP Dispatch informs ECC that there is “fire on the right side of the shoulder.”)
- 9:28 am (Metro Net Dispatch informs the ECC that CHP Dispatch is reporting flames in the canyon area)
- 9:34 am (CHP Dispatch informs the ECC that they are getting a lot more calls about fire)
- 9:35 am (OCFA Station 53 informs the ECC that they now see a spot fire from the station in the previous CF burn area)
- 9:36 am: (an off-duty firefighter tells the ECC that he sees a fire)

Finding 4b: There was a serious breach of ethics in the portrayal of the handling of the 8:32 am call by either the ECC Dispatch Supervisor or the 8:32 am call-taker (Dispatcher), or both, as their recounts are in direct conflict with one another.

In interviews with dispatch personnel, the 8:32 am call-taker (Dispatcher) unequivocally stated that immediately after the call, he/she (for anonymity)
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informed his/her Supervisor of the situation and asked for direction on how to proceed. The call-taker stated that he/she then followed the direction of his/her Supervisor. In contrast, the Dispatch Supervisor said the 8:32 call-taker never told him/her of the 8:32 am call and that he/she only found out about the call a couple days later after being notified by the ECC Manager.

OCFA dispatch training materials specifically delineate an expected code of conduct for Dispatch personnel. Pertinent examples include:

- OCFA Call Taking Training:
  - 911 Dispatcher Ten Commandments:
    - Never Lose Your Honesty
    - Never Blame Others for Your Mistakes
  - Expectations and Responsibilities:
    - Conduct yourself with maturity, responsibility, and consideration of your fellow co-workers. Be a trustworthy person, to yourself and others.
    - Responsibility and Accountability: Take responsibility for the decisions you make, good or bad...Take accountability for when you’ve made a poor decision, and don’t point fingers to detract from doing so.
  - The 10-Point Ethics Checklist
    - The Truth Test: does this action represent the whole truth and nothing but the truth?
    - The Consequence Test: are there possible consequences of this action that would be bad?
    - Is it legal, ethical, and consistent with OCFA Guiding Principles?
  - Fire Communications Dispatcher Skills
    - Judgment: ...a decision to follow the established rules and regulations...
  - Fire Chief’s Three Behavioral expectations: Leadership, Trust, Accountability

- Dispatcher Performance Standards:
  - Know and demonstrate the OCFA Mission Statement, OCFA Vision and Values, and OCFA Way

Finding 4c: After five months, the personnel investigation and the implementation of any disciplinary action into the handling of the 8:32 am call, is not yet complete.

Recommendation: OCFA should take the appropriate and timely supervisory and disciplinary action with those responsible for not following OCFA policy in the dispatching of appropriate resources to a report of a vegetation fire on a High Watershed Dispatch Level day.
Finding 5: Despite the warning signs prior to, and the High Watershed Dispatch Level in effect on October 9, 2017, there was a surprising lack of initiative and mental preparedness for these conditions demonstrated by some OCFA employees.

Despite the incendiary conditions present, certain OCFA staff were locked in a mindset that would not allow them to appropriately respond to the circumstances/facts before them. For instance:

- No one took the initiative to direct OCFA helicopter staff to respond to the previous night’s (October 8, 2017) unburned island fire below Sierra Peak.
- The Dispatch Supervisor on October 9, 2017 appeared to be unaware of the presence of high wind conditions that morning (44 to 64 mph in the C2F area at 7 am), despite the Red Flag Warning in place.
- Very few of the actions taken from 8:32 to 9:43 am on October 9, 2017, comported with OCFA’s vision, mission, or motto statements, or the goal of containing 95% of wildland fires to less than ten acres.
- There was a consequential lack of communication between OCFA Dispatch and other public safety emergency Dispatch centers regarding the October 9, 2017, initial reports of fire.
- There were no air or ground patrols assigned to monitor the CF burn area despite a Red Flag Warning and periodic reports of hot spot fires.
- After OCFA’s initial failure to assign a Vegetation-High response to the 8:32 am call, OCFA failed to advise or send the closest available fire resources to the scene—Anaheim Fire Station 10. Instead, the ECC Dispatcher requested that Fire Station 53 staff walk outside their station and look across the freeway. In addition, no helicopters were assigned to the event until 9:43 am.
- No consideration was given to requesting Sheriff helicopters be dispatched to the scene to provide on-site reconnaissance or water dropping.
- The tone and tenor of the verbal communication of some OCFA staff in discussing the reports of fire were troubling:
  - The 8:32 am 911 caller confidently stated that he saw a fire three different times, yet the OCFA Dispatcher was consistently dismissive.
  - The same OCFA Dispatcher then contacted Station 53 staff at 8:36 am to request they look outside the station to see if they could see a fire across the 91 freeway. The tone and tenor of the dispatcher clearly indicates that he/she (for anonymity) is skeptical of there being a fire despite three assurances from the 8:32 am caller than he saw flames. Dispatcher to Station 53 staff: “I don’t know, I got a call, just one call that there is possibly a fire.”
  - After OCFA ECC was informed by the CHP and multiple 911 callers that flames have been seen, OCFA Dispatch staff are still skeptical/unsure of there being a fire.
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- At 9:28 am, OCFA informs the US Forest Service dispatch center that “smoke” has been seen by motorists, despite multiple reports of fire having already been reported.
- At 9:31 am, OCFA ECC designates the situation a “Smoke Check” which only requires a minimum response of one fire engine rolling code 2 (no lights or sirens).
- At 9:32 am, the ECC Dispatch Supervisor asks the OCFA helicopter crew when they can be ready to get “eyes-on” the area. The Dispatch Supervisor states to the helicopter crew that the ECC keeps getting reports of confirmed fire in the burn area...however he/she is almost positive it is “smoke.”
- At 9:35 am, an unknown source contacts OCFA ECC to inquire if the ECC will be launching a response. The ECC states they have requested a helicopter to check the area, but they believe it is “ash” kicking up in the air from the winds.
- At 9:35 am, the ECC Dispatch Supervisor assigns OCFA Battalion Chief 2 to report to the fire area. The Supervisor states that he/she believes that it is most likely a stump or something burning out in the previous burn area.
- At 9:50 am, after the 9:42 am Vegetation-High response had been declared by the ECC, the CHP calls OCFA ECC to inquire of OCFA: “did you guys find another fire out there.” ECC staff state that they are not sure yet; smoke has been seen but they really don’t know much more yet; don’t yet have an update.

Recommendation: On High Watershed Dispatch Level days, Dispatch Supervisors should meet with staff at the beginning of the shift to walk through roles and responsibilities, as well as other pertinent conditions, to mentally prepare staff for the shift, underscoring the expectation that they will respond on the side of safety in communications and actions.

Finding 6: OCFA ECC’s failure to properly categorize the October 9, 2017 8:32 am call as a “Vegetation-High” response was a catalyst that set-in motion a series of decisions/actions driven by false assumptions, rather than objective thinking and adherence to policy, over the next 71 minutes.

Poor decision making at the outset led to a substantial delay in dispatching an appropriate fire response to C2F. To illustrate:

- Immediately following the 8:32 am call, the OCFA ECC requested that Station 53 staff walk outside and look 1.1 miles across the 91 freeway to ascertain if they could see a fire. The 8:32 am reported fire originated on the backside (from the view of the fire station) of an 800-foot elevation hill, and any smoke from the initial ignition of the fire would have most likely immediately dissipated due to the high winds present at the time. Station 53 staff subsequently reported that they were “getting a lot of ash coming off of
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Canyon incident blowing through here making it look like smoke, what have you..."

- OCFA ECC Dispatch then inaccurately notifies CHP Dispatch at 8:39 am that the report of fire at the 91 and 241 freeways is “gonna be unfounded; it’s just ashes.”
- CHP Dispatch subsequently cancels its mobile unit and informs its staff that there is no fire, just a report of ashes.
- CHP Dispatch staff inaccurately believe that OCFA sent out a fire unit to make the determination that there was no fire. As a result, over the next 40 minutes, CHP Dispatch informs 911 callers traveling on the 91 freeway who reported seeing either smoke or flames, that there was no fire, just ashes being blown in the air by the wind, and that the fire department had responded to the scene. As a result, CHP Dispatch did not forward at least ten 911 calls to a fire dispatch center.
- Dispatch Center communications between OCFA, CHP, CAL FIRE, Metro Net, Sheriff Dispatch, and the US Forest Service, clearly demonstrate a lack of awareness of the fire situation which resulted in ineffective coordination between public safety entities.

Recommendation: **Use the C2F response as a training case study and make the proper adjustments to ECC operations.** (Note: many positive changes have already occurred within the ECC.)

Finding 7: **OCFA ECC Dispatch staff could benefit from additional hands-on training related to the activities and operational practices of other OCFA functional areas (e.g., fire suppression operations, fire prevention, fleet composition and maintenance, cooperative agreements between fire jurisdictions).**

OCFA Dispatch staff go through a training academy when hired. Dispatchers generally agree that the academy is an excellent learning experience. Many staff also feel they could benefit from increased training in the following areas:

- “Ride-along” and/or hands on training in OCFA operational areas where there is a link between dispatchers and operations personnel: emergency medical, helicopter operations, other jurisdictional communication centers, mop-up and investigation of wildland fires, etc.
- Informational presentations on the content of significant documents that guide the actions and philosophy of other OCFA Divisions such as the Fire Danger Operating Plan.
- Dispatch training scenarios and role playing on real event-type situations
- Conditions that create Dispatcher burnout and how to create an atmosphere where employees are comfortable discussing this issue with their supervisor.
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**Recommendation:** Develop a more comprehensive training experience for Dispatch staff, including hands-on experiences in a variety of significant functional areas of OCFA.

**Finding 8:** Two CAL FIRE-carded Sheriff helicopters/pilots were ready, willing and able to provide an aerial assessment of the situation and/or drop water at the outset of C2F but were not requested for assistance.

It should first be noted that OCFA did not request helicopter assistance from any agency until 9:43 am on October 9, 2017. As such, OCFA denied itself the use of aerial support to get “eyes-on” the situation and immediately begin dropping water shortly after the first report of fire at 8:32 am.

At 8:44 am on October 9, 2017, Sheriff helicopter Duke 6 was at Irvine Lake engaged in fire water dropping training. Sheriff helicopter Duke 1 was on the ground at John Wayne Airport. Both Duke 6 and Duke 1 helicopters and its assigned pilots that day are carded by CAL FIRE for aerial fire dropping with a Bambi bucket. Duke 6 is a Type-II helicopter with a 210-gallon water bucket or a 370-gallon belly tank; Duke 1 is a Type-III patrol helicopter with a 210-gallon bucket tank capability. Had Sheriff helicopters also been requested for assistance at 9:43 am (after it had traveled to Huntington Beach), it is estimated that Duke 6 could have been on-site with water at 10:04 am; Duke 1 at 10:03 am. In comparison, OCFA helicopter HC1 arrived at the C2F scene at 10:13 am to do air reconnaissance, then dropped water at 10:25 am; OCFA helicopter HC2 dropped water sometime between 10:10 to 10:15 am.

Sheriff Dispatch had contacted OCFA ECC at both 9:54 am and 10:16 am to offer the assistance of Duke helicopters. Both offers were declined as OCFA had already made air attack resource requests through CAL FIRE’s ROSS system at 9:48 am. It is estimated that CAL FIRE helicopter HC305 arrived on-scene at approximately 10:17 am. In addition, per the SOLAR Mutual Threat Zone Response Plan, Air Tankers (with flame retardant) were dispatched with the first Air Tanker estimated to have arrived on-station at 10:29 am.

Sheriff helicopters are equipped with cameras that can tape, and can also provide a real-time video feed, to commanders on the ground. This could have been a valuable resource for Incident Commanders during the C2F, and in establishing the progression of C2F over time.

During this review, non-OCFA fire agencies suggested looking at other jurisdictions where law enforcement and fire helicopter crews work in a
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complementary fashion. Two agencies suggested for consideration were the Ventura and San Diego models. Both agencies integrate police and fire personnel on the same helicopter as needed.

Recommendations:

8a: **OCFA** should institute a policy that automatically requests an initial response from CAL FIRE-carded Sheriff helicopters/pilots for wildland fires when Sheriff helicopters can be the first on-scene. Responding Sheriff helicopters must follow the direction of the Fire Incident Commander, willing to perform whatever duties are assigned. If Sheriff helicopters arrive on-scene before a Fire Incident Command has been established, Sheriff helicopters should provide OCFA Dispatch with an initial assessment of the situation and coordinate any action through an OCFA Duty Officer.

8b: OCFA and Sheriff helicopter crews should continue to look for and implement opportunities to work together, such as joint training, including Sheriff helicopters in the ROSS system, the integration of Fire paramedics on Sheriff helicopter crews, the use of Sheriff helicopter cameras to record fire progression and relay real-time video of fires as needed, and the examination of the Ventura and San Diego models to identify and implement workable solutions for Orange County.

8c: **OCFA** should consider placing cameras on its helicopters and acquiring a real-time video capacity that can be sent to Dispatch and Incident Commanders.

Finding 9: There are procedures for establishing and transferring Incident Command, and they were followed for C2F.

Part of the scope of work for this review is to determine whether a policy exists that governs how incident response commands are transferred from one entity to the other. There are policies on this matter, depending on the type and location of a fire. C2F was a wildland fire whose point of origin was included within:

- The city of Anaheim
- The OCFA/Anaheim/Orange Mutual Threat Zone
- The SOLAR Mutual Threat Zone Response Plan
- The wildland area that the city of Anaheim contracts with CAL FIRE/Riverside for the provision of fire suppression services for land but not structure fires.

In addition, C2F spread into other jurisdictional areas:
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- The State Responsibility Area (SRA) in which CAL FIRE contracts with OCFA to provide fire suppression services
- Unincorporated areas who receive fire suppression services from OCFA.
- The city of Orange who provides its own fire suppression services.

Established protocol is that Incident Command (IC) is initially established by the jurisdiction that has the first supervisory fire rank staff arrive at the scene. As a OCFA Battalion Chief was the first officer to arrive on scene at 9:43 am, OCFA assumed initial IC. IC is then relinquished to the jurisdiction where the fire originated. Accordingly, IC was shortly afterward and properly transferred to Anaheim Fire at 10:03 am. However, because the origin of C2F was a part of several overlapping fire areas identified above, Anaheim Fire decided to form a “Unified” IC structure made up of representatives from Anaheim Fire, OCFA, CAL FIRE, and Orange Fire. In a Unified Command structure, decisions are made jointly between the command staff of each jurisdiction.

No recommendation necessary

Finding 10: Although it is unknowable if the C2F could have been contained without the significant loss of property, incurrence of significant expense, or significant public disruption due to necessary evacuations, the declaration of a Vegetation-High response immediately following the 8:32 am call, would have given firefighters a significantly better chance at minimizing its impact to the community.

When the ECC ordered the 9:31 am “smoke check” for C2F, OCFA Engine 32 was the first fire resource on-scene, arriving in 12 minutes (9:43 am). When the Vegetation-High response was declared by the ECC at 9:42 am, numerous additional ground resources arrived in rapid succession. In terms of the aerial response, OCFA helicopter HC1 arrived on-scene to assess the situation at 10:13 am; OCFA helicopter HC2 dropped water at approximately 10:10 to 10:15 am.

If we use the actual arrival time information from the 9:31 am (smoke check) and the 9:43 am (Veg-H) dispatches for comparison purposes, had a Vegetation-High response been declared immediately following the 8:32 am call (by 8:40 am), as it should have been, it is reasonable to assume the following estimated arrival times could have been achieved by both ground and air resources before 11:00 am:

(see next page)
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out of Coal Canyon as of approximately 9:13 am. Additionally, at 9:35 am, OCFA Fire Station 53 staff reported their first sighting of flames within the previous burn area (Coal Canyon). Then at 9:36 am, an off-duty firefighter reported that he saw small flames, “back over the hill.” The first “eyes-on” report of the fire cresting and rapidly moving down the Coal Canyon hill was at 9:50 am. Thus, using 9:50 am as a benchmark, it is likely that 21 ground resources and 9 air resources could have been on-scene fighting the fire before it crested the Coal Canyon hill.

Notwithstanding, given the high winds and low relative humidity levels that day, it cannot be known with certainty whether a per-policy initial response to the 8:32 am call could have contained the fire before it damaged structures.

Recommendation: OCFA staff must follow established policy and procedure related to the dispatching of resources to reported wildland fires according to the Watershed Dispatch Level designation in place.

Other Conclusions:

Additional conclusions drawn from this review include:

- OCFA is a quality firefighting agency with an established system, that when executed properly, saves lives and property. The information gathered during this review indicates that the vast majority of staff are dedicated professionals who work hard to protect the citizens of Orange County. It is the norm for fire responses to be handled effectively and efficiently.

- OCFA management and line staff should make decisions based on whether those decisions align with the organization’s strategic foundation: vision, mission, strategic goals, motto. Decisions made should be based on what is in the best interests of the citizens of Orange County, minimizing the parochial interests of unions, political considerations, or squabbles between public safety agencies.

- Identify and promote methods to electronically connect emergency dispatch centers from multiple jurisdictions together with initial notification and updates of critical fire events so that each can be simultaneously apprised of the situation and the current response underway.

- Fire staff should be cognizant that in today’s technological environment, fire communications and operational decisions and actions are open to public scrutiny.
ATTACHMENTS
Attachment 1: Points of Origin (POI) of Canyon 2 Fire
Attachment 2: Canyon 2 Fire Ignition Source and Points of Origin Detail
Attachment 3: Canyon Fire and Canyon 2 Fire Burn Areas
Attachment 4: Fire Jurisdiction Overlay in 91/241 Freeway Corridor
Attachment 5: Anaheim Wildlands Protected by CAL FIRE/Riverside
Attachment 6: Anaheim/Orange Mutual Threat Zone
Attachment 7: Appendix A of Annual Operating Plan between OCFA and CAL FIRE

**PRE-APPROVED RESOURCE ORDER:**

### LOW or Non-Fire Season

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### HIGH**

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**DECLARED RED FLAG (SAWTI VALIDATED)**

- 1 TYPE 3 STRIKE TEAM
- 1 WUI TASK FORCE

- CAL FIRE Helicopters, Crews, and Dozers must be considered under the closest resource concept as appropriate.
- Resources exceeding Second Alarm require Duty Chief Approvals
Attachment 8: Appendix J of Annual Operating Plan between OCFA and CAL FIRE

SOUTHERN OPERATIONS
AUGMENTATION STAFFING DECISION POINTS
FOR
ORANGE COUNTY

➢ WEATHER CONDITIONS (Based on NFDRS Fuel Model N – Spread Component 97th Percentile)

- Orange County (1750’ elevation) Spread Component 189 or greater
  (Santa Ana Mountain FDRA - Freemont RAWS)

- Orange County (764’ elevation) Spread Component 151 or greater
  (Inland and Coastal FDRA’s – Bell Canyon RAWS)

Note: The NFDRS Fuel Model N has been determined to best represent the fuels in the ORU FDRA’s (as identified in the Fire Danger Operation Plan-FDOP). Further, analysis proved that the Spread Component (SP) best correlates with fire danger levels in Orange County.

and/or

➢ LIGHTNING ACTIVITY LEVEL (LAL) 6

LAL 6 – Lightning is infrequent with 6-10 cloud-to-ground strikes in 5 minute period, except thunderstorms are dry (no rain reaching ground). This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with a Red Flag Warning.

and/or

➢ LOCAL AND/OR REGIONAL FIRE ACTIVITY AT OR APPROACHING FIRESCOPE MACS MODE III LEVEL

and/or

➢ CALFIRE RESOURCES (engines and hand crews) AT OR BELOW LEVEL 2 DRAW DOWN

and/or

➢ TWO OR MORE CONTRACT COUNTIES REQUESTED LOCAL ELEVATED STAFFING
Note: CALFIRE Southern Region Duty Chief may elect to conduct a 1600 hours Conference Call associated with above criteria to discuss next-day augmented staffing needs. Contract Counties need a minimum of one-hour notice for a conference call to be scheduled.

When current or predicted weather conditions and/or fire activity levels, as defined in augmentation staffing decision points are realized Southern Region wide, the CALFIRE Southern Region Duty Chief may initiate a conference call with the CALFIRE Units of Southern Region and the Contract Counties of Orange, Los Angeles, Ventura, Santa Barbara, and Kern. The purpose of the call will be to advise all conference call participants of the current or predicted conditions and determine what of the following actions need to be taken:

- Authorize the Contract Counties of Orange, Los Angeles, Ventura, Santa Barbara, and/or Kern to implement one or more of CALFIRE approved Optional Strategy Considerations.

- Authorize CALFIRE Units to enact or augment existing Staffing Patterns as strategically appropriate.

Individual Contract Counties may request to implement one or more of their Optional Strategy Considerations in concert with 4-person Engine Company staffing or separate from Engine Company staffing augmentation based on local operational needs. These optional strategy considerations will be discussed, evaluated, and approved/denied by the CALFIRE Southern Region Duty Chief during the conference call or after the conference call depending on the request(s) and the need to discuss staffing requests with CALFIRE upper management.

In addition to the above criteria/process, CALFIRE Units may enact local staffing patterns as defined under separate CALFIRE policy. Contract Counties, on an individual basis, may request approval to augment staffing levels as defined in their respective CALFIRE/Contract County Operating Plans through the CALFIRE Southern Region Duty Chief.
### Attachments

#### Attachment A

**Final Report**

**Attachment 9: Fire Risk Matrix for Anaheim-East**

| WUI Name: | ANAHEIM HILLS - EAST |
| Location: | Peralta Hills - Cities of Anaheim and Orange |
| Topo: | Orange, CA |

#### Risk Assessment

<table>
<thead>
<tr>
<th>Tactical Plan</th>
<th>Area Map</th>
<th>Aerial Map</th>
<th>Additional Info</th>
</tr>
</thead>
</table>

#### RISK ASSESSMENT MATRIX

<table>
<thead>
<tr>
<th>SAFETY</th>
<th>STATIC</th>
<th>ATTACK</th>
</tr>
</thead>
<tbody>
<tr>
<td>FF Safety</td>
<td>FF Safe</td>
<td>FF Safe</td>
</tr>
<tr>
<td>Civil Safety</td>
<td>Civ Safe</td>
<td>Civ Safe</td>
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<tr>
<td>Air Safety</td>
<td>Air Safe</td>
<td>Air Safe</td>
</tr>
<tr>
<td>HazMat</td>
<td>HazMat</td>
<td>HazMat</td>
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<tr>
<td>Fails</td>
<td>Fails</td>
<td>Fails</td>
</tr>
<tr>
<td>Topography</td>
<td>Topography</td>
<td>Topography</td>
</tr>
<tr>
<td>Water</td>
<td>Water</td>
<td>Water</td>
</tr>
<tr>
<td>Comms</td>
<td>Comms</td>
<td>Comms</td>
</tr>
<tr>
<td>Clearances</td>
<td>Clearances</td>
<td>Clearances</td>
</tr>
<tr>
<td>Construction</td>
<td>Construction</td>
<td>Construction</td>
</tr>
<tr>
<td>Access</td>
<td>Access</td>
<td>Access</td>
</tr>
<tr>
<td>Density</td>
<td>Density</td>
<td>Density</td>
</tr>
<tr>
<td>Fire</td>
<td>Fire</td>
<td>Fire</td>
</tr>
</tbody>
</table>

#### CRITICAL INFORMATION

**Response Safety**

Interface community at the head of an historic major fire corridor. Intersect and spur-ridge homes. Large brush islands within the community's interior with spot-fire history. History of high loss to canyon perimeter homes. 100' defensible space around most structures. Recreational users on numerous access area trails. Good radio and cell communications—Use SOLAR Plan.

**Aviation Hazards**

Transmission power lines along Windy Ridge, Weir Canyon, Hwy. 91 at the County Line, and the main ridge line of the Peralta Hills. Frequent private aircraft traffic in the Santa Ana Canyon.

#### BRIEFING INFORMATION

**Fuels**

Chaparral and coastal sage scrub, grass-ovak woodlands, and heavy riperian in river bottoms. Combustible ornamental vegetation around some homes.

**Last Year(s) Burned**


**Expected Fire Behavior**

In critical fire weather, fires burn with extreme behavior, high rates of spread, and long range spotting. This community is at the end of a historic fire corridor that has been subjected to 14 Santa Ana wind driven major fires in 75 yrs. with a total loss of 423 homes. Fires typically will travel from the County line area into this community 2-4 hours. Fines starting on Hwy. 241 may reach homes in minutes or travel Windy Cyn. Fines at Hwy. 241 at Windy Ridge frequently spot fire ahead into community interior fuel islands. Fire front burning in the Santa Ana River has been spotted across Hwy. 91 for 423 homes in 3 (prior occasions), establishing on the historic SWR of the 91/241 interchange.

**Topography**

The Peralta Hills (590' elev.) form the S boundary of the Santa Ana River Cyn. (325' at the river), and are foothills to the nearby Santa Ana Mts. (3,045' at Sierra Pl.). The Cyn and Cyn are due E. respectively, and a Wet Cyn is impossibly. Windy Cyn extends from Peralta Hills E. to Sierra Pl. where some of the highest Santa Ana winds in S CA were recorded (191 mph, 12/14/06).

**Access**

Hwy. 91 traverses the plan area on the north with exits at Weir Cyn. Imperial Hwy., & Lakeshore. Hwy. 241 runs N/S on the E side of the road. Monta Vista Ave. runs N/S across the S of the plan. Camino Dr. Imperial Hwy., Monta Vista Ave., & Founders Blvd. dissect the plan area north to south. Santiago Cyn. Rd. is to the South.

**Special Hazards**

* Many recreational trail users within canyon.
* Some high chain link fences along Hwy. 241. Good to make access if required.
* Response capacity fee designated to forest fires here. 72925.1. Columbia Dr., [ANA]

**Safety Zones**

<table>
<thead>
<tr>
<th>Location</th>
<th>Limits of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>All areas</td>
<td></td>
</tr>
<tr>
<td>All areas</td>
<td></td>
</tr>
<tr>
<td>All areas</td>
<td></td>
</tr>
</tbody>
</table>

**Water Supply**

Good municipal fire flow, pressure and supply, except in West Deer Canyon area. Hydrants on all canyon rim streets. No water in canyon woodland areas. Request Anaheim Public Utilities to boost water pressures for fires in Hidden Canyon Road and all Monta Vista Rd. Protect Filtration Plant at Walnut Cyn. Sneaker, 6761 & Walnut Cyn. Rd.

**Large Fire Development Factors**

<table>
<thead>
<tr>
<th>Weather</th>
<th>Relative Humidity</th>
<th>Wind Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBd degrees F</td>
<td>10%</td>
<td></td>
</tr>
</tbody>
</table>

| Fuel Moisture | Fire Behavior | Rate of Spread | Flame Length |
|---------------|---------------|----------------|
| Seasonally dry or long term drought | 9,000-14,058 ft/hr. | Avg. 16.7 ft | Avg. 31.5 ft |

**WUI ARRANGEMENT**

<table>
<thead>
<tr>
<th>Interface:</th>
<th>Suburban:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rural:</td>
<td>Urban:</td>
</tr>
</tbody>
</table>

---

**UNIFIED COMMAND**

<table>
<thead>
<tr>
<th>Potential Incident Command Post Location</th>
<th>Unified Command Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Yorba Regional Park, 7600 E. La Palma Ave., ANA</td>
<td>ANAVFD, ANAVFD, ORC-PD, ORC-PD, ORC-PD, CFD, FFR-PD, SOLAR partners, and ORC-PD</td>
</tr>
<tr>
<td>2. Irvine Regional Park, 1 Irvine Park Rd., ORG</td>
<td>3. Reagues Park (formerly Toyos Park), 945 S. Weir Cyn. Rd., ORG</td>
</tr>
<tr>
<td>4. Paradise Canyon Park: 115 N. Pinney Dr., ANA</td>
<td>5. Shopping Center Lot, Santa Ana Cyn. Rd. at Festival Dr.</td>
</tr>
<tr>
<td>6. Police, Anaheim City Yard, 500 E. South St.</td>
<td></td>
</tr>
</tbody>
</table>

---

**FF Safety**

Fires at the site are monitored by fire crews. Additional fire personnel are on site for any large fire events.

**CIVIL SAFETY**

Emergency operations are coordinated by the Anaheim Fire Department and the Anaheim Police Department. The Anaheim Fire Department has a large number of fire personnel and fire engines on site.

**AIR SAFETY**

The area is close to the Santa Ana Airport, which is a busy airport with multiple air traffic patterns. Firefighters are trained to respond to aircraft incidents.

**HAZMAT**

The area contains a number of hazardous materials, including chemicals used in the manufacturing of electronics. Firefighters are trained to respond to hazardous material incidents.

**FIRE SUPPRESSION**

The area is equipped with fire hydrants and a water supply system. Firefighters are trained to use these resources effectively.

**COMMUNICATIONS**

The area is served by a variety of communication systems, including radio, phone, and internet. Firefighters are trained to use these systems effectively.

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**Topographic Map**

This map shows the topography of the area, including the Santa Ana River, the Peralta Hills, and the surrounding mountains.

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**Fire Risk Matrix**

This matrix shows the risk of fire in the area, with ratings for each of the criteria.

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**additional information**

The document includes additional information about the area, including a list of potential entrainment points, critical information, and a large fire development factors chart.
### Attachment 10: Canyon 2 Fire Dispatch Matrix (October 9, 2017, 0830 to 1145 hours)

<table>
<thead>
<tr>
<th>Time</th>
<th>CHP</th>
<th>OCFA ECC</th>
<th>Metro N-S 16 OC</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>0832</td>
<td>Motorist on 91 freeway states he is driving 91 freeway westbound between Green River and 241, and that “there is a fire on the mountain.”</td>
<td>CHP transfers 911 caller to OCFA ECC, advising that caller reports fire starting. Caller tells OCFA Dispatcher (A) that there is a fire almost next to the top of mountain. Dispatcher asks what caller sees: dust, smoke, flames? Caller: There is a real fire. Dispatcher: do you see flames? Caller: Yes, I see flames, about maybe 400' feet from freeway up on the mountain. Caller is absolutely certain he sees flames. Dispatcher: ok, we will send someone over there to check it out. Caller; please, because there is a lot of wind over there.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0832:32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0832:48</td>
<td>OCFA ECC Supervisor talks on phone with OCFA firefighter who was driving north of the Grapevine (5 freeway). The firefighter states that the wind is howling at his location. The ECC Supervisor (incorrectly) says that the wind not blowing at the ECC.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0836:04</td>
<td>ECC Dispatcher (A) calls OCFA Station 53 in Yorba Linda and asks staff to walk outside the station to visually look across the 91 freeway (approx. 1.1 miles) to see if they can see a fire “by 91, and like, I don’t know, 241 area.” Dispatcher’s voice seems skeptical, describing the 0832 call as: “I don’t know, I got a call, just one call that there is possibly a fire.” Dispatcher requests Station 53 call back after checking outside.</td>
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<td></td>
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</tr>
<tr>
<td>Time</td>
<td>Event</td>
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<tr>
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<td>-------------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0837:53</td>
<td>OCFA Dispatcher (A) assigns 8:32 am call as an “Information Only, Advised – No Response” call-type in the Computerized Assisted Dispatch (CAD) system. An event listed as this call-type is not forwarded to the ECC Supervisor.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>0839:04</td>
<td>Station 53 calls OCFA Dispatcher (A) back, stating that they do not see a fire, that they are “...getting a lot of ash coming off of Canyon [Fire] incident blowing through here making it look like smoke, what have you...”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0839:57</td>
<td>ECC Dispatcher (A) calls back CHP Dispatch to inform them that the report of fire at the 91 and 241: “it’s gonna be unfounded, it’s just ashes.”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0841:04</td>
<td>CHP informs its staff that the report of fire is unfounded, that it is just ashes; CHP 1022’s (cancels) mobile unit 194 that was assigned to respond to the scene. (note: it is unclear if the unit ever made it out to the area as this reviewer was not given access to CHP staff to confirm).</td>
<td></td>
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</tr>
<tr>
<td>0843:35</td>
<td>CHP mobile unit 197 in the area reports to CHP Dispatch that high winds are kicking up dust, and officer does not see visible flames.</td>
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</tr>
<tr>
<td>0844 to 0924 (40 minutes of public 911 calls to CHP, none of which are transferred to fire departments)</td>
<td>Caller reports seeing smoke from bedroom window off the 91 freeway; CHP Dispatch (incorrectly) informs caller that fire department was out to the scene and found no new fires in the area. Motorist reports seeing white smoke; CHP (incorrectly) states that fire department has people out there and that there is no fire, just ashes being blown by the wind.</td>
<td></td>
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<tr>
<td>Yorba Linda resident reports seeing smoke; CHP (incorrectly) states that fire department was just out to the scene and it is just ash and dust.</td>
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</tr>
<tr>
<td>Caller reports active fire starting in the previous area of the Canyon Fire; CHP (incorrectly) states that the fire department is on their way out to the scene.</td>
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</tr>
<tr>
<td>Caller reports brush fire and flames; CHP confirms with caller that caller only see white smoke on the back side of a hill, and (incorrectly) states that fire department has already been out to the scene twice.</td>
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</tr>
<tr>
<td>Motorist on 91 freeway reports smelling smoke and believes they saw fire. CHP states that the Santa Ana winds have been kicking up ash from last week, and (incorrectly) states that the fire department has already been out to the scene a couple times.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caller reports fire; CHP states that it is not an active fire, just dust.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Caller reports that it seems like a fire is starting. CHP states that it is ash getting kicked up by the wind, and (incorrectly) states that the fire department has already been out to the scene a couple of times.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motorist reports a fire starting and that the wind is extremely bad. CHP clarifies that caller sees white smoke and is getting bigger, and that it looks like smoke and fire. CHP (incorrectly) informs caller than fire department has already been out to the scene a couple of times today.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Caller reports seeing smoke; CHP states that the smoke is due</td>
<td></td>
<td></td>
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<td></td>
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</tbody>
</table>

A-13
<table>
<thead>
<tr>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0924:34</td>
<td>CHP calls ECC to confirm if OCFA has dispatched engines to the 91/241 area. OCFA informs CHP that this area would be Metro Net responsibility (as it is in the city of Anaheim) and provides CHP with Metro Net’s phone number. OCFA asks CHP if they can assist in any way. CHP states: “yeah..., it is a fire on the right side of the shoulder.”</td>
</tr>
<tr>
<td>0926:22</td>
<td>CHP informs Metro Net of multiple caller reports of fire in the 91/241 area.</td>
</tr>
<tr>
<td>0927:20</td>
<td>Caller reports that they believe there is another fire starting off the 91 freeway, that the wind is really whipping through the area. ECC Dispatcher confirms that caller doesn’t see flames but white smoke, that it looks like something is burning.</td>
</tr>
<tr>
<td>0928:04</td>
<td>CHP calls Metro Net, who then calls ECC, to report that flames are actually starting in the canyon area.</td>
</tr>
<tr>
<td>0929:04</td>
<td>ECC calls US Forest Service Monte Vista Dispatch Center to inform them that smoke has been seen by motorists and asks the Forest Service if they have a patrol in the area that can check out the scene.</td>
</tr>
<tr>
<td>0929:26</td>
<td>ECC informs US Forest Service Dispatch of another report of a small spot fire in the previously burned area of the Canyon Fire. US Forest Services states they have no units in the area.</td>
</tr>
<tr>
<td>0930:21</td>
<td>ECC calls CAL FIRE/Riverside to ask if they have anyone working in the area. CAL FIRE says they do not.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
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</tr>
<tr>
<td>0931:29</td>
<td>OCFA Dispatcher (B) designates a “Smoke Check” response, which requires one fire engine to respond code 2 (no lights, no sirens) to the scene.</td>
</tr>
<tr>
<td>0931:48</td>
<td>ECC Dispatcher (B) calls OCFA Station 53 to ask if they are staffed yet to send out an engine to the area. Station 53 says “no,” their replacement firefighter is still in-route to the station. Dispatcher asks staff to walk outside of the station to look across the freeway (1.1 miles) to see if they see anything. Station 53 staff state that they see some kind of ash. The dispatcher states that the ECC continues to receive calls of actual fire being seen. Station 53 staff states that all they see is ash, that they imagine that little fire spots may be coming up in the previous Canyon Fire burn area. Dispatcher says, “Ok, cool.” Station 53 staff state that as soon as their backfill firefighter arrives, they imagine they will be going out as the wind is howling, and that it won’t be a big surprise if they are busy all day.</td>
</tr>
<tr>
<td>0932:11</td>
<td>ECC Supervisor calls OCFA helicopter base to ask how soon they can get a chopper in the air. Supervisor states ECC keeps getting reports of confirmed fire in the burn area; he wants helicopter to be airborne to get eyes on the area. ECC Supervisor states that he is almost positive that it is smoke in burn area as the ECC keeps getting reports of heavy smoke. ECC Supervisor also states that US Forest Service does not have anyone in area today.</td>
</tr>
<tr>
<td>0934:04</td>
<td>OCFA Engines 53 and 32 are dispatched on “Smoke Check” and</td>
</tr>
<tr>
<td>Time</td>
<td>Description</td>
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<td>--------</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0934:38</td>
<td>CHP Dispatch calls ECC to let the ECC know that the CHP is getting a lot more calls about fire that was previously believed to be just ash, and that a lot more white and black smoke has been reported; CHP requests that fire engine and helicopters be dispatched to check it out.</td>
</tr>
<tr>
<td>0935:08</td>
<td>An unknown caller asks the ECC if they are going to be launching a response for the westbound 91 incident. The ECC states that they have requested a helicopter to check the area, but the ECC believes it is ash kicking up in the air from the winds, that they have quite a few reports of smoke but didn't see flames.</td>
</tr>
<tr>
<td>0935:24</td>
<td>ECC Supervisor assigns OCFA Battalion Chief 2 to report to the canyon area. ECC Supervisor states that he/she (for anonymity) believes that it is mostly likely a stump or something burning in the previous burn area, that Station 53 doesn't see anything, but that it still very windy there, and that it is better to be safe than sorry.</td>
</tr>
<tr>
<td>0935:30</td>
<td>Caller reports possibly seeing fire on a hill in the Gypsum canyon area. Dispatcher confirms that caller sees smoke hidden behind the peak.</td>
</tr>
<tr>
<td>0935:39</td>
<td>Station 53 informs ECC that they now see a spot fire from the station, that something is actively burning in the previous Canyon Fire burn area.</td>
</tr>
<tr>
<td>0936</td>
<td>Off-duty firefighter calls CHP to report seeing flames. CHP (incorrectly) states that fire department has already been out there twice already. Caller</td>
</tr>
<tr>
<td>Time</td>
<td>Event Details</td>
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<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0936:04</td>
<td>reaffirms he sees a fire. Call is transferred to OCFA ECC.</td>
</tr>
<tr>
<td>0936:17</td>
<td>Off-duty firefighter reports seeing a fire off the 91 freeway and Coal Canyon. Caller reaffirms he sees fire, that it is small flames at this point, back over the hill. Dispatch informs caller that fire units are on the way.</td>
</tr>
<tr>
<td>0936:17</td>
<td>CHP informs mobile unit 194 they are getting reports of fire again, that OCFA is sending a helicopter up to double check, and asks if the CHP Officer has a visual? CHP officer states that as he previously advised, there are high winds picking up and there is poor visibility. There is no mention of officer seeing flames.</td>
</tr>
<tr>
<td>0936:51</td>
<td>OC Parks (Westcom Dispatch) calls ECC to inform them that a park ranger has a visual on the fire from a distance. ECC Dispatch states that a helicopter is on its way.</td>
</tr>
<tr>
<td>0936:57</td>
<td>OCFA Battalion Chief is dispatched and in-route.</td>
</tr>
<tr>
<td>0937:18</td>
<td>Caller reports seeing fire. CHP informs caller that the fire department is aware and on their way.</td>
</tr>
<tr>
<td>0939:01</td>
<td>CHP mobile unit 194 is at the 91 freeway toll booth plaza and requests that CHP activate its highway signs to advise motorists of high winds in the area. Unit 194 seems to indicate that this will help motorists know there is dust in the air and cut down on the numbers of callers who report a fire.</td>
</tr>
<tr>
<td>Exact time unknown</td>
<td>Caller reports seeing fire. CHP states that ash is being kicked up. Caller states that it is more than just ashes, that something is starting right now.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0939:48</td>
<td>Caller reports seeing fire. CHP explains that wind is kicking up dust.</td>
</tr>
<tr>
<td>ECC Supervisor requests an update from OCFA Battalion Chief 2. Battalion Chief states he is still in-route and informs that wind is really blowing.</td>
<td></td>
</tr>
<tr>
<td>0940:11</td>
<td>ECC rediscatches Engine 53 which is now in-route as replacement staff has arrived.</td>
</tr>
<tr>
<td>0941:27</td>
<td>OCFA Battalion Chief 2 requests a &quot;wildland assignment,&quot; a Vegetation-High response that will initiate full fire response for High Watershed Dispatch Level.</td>
</tr>
<tr>
<td>0941:32</td>
<td>Caller reports seeing white smoke.</td>
</tr>
<tr>
<td>0942:01</td>
<td>Station 53 informs the ECC that the fire is building and requests a full Vegetation (Vegetation-High) response.</td>
</tr>
<tr>
<td>0942:41</td>
<td>ECC Dispatcher (8) upgrades initial Smoke Check” to “VegH”- a Vegetation fire on high Watershed day, that results in significant and appropriate fire resources being sent, some 70 minutes after first 0832 hours caller reporting seeing a fire.</td>
</tr>
<tr>
<td>Yorba Linda Water District calls ECC Supervisor to inform that he sees smoke. Supervisor informs that there is &quot;something&quot; out in the previous burn area.</td>
<td></td>
</tr>
<tr>
<td>0943:18</td>
<td>ECC requests Anaheim fire resources.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Details</td>
</tr>
<tr>
<td>--------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0943:20</td>
<td>Metro Net shows mutual aid request for unit Anaheim Engine 310.</td>
</tr>
<tr>
<td>0943:35</td>
<td>Metro Net calls for Vegetation fire response and the appropriate level of Anaheim and Orange fire units/staff are dispatched.</td>
</tr>
<tr>
<td>0946:36</td>
<td>US Forest Service staff calls ECC requesting the location of the fire. ECC (incorrectly) states that it is well within the burn area of the previous Canyon Fire.</td>
</tr>
<tr>
<td>0946:55</td>
<td>OCFA helicopter HC2 in-route; diverts to Irvine Lake to collect water before arriving on-scene.</td>
</tr>
<tr>
<td>0948:34</td>
<td>Caller reports seeing white smoke off the 91 freeway.</td>
</tr>
<tr>
<td>0949:27</td>
<td>Caller reports seeing smoke, doesn't see flames.</td>
</tr>
<tr>
<td>0950:33</td>
<td>CHP calls ECC to ask: &quot;did you guys find another fire out there?&quot; ECC states they are not sure yet; smoke has been seen but they really don't know much more yet; don't yet have an update.</td>
</tr>
<tr>
<td>0950:49</td>
<td>CHP transfers caller to ECC who reports seeing visible flames. Caller states that fire is moving down the hill and moving fast.</td>
</tr>
<tr>
<td>0951:56</td>
<td>Yorba Linda caller reports seeing fire on the hills across 91 freeway.</td>
</tr>
<tr>
<td>0952:32</td>
<td>CAL FIRE/Riverside informs ECC they are sending full state vegetation fire response; requests communication frequencies; ECC informs that frequency is Fire OC.</td>
</tr>
<tr>
<td>0952:38</td>
<td>CHP takes three calls and transfers them to ECC.</td>
</tr>
<tr>
<td></td>
<td>Callers report seeing fire on the hills. Dispatcher states that OCFA helicopter is on scene and only sees smoke.</td>
</tr>
<tr>
<td>0953:07</td>
<td>CHP transfers caller to ECC who reports a fire. ECC dispatcher states to caller that OCFA helicopter is on scene and only sees smoke.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
</tr>
<tr>
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</tr>
<tr>
<td>0953:11</td>
<td>CHP requests its mobile unit 194 to recheck the area because CHP has received multiple calls stating that visible flames are present.</td>
</tr>
<tr>
<td>0953:33</td>
<td>OC Park Ranger reports having eyes on fire with precise location.</td>
</tr>
<tr>
<td>0953:56</td>
<td>OCFA Battalion Chief 2 assumes Canyon 2 Fire Incident Command.</td>
</tr>
<tr>
<td>0954:04</td>
<td>Sheriff Station 18 contacts ECC. ECC informs Station 18 that they are working the fire. Station 18 informs the ECC that Sheriff (Duke) helicopters are available if needed.</td>
</tr>
<tr>
<td>0954:24</td>
<td>CHP mobile unit 194 officer states he has a visual from the east bound side of toll plaza. Officer states that he doesn't see any visible flames, but what definitely looks like smoke; requests that CHP inform OCFA that the area is not accessible from the freeway.</td>
</tr>
<tr>
<td>0954:39</td>
<td>CHP mobile unit 194 informs CHP dispatch that he can now see visible flames just west of the previous burn area, that the flames are on the top of the ridge; requests that CHP Sergeant be notified and that there is a Coal Canyon access point.</td>
</tr>
<tr>
<td>0955:00</td>
<td>CHP informs ECC that that their officer on freeway says that it looks like smoke on the hill top; ECC informs CHP that a full fire response has been declared and dispatched.</td>
</tr>
<tr>
<td>0955:02</td>
<td>CHP mobile unit 194 states that the fire is pushing west from Gypsum Canyon, and that a unified command post is being set up.</td>
</tr>
<tr>
<td></td>
<td>CHP mobile unit 93 informs that a traffic break is being set up at Gypsum Canyon offramp; also</td>
</tr>
<tr>
<td>Time</td>
<td>Event</td>
</tr>
<tr>
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<td>----------------------------------------------------------------------</td>
</tr>
<tr>
<td>0955:11</td>
<td>CAL FIRE/Riverside informs ECC Supervisor that CAL FIRE is responding to the incident per the Anaheim Wildland agreement and requests the communication package frequencies that are being used and lists the assets CAL FIRE is sending.</td>
</tr>
<tr>
<td>0958:54</td>
<td>Metro Net contacts CAL FIRE Perris Dispatch center to request a response in the CAL FIRE/Anaheim wildland contract area.</td>
</tr>
<tr>
<td>0957:15</td>
<td>Per Anaheim Battalion Chief, fire is blowing over the hill.</td>
</tr>
<tr>
<td>1001:14</td>
<td>OCFA helicopter HCI in-route.</td>
</tr>
<tr>
<td>1003:20</td>
<td>Anaheim Fire assumes Canyon 2 Fire Incident Command.</td>
</tr>
<tr>
<td>1007:59</td>
<td>ECC calls CAL FIRE Duty Chief multiple times; Duty Chief is reported to be on another call and does not pick up for several minutes.</td>
</tr>
<tr>
<td>1010:45</td>
<td>US Forest Service informs ECC that it has dispatched one Type 3 engine and asks if OCFA needs additional resources.</td>
</tr>
<tr>
<td>1010:1012</td>
<td>CAL FIRE/South Operations contacts ECC stating, “we are just curious what fire is doing because we really didn’t have it on our radar.”</td>
</tr>
<tr>
<td>1012:20</td>
<td>ECC calls US Forest Service back requesting additional Type 3 engines and informs them of command radio frequencies.</td>
</tr>
<tr>
<td>1013:01</td>
<td>OCFA Helicopter HCI on-scene, notes that fire is wind-driven @ 25 mph and heading toward the 241 freeway.</td>
</tr>
<tr>
<td>Time</td>
<td>Event Description</td>
</tr>
<tr>
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<td>-----------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>1015:06</td>
<td>OCFA requests fixed wing aircraft from CAL FIRE.</td>
</tr>
<tr>
<td>1016:05</td>
<td>CAL FIRE informs ECC that their Helicopter 305 is on its way.</td>
</tr>
<tr>
<td>1016:59</td>
<td>Sheriff Station 18 informs ECC that if they need additional air resources, they can use the Sheriff helicopters. ECC states that they are ok for now.</td>
</tr>
<tr>
<td>1026:22</td>
<td>Incident Command estimates fire will reach the 241 freeway in 45 minutes (1111 hours).</td>
</tr>
<tr>
<td>1026:44</td>
<td>CHP asks ECC: &quot;Did you guys find fire there up on Gypsum?&quot; ECC: &quot;Oh, yes.&quot; CHP: &quot;Ok, so there is indeed fire up there?&quot;</td>
</tr>
<tr>
<td>1027 (approx.)</td>
<td>Sheriff Station 18 asks ECC what the size of the fire is as Station 18 is concerned about their facility and if they need to evacuate.</td>
</tr>
<tr>
<td>1042:25</td>
<td>241 freeway being closed in both directions</td>
</tr>
<tr>
<td>1042:30</td>
<td>Fire jumps 241 freeway (29 minutes earlier than anticipated).</td>
</tr>
<tr>
<td>1129:02</td>
<td>ECC informed that fire is well established, structures are threatened, with some street involvement in Anaheim.</td>
</tr>
<tr>
<td>1144:49</td>
<td>ECC informed that evacuations are occurring in the City of Orange.</td>
</tr>
</tbody>
</table>
Attachment 11: Canyon 2 Fire Progression Map