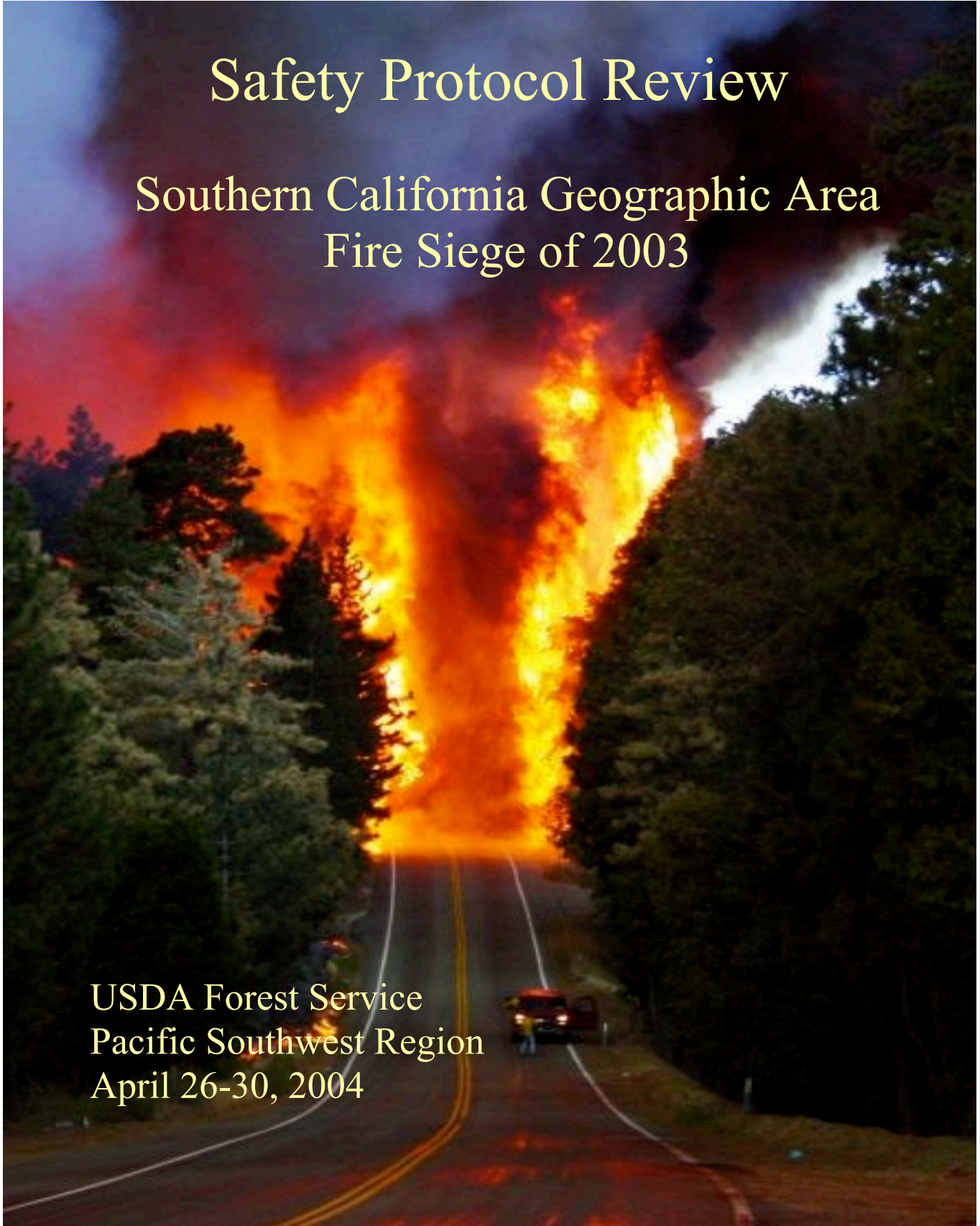


# Safety Protocol Review

## Southern California Geographic Area Fire Siege of 2003

USDA Forest Service  
Pacific Southwest Region  
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## Executive Summary

The Southern California fire siege of 2003 was unprecedented in size and ferocity. Several examples of daring, highly successful firefighting emerged during the siege, and two from the Old Fire on the San Bernardino National Forest were discussed during the field trip for the February 2003 National Leadership Team. Local Incident Commanders report that they were forced by circumstance to bend, adjust, or break several safety protocols in providing for the protection of lives, communities, and resources. Our review expanded its scope to the Cedar Fire, which occurred on the Cleveland National Forest, and examined whether firefighting decisions were made and operations conducted with the high commitment to public and firefighter safety that is expected of federal firefighting professionals.

Interviews conducted for the review revealed an impressive commitment to safety as the fundamental principle of fire operations. The core values of safe fire operations were clearly reflected in a strong, disciplined commitment to compliance with the Standard Firefighting Orders, and recognition that the 18 Watch Out Situations be addressed whenever and wherever they arose. The firefighting organization, regardless of jurisdiction, was behaving and operating in a safe manner and was effective in meeting agency and most public expectations regarding safe and effective fire suppression.

Suppression of these fires began before ignition. Steps taken prior to the fires to prepare citizens, communities, and emergency response personnel from other agencies were important subsequent contributors to public and firefighter safety. The presence of highly seasoned personnel from different agencies and jurisdictions, most who were known to one another, clearly contributed to the safe and effective operations conducted during the awkward, chaotic hours and days following initial attack.

Prescriptive safety policies, such as the 2-to-1 work/rest guidelines, are forcing fire leadership to violate or risk violating protocols to complete the emergency response mission and meet agency expectations for the protection of lives and property. Those interviewed reported that strict adherence to prescriptive policies would have diverted critical attention (diminished situational awareness) and energy from accomplishing incident objectives in a safe and efficient manner.

Policies can be improved to define acceptable risk and the decision space available to the field commanders and fireline supervisors. The reality on the ground **requires** fireline leadership to exercise initiative in meeting agency and public expectations within the confines of a broad, yet sufficiently specific and focused intent relating to performance expectations and firefighter safety, and that the individual recognizes and accepts responsibility for his or her own safety and performance.

We must continue to reinforce a culture wherein leaders understand their responsibility to provide clear intent, and fireline supervisors exercise prudent initiative in meeting that intent in a safe and effective manner.

## **Acknowledgement**

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The Team also thanks the many individuals who took time from their busy schedules to be interviewed. The majority of our findings and recommendations were drawn from these conversations and observations.

Finally, the Team is indebted to Wendy Yun who coordinated the edits and prepared the final report.

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## The Review Assignment

Prompted by a field trip and on-site discussion of the Southern California fire siege of 2003, the National Leadership Team asked Regional Forester Jack Blackwell to review fire operations during the early, most perilous stage of those fires and report back to the National Leadership Team during the summer, 2004, meeting with any recommended changes to improve the safety of fire suppression operations.

Much of the National Leadership Team's discussion of fireline safety stemmed from the field trip presentation by Randy Clauson, Division Chief on the San Bernardino National Forest, in which he described his experiences in protecting communities in and around Lake Arrowhead during the early stages of the Old Fire.

Clauson reported that he found himself in local, unified command with one other Forest Service chief officer and two local fire chiefs. Their resources were limited to those on hand, and though there was radio communication, the four on-scene commanders were largely physically and functionally separated from the Incident Management Team (Type 1) that had assumed responsibility for the fire.

Clauson and his colleagues skillfully performed structure protection and community defense, which probably saved several thousand houses and an unknown number of citizens' lives. Clauson and his colleagues identified the need for and initiated burnout operations along Highway 18 to prevent the fire from moving into Lake Arrowhead and adjacent communities. The burnout operations were conducted by local resources operating without the express permission, but with the concurrence of the Old Fire Incident Commander. Forest line and fire staff officers were also aware of the burnout operations, and the Mountain Area Safety Taskforce (MAST) communication and structure protection plan were used by fireline personnel to guide their local suppression strategies. The on-scene commanders, including Clauson, were seasoned and known to one another; effective, coordinated decision making was facilitated by these prior relationships.

Clauson asserted that safety protocols had to be adapted, adjusted, or broken to achieve the desired result of protecting communities and lives. He concluded that it would have been impossible to follow all guidelines to the letter and accomplish what he and his colleagues did. Clauson's experience was not unique, and similar situations developed during the initial stages of the Cedar Fire on the Cleveland National Forest.

The Highway 18 operations were highly successful. Those who initiated the operation, Randy Clauson, Jim Ahern, George Corley, and Bill Bagnell, are receiving the Secretary of Agriculture's award for heroism and emergency response. The danger faced during the early phases of the fires was real, as was the potential for an adverse outcome had skillful decision-making and judgment not been exercised.

Our firefighters are expected to act with uncompromising regard for their safety, and to incorporate all important incident activities into the command and control of the Incident

Management Teams that have been delegated authority and responsibility to manage the incident. Firefighter and public safety, as well as organizational efficiency, rely upon good communication, close coordination, and shared objectives. Any real or apparent violation or weakening of safety protocols is potentially serious because of the possibility of tragic, avoidable consequences to those involved.

In this review we sought answers to four questions:

- Were all fire safety protocols followed?
- If not, which ones were not followed?
- Why were they not followed?
- What should be done to change this situation?

A Safety Protocol Review team, under a letter of delegation (Appendix C) from Jack A. Blackwell, Pacific Southwest Regional Forester, was directed to examine the actions taken during the Southern California Siege of 2003 in relation to safety protocols and to focus on the following three suppression actions:

- Old Fire initial phases including
  - The Highway 18 burnout operation
  - Defense of Waterman Canyon Station
- Cedar Fire
  - Initial attack

The review team was directed to make recommendations, where appropriate, for improvement in the application of the following safety protocols:

- 10 Standard Firefighting Orders
- 18 Watch Out Situations
- Lookouts, Communication, Escape Routes, and Safety Zones (LCES)
- Work/Rest Guidelines
- Policies resulting from the Thirtymile Hazard Abatement Plan
- Interagency Driving Regulations
- Interagency Helicopter Operations Guide (IHOG)

## The Siege of 2003

During the fall of 2003, while under the influence of mild Santa Ana conditions, the California wildland fire community faced one of the worst fire situations in state history: the Siege of 2003. The weather, in conjunction with the extremely dry fuel conditions and drought-related mortality, created multiple fires, each of which exhibited fire behavior similar to past fires, including Panorama, Laguna, Malibu and Bel Air. Over 16,000 firefighters were mobilized; 750,000 acres were burned; 3,600 homes were destroyed; and 22 people were killed, including one firefighter. Firefighting resources, including aircraft, fire engines, hand crews, tractors, and bull dozers, came from throughout California and other western states. Fourteen Incident Management Teams and one Area Command Team were ultimately mobilized.

During their initial phases, these incidents were characterized by rapidly evolving initial attack on multiple ignitions in a multi-jurisdictional environment that escalated to Type 1 complexity while being managed locally with Type 3 organizations. The transition, from initial attack through extended attack to Incident Management Team assumption of responsibility, was a time of peril to property, the public, and firefighters. There was a heavy reliance on local firefighting resources operating within the framework of their mission while attempting to prepare for and assign incoming non-local resources.

*The Strategic Decision and Assessment Oversight Review – Southern California Geographic Area* concluded:

“The nature of the incidents precluded many of the mandated actions without disengagement of resources actively involved in protecting civilian life and property. The fires moved rapidly from one agency jurisdiction to another, including tribal lands and communities. They were attacked by a variety of local government agencies across multiple jurisdictions. Rarely have fires moved into and out of so many jurisdictions so quickly.

The inability of Federal fire managers to follow all of the Thirtymile policy requirements were troubling to them and added yet another layer of concern to an already stressful situation. Managers made conscious decisions to modify or delay implementation of some of the requirements since interrupting operations would have endangered many more private citizens, their homes and whole communities.”



## Methods

The review team interviewed personnel with key roles in the incidents and referenced several reports covering various aspects of the Siege of 2003. Findings, conclusions, and recommendations were identified and jointly agreed to by the review team.

### Interviews

The review team met over a three day period with selected individuals who were responsible for decision-making. Those interviewed were asked to discuss their role and the sequence of events relevant to their involvement in the aforementioned suppression actions. A series of questions, provided by the review team (Appendix B), was given to each at the time of the interview to stimulate and focus the discussion on safety protocols and their relationship to the interviewed firefighter's actions. The period of time reviewed included initial attack through the conclusion of the most active fire spread. The purpose of the interviews was to assess commitment to public and firefighter safety, and adherence to agency protocols intended to assure public and firefighter safety.

### Existing Reports

Several reviews and reports have been completed on the Siege of 2003. The team referred to these reports, where appropriate, to supplement the synthesis of comments by those interviewed. The reports include:

1. *Strategic Decision and Assessment Oversight Review – Southern California Geographic Area*, Pacific Southwest Region, January 29, 2004 (Pacific Southwest Region – Fire, Fuels, and Aviation Management)

Prepared for the Pacific Southwest Region, Southern Operations Geographic Area Coordination Center (GACC), the report examines management actions of all incidents that occurred in October and November of 2003 within Southern California.

2. *Lessons Learned Report* (<http://wildfirelessons.net/>) *Southern California Firestorm 2003*, Wildland Fire Lessons Learned Center, December 8, 2003.

Prepared by the Wildland Fire Lessons Learned Center with assistance from Mission Centered Solutions, the report summarizes how firefighters met unique challenges faced during the Southern California Fire Siege 2003.

3. *R5-FAM-BOD Safety Group Report*, Pacific Southwest Region – Fire, Fuels, and Aviation Management.

Prepared by the Pacific Southwest Region Fire and Aviation Management Board of Directors, the report identifies safety concerns that were unique to the Siege of 2003.

## Results

The team identified three broad themes affecting safety on fireline operations for both the Old and Cedar fires. The first concerned decision-making before and after the fires started, which contributed to a safe working environment for fireline operations. The second concerned safety as a core value, which was symbolized as adherence to the Standard Firefighting Orders and response to the 18 Situations that Shout Watch Out. The last concerned decisions that were made to modify, adjust, or hold in abeyance specific protocols and safety policies so that local fire managers could operate safely in a situation of great peril. We identified findings, drew conclusions, and proposed recommendations for each theme.

The results of the interviews encompassed all but two of the safety protocols--interagency driving regulations and Interagency Helicopter Operations Guide--the team was asked to address. Neither was mentioned as a safety concern during the interviews.

### Decision-Making

Suppression of these fires began before their ignitions. Substantial, impressive work with communities aided operations and contributed to success on the San Bernardino National Forest. Personal relationships and operating norms with safety as a core value, shared among agencies, characterized the situation on both Forests. Local fire managers were aware of and respectful toward fuel, weather, and terrain conditions that quickly created dangerous fire conditions exceeding local response capabilities.

*The Incident Commanders on the fires made strategic decisions based on threat to human life and property, delaying, modifying and sometimes abandoning strategies (such as perimeter control) until higher priorities were met, (Strategic Decision and Assessment Oversight Review – Southern California Geographic Area).*

Once the fires began, local Incident Commanders found themselves with initial attack and Type 3 incident management capabilities, but with Type 1 incidents of exceptional ferocity and danger to manage. Community protection, evacuation and the protection of public and firefighter safety became dominant concerns for the local resources and on-scene Incident Commanders. Initiative and resourcefulness were common virtues, though Incident Commanders were concerned that they would be harshly judged for their decisions in adapting safety protocols to meet local emergencies.

### Findings

**Planning Prior to Ignition Contributes to Safety.** Involvement of line and staff officers prior to the incident, development of cooperative, interagency relationships, and participation in community preparedness planning were key elements to operational success in the protection of threatened communities. The Mountain Area Safety Taskforce involving the San Bernardino National Forest and the communities in the San Bernardino range exemplified superb pre-incident planning and coordination that

contributed materially to safety during the incident. Line Officers relied on the leadership of upper level and local fire management staff to convey their expectations to fireline leaders.

Interagency relationships developed prior to the fire contributed to the successful evacuation and community defense actions taken during the dangerous, early stages of both incidents. Coordination between local Sheriff's Departments (San Diego and San Bernardino Counties) and local fire agencies resulted in timely and effective evacuations that probably saved lives.

**Initial Attack and Type 3 Organizations Deal With Type 1 Incidents.** The initial attack Incident Commanders were seasoned firefighters from several agencies, and they quickly recognized that the complexity of these incidents surpassed their capabilities. They ordered resources and requested Incident Management Teams. The Southern California Geographic Area Coordination Center set in motion an unprecedented mobilization of Incident Management Teams, as well as firefighting and support resources. As these resources were being built up, initial attack forces remained engaged in fire operations. Local decision-making adjusted to rapidly changing circumstances. Local commanders focused on critical objectives, including safe fire operations, the protection of lives, and the protection of communities.

During the early stages of the fires, community protection needs were immediate and rapidly changing. Local government and agency personnel planned, implemented, and maintained operational tactics that were communicated to, but not directed by, Incident Management Teams. Incident Management Teams were beset with confusing conditions: which resources were assigned, where they were, how to prioritize short- and long-term objectives given the fires' threats, and how to effectively deploy resources as they became available were all questions faced by the Type 1 Incident Management Teams. This confusion hampered the formulation and implementation of a comprehensive, coordinated approach to overall incident management.

**Local Incident Commanders Exercise Initiative.** Those who assumed the responsibilities of local Incident Commanders did so as a consequence of qualifications and availability. In the case of Highway 18, some with whom we spoke revealed misgivings about the assignments and direction given to them by the Type 1 team. Communication and collaboration were impaired because, with the escalating fire conditions and mounting losses, key representatives of involved agencies, administrators, and stakeholders could not be assembled for conventional, face-to-face meetings. The threat posed by the Old Fire during its early stages, therefore, allowed for neither the full institution of organizational structure nor appropriate inter-jurisdictional involvement at all scales of command and control.

Local Incident Commanders performed in dangerous, challenging operational environments on both fires. Their attention to the task was accompanied by concern they would ultimately be judged by others--others not burdened with the responsibility of safely achieving fireline objectives--on the basis of their compliance with safety rules, regulations, and guidelines. This sense of responsibility exists on all incidents; however,

the magnitude of these Southern California fires and the rapidity with which they developed correspondingly elevated the concern. These concerns were shared with us by Incident Commanders at the Type 1, Type 2, and Type 3 levels, some of whom questioned their continued willingness to serve in the Incident Commander capacity. This concern is evidenced by the increasing difficulty to recruit new Incident Commanders.

### Conclusions

Throughout the ordeal, individuals at all operational levels never lost sight of the number-one priority to protect the lives of firefighters and the public. The decision environment was shared between on-scene incident management, unit management including Line Officers, upper level fire management, and dispatch coordination. Challenges included the need for: a) prioritization for evacuations, b) additional resources and unified command, c) a shift from perimeter to point protection, d) assurance of organizational flexibility, and e) maintaining command and control of dispersed resources.

The capability to directly demand and enforce compliance with the Standard Firefighting Orders and respond to the Watch Out Situations resides with the crew and module supervisors. Setting expectations, providing oversight, and ensuring accountability are responsibilities of Incident Commanders. Those interviewed concluded that some of the policies resulting from the Thirtymile Abatement Plan require that enforcement, instead, be the personal responsibility of the Incident Commander. They further observed that in recent years the agency has instituted guidelines and policies that, at times, seemed to be irreconcilable with the urgency of fire operations and agency expectations for Incident Commander performance. The burden imposed by these increasing agency expectations constitutes a disincentive to serve or acquire qualifications as Incident Commander.

We concluded that in several cases, Type 3 Incident Commanders were engaged in activities conventionally associated with Type 1 incidents without the benefit of Type 1 command and support. Under such circumstances, local Incident Commanders concluded that all safety protocols could not be followed to the letter, but the intent of providing for safety was a primary concern.

### Recommendations

- Reinforce and reward prior planning for community preparation, evacuation, suppression planning.
- Reinforce the need for developing strong, local relationships across jurisdictional lines for emergency response commanders.
- Continue to update and streamline local area pre-suppression plans and delegations of authority to include processes necessary to integrate community-based organizations and activities into the command structure of incoming Incident Management Teams.

- Ensure mobilization protocols provide for adequate local knowledge and capability to manage emerging incidents, provide interagency coordination, and maintain oversight that spans transitions of command to Incident Management Teams.
- Provide expectations for Incident Commanders that better align responsibilities with the authority and practical means to meeting them. Reconcile the disparity between agency expectations for Incident Commander performance (safe, efficient, and effective fire suppression) and prescriptive regulations, policies, and guidelines.
- Be clear about whether local discretion is provided to Incident Commanders to comply with the safety protocols.

## Safety as a Core Value

Without exception, we were confronted with an impressive commitment to safety as the fundamental principle of fire operations. By far, the Standard Firefighting Orders and Watch Out Situations dominated the interviews and were expressed as the cultural values of every firefighter and manager we interviewed. Some firefighters expressed their concern that they would be perceived as having “broken” or “bent” the Standard Firefighting Orders. They were asked clarifying questions, and the team concluded neither the Standard Firefighting Orders nor the Watch Out Situations were ever abandoned or ignored. For example, local incident managers grouped out-of-area resources unfamiliar with local weather and its influence on fire behavior with local forces. Communications were complicated by terrain and the occasional non-local resource with incompatible radio equipment, in which case face-to-face contact was specifically attempted when radio communications could not be established. Finally, those interviewed asserted that extreme fire behavior potential was addressed with appropriate evolving, strategy and tactics with safety a fundamental principle for operations.

The Standard Firefighting Orders shaped local decisions. The Watch Out Situations were used to heighten situational awareness and stimulate the development of risk mitigation and issue resolution. These firefighting tenets were foremost on the mind of those interviewed. The Standard Firefighting Orders and Watch Out Situations, therefore, formed the “line in the sand not to be crossed” for all operations and under all conditions encountered before, during, and after this siege.

The core commitments to safety are symbolized by respect for the Standard Firefighting Orders and recognition of the Watch Out Situations.

### Findings

Fire managers communicated clear expectations that firefighters would remain engaged while houses were burning and lives were at risk. At the same time, they insisted that fireline supervisors adhere to the Standard Firefighting Orders and mitigate Watch Out Situations as they occurred and were recognized. The initial letter of delegation from the Forest Supervisor to the Incident Management Team (letter dated October 26, 2003) stated “The Ten Standard Orders Are Firm. They will not be bent or broken...”; it was the tenor and interpretation of this directive that supported the feelings and expressions of non-compliance.

The expectation that fireline leaders were exercising initiative, performing according to training, and providing oversight on adherence to Standard Firefighting Orders and mitigation of the Watch Out Situations was fulfilled. Incident Command relied heavily on fireline supervisors to recognize situations and act appropriately in view of the situation at hand.

As has been the case since changes were made more than a decade ago, the Watch Out Situations do not include the pronoun “you.” Some we interviewed expressed concern that this wording had the effect of reducing personal responsibility for maintaining situational awareness and exercising appropriate judgment.

### Conclusions

Adherence to the Standard Firefighting Orders and mitigation of the Watch Out Situations by fireline supervisors was viewed as non-negotiable. The core value, the “line in the sand”, was to keep people safe.

Excluding the pronoun “you” from the Watch Out Situations has created a situation where individuals are relegating their personal responsibilities to their leadership.

The benefits of training across agency boundaries are not confined to sharing technical skills, but foster the development of confidence in the skills and capabilities of individuals to assist one another through exposure to and mutual acceptance of firefighter safety as a core value.

### Recommendations

- Continue to reinforce the Standard Firefighting Orders and Watch Out Situations as the fundamental core values for the fire suppression organization. Provide for integration into all fire-related training, planning, and operational execution.
- Work with the National Wildfire Coordinating Group (NWCG) to reinsert the pronoun “you” and thus re-establish the emphasis of the Watch Out Situations as a personal responsibility to continually assess and recognize the need to adjust strategy and tactics (situational awareness, risk identification and mitigation).
- Continue local efforts to train across agencies with an emphasis on reaching a common understanding of the core values and commitment of each agency to the safety of firefighters.

## **Tradeoffs are Made, Rules are Adjusted**

The checklists, protocols, and prescriptive policies intended to ensure safety could not be entirely implemented without sacrificing performance in the effort to protect life and property. Several of the prescriptive protocols would have distracted fireline commanders and dismissed situational awareness and command effectiveness if they had been followed to the letter.

There were elements of suppression response and mobilization that created concerns and contributed to the level of stress of those interviewed. There was stress associated with attempting to comply with policies, including those associated with the Thirtymile Abatement Plan, which could not be easily reconciled with core values or came at the cost of infringing on a core value. Of particular note were those policies not seen as adding immediate value to the safe and effective performance of firefighters during these

extraordinary conditions, and the team also sensed confusion concerning the wording and interpretation of intent of some policies.

The policies are listed in approximate order of their frequency as mentioned by the people interviewed.

### **Managing Fatigue of Firefighters**

**Policy** – Interim Directive 5130-2003-3; 5130.45-5–“ Incident Commanders have the authority and responsibility to address fatigue in firefighters and other fire suppression personnel and ensure compliance with work/rest and length of commitment guidelines.”

NWCG HB2 (Interagency Incident Business Management Handbook) section 12.7-1 – “Work/Rest Guidelines: To maintain safe, productive incident activities, incident management personnel must appropriately manage work and rest periods, assignment duration, and shift length for crews, overhead personnel, and support personnel. Plan for and ensure that crews, overhead personnel, and support personnel are provided a 2-to-1 work-to-rest ratio (for every 2 hours of work or travel, provide 1 hour of sleep and/or rest). The Incident Commander or Agency Administrator shall document, approve, and include in the daily incident records, the justification for work shifts exceeding 16 hours, including travel time, after the first operation period.”

*Fatigue was managed on these incidents, although not strictly according to work/rest guidelines. State and local government partners have not adopted the NWCG Work/Rest guidelines. Example: 72 hour shifts were authorized by the Forest Fire Management Officer and a blanket authorization was issued to exceed the 2 to 1 work/rest guidelines due to threatened life and property. Fatigue was managed by field supervisors, who pulled people off the line to rest when they were exhausted. It was also stressed in all briefings. The interaction between the California Department of Forestry and Fire Protection’s (CDF) 24-hour shifts and the Forest Service’s 16-hour shift limitation has caused confusion and complications in shift assignments/coordination. Under normal conditions and situations the work/rest guidelines are appropriate and can be implemented. On these incidents fire managers at all levels felt they were forced to bend or violate the guidelines (Strategic Decision and Assessment Oversight Review – Southern California Geographic Area Report, 2004).*

### **Findings**

We confirmed that incident management personnel, ranging from module leaders to Incident Commanders, were keenly aware of the need to manage firefighter fatigue and did so as opportunities were presented. Rest was situational and based upon the need for and condition of the resource. Fatigue countermeasures were planned and implemented that conformed with the intent of the policy if not to the letter of the policy. In every case, there was clear



recognition of the need for rest, and actions were taken to provide for and manage firefighter fatigue during these difficult times. However, there was palpable tension between the effort to manage firefighter fatigue and the recognition that strict adherence to the content of the work/rest policy was impossible in this situation. While conscious decisions were made to violate the letter of the work/rest policy, close attention was consistently being paid to implement the intent of the policy.

Moreover, the guidelines direct that Incident Commanders and Agency Administrators document work/rest schedules, approve work shifts that exceed 16 hours, and include the documentation in the daily incident records. Creating and maintaining this level of documentation simply could not have been done during the initial stages of these fires, and would have served little purpose.

Local fire chiefs shared with us the impracticality of abiding by the work/rest guidelines. Where choices had to be made to either protect their communities or follow the 2-to-1 work/rest protocol, these individuals elected to meet their jurisdictional responsibilities for protection as they understood them to be. They strongly encouraged that we revisit and modify our guidelines to incorporate more flexibility.

### Conclusion

The nature of these incidents did not allow compliance with the letter of work/rest guidelines. Attempting to withdraw resources from their assignments while they were still performing safely and effectively would have permitted intolerable consequences for community protection, the lives of the public, and to firefighters.

### Recommendations

- Encourage the National Wildfire Coordinating Group to refine work/rest guidelines to require initiative be exercised by on-scene managers, who are responsive to the situation at hand, to actively manage firefighter fatigue.
- Emphasize the desirable goal of the 2-to-1 work/rest ratio and 16-hour maximum duty day.
- Emphasize quality rest versus extended rest.

## Briefings

**Policy** – 5130.45-7 – “Incident Commanders have the authority and responsibility to ensure arriving ground fireline resources on Type 3, 4, and 5 wildfires have positive and documented contact with appropriate incident management personnel to address the briefing checklist elements in the Incident Response Pocket Guide prior to commencing work.”

*Briefings were delayed for the first 3 to 4 days for many personnel on the fires. Field supervisors conducted briefings in the field to the best of their ability, based on the information they were able to obtain. After that time normal briefings were held, as stated in the Strategic Decision and Assessment Oversight Review (Southern California Geographic Area Report, USDA Forest Service Pacific Southwest Region, 2004).*

## Findings

Briefings were performed to provide critical information to on-scene and incoming resources. Briefings did not necessarily follow the “Briefing Checklist,” nor were they all documented.

“Positive” contact was interpreted to require “face-to-face” contact by the Incident Commander.

There was some difference of opinion regarding what constitutes a briefing with reference to the “briefing checklist” included in the Incident Response Pocket Guide.

## Conclusion

There was an across-the-board effort to brief incoming strike teams and resources. At times this meant relying on the resources’ assigned fireline supervisors to perform the necessary briefing. The situation simply did not allow for all briefing checklist items to be covered or for documentation of all contacts made and instructions given.

## Recommendation

Modify FSH 5130.45 to read:

*To ensure arriving ground fireline resources on Type 3, 4, and 5 wildfires have positive ~~and documented~~ contact with appropriate incident management personnel to address **applicable elements included in** the briefing checklist ~~elements~~ in the Incident Response Pocket Guide prior to commencing work (FSM 5108). (Note: New wording is in bold and underlined text.)*

## Team Mobilization

A pre-arranged rotation for mobilizing Incident Management Teams is established annually for both regional and national teams. During a period of multiple fires requiring an Incident Management Team, the pre-arranged schedule can become compressed resulting in teams expecting to be off rotation to be called to an incident. This mobilization process had unanticipated and unfortunate consequences during the Fire Siege of 2003.

### Finding and Conclusion

Our review confirmed the findings of the *Strategic Decision and Assessment Oversight Review – Southern California Geographic Area*. They discussed the effect of team mobilization where many team members are from a single unit. This is an especially serious problem when a complex fire is currently developing within the team members' home unit. Some of Regions 5's Incident Management Teams include a high percentage of people from Southern California who fill key management positions on the teams. Situations exist where there are an inordinate number of key fire personnel from any given national forest on one team. When such a team is mobilized the number of senior fire officers on that forest can be drastically reduced, leaving few seasoned fire managers to provide oversight or manage incidents that might occur. The situation can be compounded when multiple teams are mobilized in a short time frame consisting of members from the same forest.

### Recommendations

- Establish limits on the number of senior fire personnel from any single national forest that may be assigned to a particular Incident Management Team.
- Establish guidelines for Forest Supervisors to use in determining critical drawdown levels of senior fire personnel and clarify responsibility to make such determinations as local, regional, and national conditions change.
- Clarify instructions and guidelines to Incident Commanders as to when it is appropriate and prudent to turn down a team mobilization order.
- Direct the Geographic Area Coordination Centers (GACC) and Regional Offices to establish parameters of program leadership drawdown. Develop management action points that would indicate a need to change team rotation; e.g. order an Incident Management Team from outside the region in order to reduce the impact to affected forests.

## **Incident Leadership**

**Policy** – from National Mobilization Guide (March 2002 – sec 13.1) (March 2004 – sec 13.3), “Dispatch centers are to inform all resources of the name of the assigned incident commander and all other pertinent information. All changes in incident command leadership will be announced to assigned and incoming resources during initial and extended attack incidents.”

### Findings

In spite of the numerous changes of incident leadership, we found that supervisors and fireline decision makers knew who was in charge and what suppression strategies were to be employed. There was some confusion during the transitions between initial and extended attack Incident Commanders and the incoming Incident Management Teams, but sufficient coordination and communication occurred to maintain consistency in approach and coordination of actions.

Extended attack Incident Commanders had excellent situational awareness and maintained contact with and monitored the performance of the strike teams in the field through both face-to-face and radio communication.

### Conclusions

Incident Commanders were focused on assuring appropriate leadership to incoming resources. They formed resources into strike teams or functional groups under capable, local leadership. There was expressed confidence in and the expectation of fireline leadership to relay important, relevant information to assigned resources, and there was ample evidence of effective coordination and mutual concurrence on tactical decisions.

There were differing opinions regarding the policy requiring identification of the Incident Commander. Several individuals indicated their understanding of the policy was that the Incident Commander had to be identified by name, rather than simply to be identified as on-scene and operating using their resource identifier. Others indicated that they believed the Incident Commander was personally required to ensure this policy was met.

### Recommendations

- Recommend change in policy where it currently says “name” of the Incident Commander to “identity” of the Incident Commander.
- Recommend that a letter clarifying the policy be provided to the units prior to fire season 2005.

- Incorporate lessons learned from this fire siege into future training for all levels of the Incident Commander position as illustrative of the special needs posed by events such that occurred in Southern California last fall.

## **Issuance of Pocket Cards**

**Policy** – Interim Directive 5120-2003-2; 5124.04 – “Forest Supervisors also have the responsibility to ...distribute Fire Danger Pocket Cards to each fireline supervisor on Type 3,4 and 5 wildfires...”

*The pocket cards and guides were not issued to all fireline supervisors, because they responded directly to their assignments on the fireline. The conditions presented at the time of the fire exceeded the levels on the pocket card for both BI (Burning Index) and ERC (Energy Release Component), and established period of record maximums. The severity of the conditions was well known to those battling the fire (Strategic Decision and Assessment Oversight Review – Southern California Geographic Area Report, 2004).*

### Findings

Incident Commanders believed this responsibility was re-delegated to them to ensure compliance. Incident management personnel judged compliance with the letter of the policy impracticable, and attempts to do so would have been in direct conflict with higher incident priorities. Instead, Incident Commanders asserted they provided necessary information to the people who needed to know through face-to-face and radio contact.

### Conclusion

The intent of the pocket card was met through consistent attention to the maintenance and communication of information regarding fuels, weather, and predicted fire behavior among fire suppression personnel. Local resources were, by virtue of their experience and qualifications, inherently aware of volatile fuels and predicted fire behavior that is otherwise displayed on the Pocket Card. Incoming resources were provided relevant information through on-scene briefings by local chief officers and other fireline supervisors.

### Recommendation

Remove the requirement that Forest Supervisors provide Pocket Cards to each fireline supervisor on Type 3, 4, and 5 fires. The Pocket Card should be presented and utilized as one of several tools that can be used to improve situational awareness regarding current and potential fire behavior.

## Qualifications of Incoming Resources

**Policy** – Interim Directive 5120-2003-2; 5124.45 (2) – “Incident Commanders have the authority and responsibility to assign personnel to fireline positions for which they are fully qualified, as certified by their employing agency.”

*Qualifications could not be monitored because personnel reported directly to the fireline, were often out of communication due to radio communication problems, and did not report to ICP (Incident Command Post) on some fires for up to 3-4 days. Some fireline promotions occurred due to necessity, but without validation (Strategic Decision and Assessment Oversight Review – Southern California Geographic Area Report, 2004).*

### Findings

The Type 3 extended attack organizations were managing rapidly escalating incidents of Type 1 complexity during a critical time period. Incident management personnel judged the compliance with the letter of this policy to be impractical under prevailing conditions, and attempting to do so would have been a significant distraction from higher incident priorities.

Highly qualified local chief officers and other fire management personnel supervised resources assigned from outside the local area. These individuals deployed resources in accordance with their observed capabilities. Arriving resources expressing concern about their assigned task or those being observed as insufficiently prepared for the task were provided more oversight or assigned to areas and tasks that were appropriate for their capabilities, e.g. municipal engines arriving from outside the local area to support wildland operations were grouped with local wildland firefighter resources.

### Conclusions

Our qualifications and dispatching systems are expected to provide personnel and resources with the appropriate skills to accomplish the task. There was more reliance on on-scene leadership to perform further assessment and mitigate observed issues.

Strict compliance with this policy may reasonably be expected of Type 1 and Type 2 Incident Management Teams and on many smaller incidents. That expectation becomes unreasonable, however, when applied to Type 3 Incident Commanders in such extraordinary, rapidly emerging events as those under this review.

### Recommendations

- Endorse certification and qualification efforts like California Incident Command Certification System, and the adoption or development of such systems throughout the nation.
- Assign resources appropriately by developing strategies and tactics and conducting operations in recognition of the capabilities and limitations of available individuals and resources. Expand the organizations and the work undertaken as additional and more qualified overhead become available.
- Reinforce to those individuals making resource assignments the importance of attempting to validate qualifications of the positions being filled, and that they monitor performance and modify assignments when warranted.

### **On-Scene Safety Inspections by Incident Commander**

**Policy** – Interim Directive 5120-2003-2; 5124.45 (6) – “Incident Commanders have the authority and responsibility to personally conduct inspections for safety and health hazards, including compliance with the Standard Firefighting Orders and mitigation of the Eighteen Watch Out Situations on Type 3, 4, and 5 fires...”

### Finding

Current policy requires the Incident Commander to personally perform safety inspections on Type 3, 4, and 5 fires.

### Conclusion

This expectation is impractical to implement as written on a rapidly escalating incident, though the intent is sound. While the Incident Commander is responsible to ensure that safe operating practices are consistently applied, the intent of the policy can be met by delegation to fireline supervisors by the Incident Commander. Substantiation of this can be made with periodic monitoring by the Incident Commander as time allows and as issues may demand.

### Recommendation

Remove the requirement that the Incident Commander personally provide these inspections (FSM 5130.45). Revise the policy to clearly reflect the intent that fireline operations be conducted in compliance with safe operating practices and that monitoring occurs.

## **Performance Ratings**

**Policy** – Interim Directive 5120-2003-2; 5124.45 (3) – “Incident Commanders have the authority and responsibility to ensure that performance ratings are completed on Type 3, 4, and 5 wildfires for all ground fireline personnel assigned from outside the local area. Ratings shall include compliance with the Standard Firefighting Orders and the Eighteen Watch Out Situations. Performance ratings shall be maintained in the official incident file and distributed to the individuals rated and their home units.”

### Finding

It is particularly difficult to ensure compliance on Type 3 incidents that are transitioning into higher complexity when local government fire suppression resources are supporting the suppression effort but not necessarily attached to the incident management structure.

### Conclusion

This requirement is impractical on emerging incidents or during situations involving multiple ignitions. Dynamic changes in resources, such as rapid build-up or build-down required for resource mobility, combine to make accomplishing this task difficult at best.

### Recommendation

Remove the requirement that these ratings be performed for every off-unit resource (FSM 5130.45). Emphasize the intent of the policy to provide ratings in recognition of superior or inferior performance of all resources involved in the incident and, also, for trainees in all cases.

## **Entrapment Avoidance Training and Shelter Deployment Protocols**

**Policy** – Interagency Standards for Fire and Fire Aviation Operations 2003 (Red Book); sec 5-3 – “Annual Fireline Safety Refresher Training is required for all personnel participating in fire suppression or prescribed fire activities who may be subject to assignments on the fireline...Annual Fireline Safety Refresher Training must include the following core topics: Entrapments...Fire Shelter.”

*Entrapment and shelter deployment training is an agency specific requirement. Most units responded directly to the fireline. This requirement could not be validated (Strategic Decision and Assessment Oversight Review – Southern California Geographic Area Report, 2004).*



### Finding

This was not mentioned during the majority of interviews. However, a number of inferences to the inordinate level of tactical responsibility placed on the Incident Commander could logically be construed as including this issue though it was not explicitly mentioned. There was a sense by the Incident Commanders that they had a positive responsibility to ensure that this training had been received by all fireline personnel.

### Conclusion

We confirmed that rapidly escalating conditions and the concurrent involvement of multiple jurisdictions in initial and extended attack do not allow real-time execution of this requirement. To explicitly comply with this requirement is very challenging because non-federal resources are constantly moving between jurisdictions. There is not a specific requirement for Incident Commanders to perform this task.

### Recommendation

Have the National Wildfire Coordinating Group (and CWCG in California) work with appropriate agencies or groups to require their annual refresher to include entrapment avoidance and deployment survival training for all non-federal personnel subject to wildfire assignments. This assurance will relieve the Incident Commanders of the assumed responsibility of ensuring the refresher training was completed by all fireline personnel.

## Conclusion

This review was prompted by concern that our firefighters, in responding to the Southern California fire siege of 2003, abandoned our fundamental safety protocols. To the extent that those we interviewed represent the body of forces that responded to these fires, we found that not to be the case. Of necessity, fireline supervisors provided operational direction, command control, and oversight during these extraordinary events, and they did so by adhering to Standard Firefighting Orders and Watch Out Situations.

Managers were unable to comply exactly with all safety protocols as written. For example, they managed fatigue as best they could while attempting to meet agency requirements, public expectations, and their own sense of obligation to protect life, property, and resources. Several other safety protocols were similarly managed, with a focus on complying with the intent of the policy rather than complying with the letter of the policy. Managers were apprehensive that post-fire assessments would criticize their decisions to adjust, adapt or hold in abeyance certain policies that, had then been followed to the letter of the policy, would have jeopardized the protection of lives and communities.

We recognize that anxiety over conflicting demands to comply with safety protocols have prompted several Incident Commanders to reexamine their willingness to serve in the position and appear to have deterred additional individuals from becoming Incident Commanders.

We will never know the full effects of those who acted so admirably during the fire siege: the lives saved the number of houses not consumed by the flames, and the sum of grief and loss prevented. However, they are undeniably considerable. In conclusion, we found that our firefighters conducted themselves remarkably well and with a high degree of professionalism. That professionalism warrants recognition, commendation and perpetuation.

## Appendix A: Personnel Interviewed

<u>Name</u>	<u>Permanent Position</u>	<u>Incident Involvement</u>
Randy Clauson	BDF Division Chief	Initial Attack Incident Commander, Hwy 18 burnout
Bill Bagnell	CFFD, Chief	Structure protection
George Corley	San Bernardino County Battalion Chief	Structure protection, Hwy 18 burnout
Rene McCormick	BDF Engine Captain	Initial Attack Incident Commander, Playground
Tony Osa	SHF Division Chief	Incident Management Team Branch Director
Larry Craggs	PNF Battalion Chief	Incident Management Team Branch Director for Structures
Jamie Tarne	KNF Division Chief	Incident Management Team – Operations Section Chief
Mike Dietrich	BDF Chief	BDF Chief
Rich Hawkins	CNF Chief	Initial Attack Incident Commander
Mick McCormick	BDF Division Chief	Initial Attack Incident Commander
Carlton Joseph	CNF Division Chief	Initial Attack Incident Commander
Hal Mortier	CNF Division Chief (retired)	Incident Management Team Incident Commander
Rocky Opliger	BDF Deputy Chief	BDF Deputy Chief
Tom Brand	CNF Battalion Chief	Initial Attack Operations Section Chief
Norm Walker	BDF Division Chief	Incident Management Team Incident Commander
Gene Zimmerman	BDF Forest Supervisor	Agency Administrator
Grace Terrazas	CNF District Ranger, Palomar District	CNF District Ranger, Palomar District

*Division Chief = District or Unit Fire Management Officer or Forest level sub-staff.  
Battalion Chief = Assistant District or Unit Fire Management Officer*

## Appendix B: Interview Questions

1. What was your role and experience during the siege?
2. What were the objectives and rules of engagement for your operation?
  - Who communicated them?
  - How were they provided?
  - How did you communicate them?
3. Within these objectives and rules of engagement, what was or was not acceptable risk? How was it communicated to you and from you on down?
4. What organization/jurisdictional/situational/managerial factors affected (+/-) your ability to accomplish your objectives within these rules of engagement?
5. How did you provide for firefighter safety during these extreme dynamic and volatile situations?
6. To what extent were you able to comply and track the specifics of the current safety protocols?

## Appendix C: Letter of Delegation and Review Charter



United States  
Department of  
Agriculture

Forest  
Service

Pacific  
Southwest  
Region

Regional Office, R5  
1323 Club Drive  
Vallejo, CA 94592  
(707) 562-8737 Voice  
(707) 562-9130 Text (TDD)

**File Code:** 5100/1410-3

**Date:** April 20, 2004

**Route To:**

**Subject:** Letter of Delegation - Safety Protocol Review

**To:** Review Team Members

Thank you for agreeing to take this assignment to review the actions that occurred during the Southern California Siege of 2003 as they relate to our firefighter safety protocols. You are likely already familiar with the situation in Southern California, one of the worst fire situations in California history, where the weather and fuel conditions resulted in multiple conflagrations displaying extreme fire behavior. Over 16,000 firefighters were mobilized; 750,000 acres were destroyed; 3600 homes were destroyed; and 22 people were killed. Resources came from agencies throughout California and from adjoining states in the West, and a total of 14 Incident Management Teams were mobilized, including one Area Command Team.

Given the magnitude of the situation and the potential for much greater losses, the wildland firefighter community clearly displayed expertise, excellence, and feats bordering on heroics to contain and control these mega fires. However, there have been widespread allegations that our basic safety doctrines were violated. As such, I am requesting the team conduct this review on the decision space and resulting effects of safety protocols on the firefighter and management of the incidents. This includes:

- LCES
- Work Rest Guidelines
- 10 Standard Firefighting Orders
- 18 Watch Out Situations
- Thirtymile Hazard Abatement Plan
- Interagency Driving Regulations
- IHOG

This delegation of authority requests that you conduct this review, make recommendations for possible improvements in applying safety guidelines in aggregate conflagration situations, highlight opportunities for decision makers to maintain policy guidelines in conflagrations, and provide this information and your findings in a written report.

I would like to have this report completed by May 7, 2004. In addition, a presentation will need to be prepared and presented to the National Leadership Team at the scheduled June 2004 meeting.

Please refer to the attached charter for the Safety Protocol Review for a more detailed description of the team's objective, background information, the intended scope of the review, a list of team members, the review itinerary, and a preliminary list of interviewees.

If you have any questions, please contact Ray Quintanar, the Director of Fire, Fuels, and Aviation at (707) 562-8927.

/s/ Kent P. Connaughton (for)  
JACK A. BLACKWELL  
Regional Forester

Enclosure: Safety Protocol Review Charter

cc: Ray Quintanar, Peter Tolosano, Kent Connaughton, Ed Hollenshead, John Wendt, Larry Hood, Jerry McGowan, Gary Thompson, George C Motschall, matt\_kingsley, Gene Zimmerman, Judie Tartaglia

# **Safety Protocol Review**

## **Charter**

### **Objective**

1. Establish a team to review the actions that occurred during the Southern California Siege of 2003 in relation to the following safety guidelines:
  - LCES
  - Work Rest Guidelines
  - 10 Standard Firefighting Orders
  - 18 Watch Out Situations
  - Thirtymile Hazard Abatement Plan
  - Interagency Driving Regulations
  - IHOG
2. Make recommendations for possible improvements to the application of safety guidelines in these types of incidents.
3. Review safety policy to determine ways to improve actions during future incidents and improve overall firefighter safety.
4. Highlight opportunities to assist Line Officers and Incident Commanders in maintaining policy guidelines in these conflagration situations (Mega Fires).

Three areas of the 2003 Siege to use as reference for this review will be:

- The Highway 18 burnout operation
- Defense of Waterman Canyon Station
- The Cedar Incident initial attack

### **Background**

During the fall of 2003 under the influence of a mild Santa Ana condition the California Wildland Fire Community was faced with one of the worst fire situations in state history. The weather, in conjunction with the extremely dry fuel conditions, created extreme fire behavior that had never been experienced previously. Over 16,000 firefighters were mobilized; 750,000 acres were destroyed; 3600 homes were destroyed; and 22 people were killed. Resources came from agencies from all over California and adjoining states in the West, and a total of 14 Incident Management Teams were mobilized, including one Area Command Team.

From the onset it was obvious to fire managers that these incidents could not be managed successfully in the traditional manner in which other singular incidents have been

managed. Due to the speed and intensity of fire escalation, resources were stretched to the limits.

## **Scope of Review**

For this review, the team will examine 2003 Siege fire suppression activities in relation to core safety guidelines in three reference areas:

- The Highway 18 burnout operation
- Defense of Waterman Canyon Station
- The Cedar Incident initial attack

Incident managers have stated that in some cases the requirements of Thirtymile created an undue workload and distraction for fire managers. Several have stated that it was nearly impossible to follow all Thirtymile requirements given the magnitude of the situation. Firefighters were stretched to the limits in attempting to follow policy and became creative in executing planned strategies and tactics.

Questions the review team will consider include:

- Given the values at risk were leaders and firefighters given adequate decision space to function safely?
- Can the Thirtymile abatement plan be followed in this type of situation?
- Were all Safety Guidelines followed?
- Were the rules of engagement followed? If not, why not?
- Was policy or direction followed? If not, then which policy/direction was not followed and why?
- What tools can be made available to firefighters and fire managers in the future?

A review of the focus areas and an examination of the fire management activities in this type of incident will jumpstart the opportunity to research and establish procedures which will allow incident managers to follow existing policy while providing them with the tools to strengthen the decision-making process when faced with this type of incident in the future.

A written report will be generated by the review team and presented to the National Leadership team to illustrate the findings and recommendations.



## **Team Composition:**

Team Leader	Kent Connaughton
National Operations Safety Incident Commander	Ed Hollenshead
FBAN	John Wendt
Aviation Safety	Larry Hood
Safety First Chair	Matt Kingsley
Writer/Editor	Jerry McGowan
Research	Gary Thompson
Logistical Support	TBA (Possibly David Weise)
Reg. Fire Safety Officer	George Motschall
	Peter Tolosano

## **Itinerary:**

### **Week of April 26-30, 2004**

**Monday-(4/26)-----**Travel to San Bernardino, 1300 in-Briefing at the Air Attack Base

**Tuesday-(4/27)-----**Conduct Interviews

**Wednesday-(4/28)-**Continue interviews and start draft report

**Thursday-(4/29)----**Continue interviews and draft report

**Friday-(4/30)-----**Out briefing and Closeout by 1300

Report will be forwarded to Kent Connaughton by May 7<sup>th</sup>, 2004, for final review. The final report will be prepared for presentation at the National Leadership Team meeting scheduled for the third week of June 2004.

## **Lodging:**

To be determined and arranged by George Motschall

## **Preliminary List of Interviewees**

Jim Ahearn	Acting Division Chief	ICT3, OSC2
Randy Clauson	BC 13	ICT3, OSC2
Dan Felix	BC 54	ICT3, OSC2(t), FBAN
Bill Bagnell	Chief, CFFD	DIVS, ICT3
George Corley	BC BDC	ICT1
Rene McCormick	BC11 Acting	ICT3, DIVS, OSC2(t)
Tony Osa	SHF	Team OPBD
Larry Craggs	PNF	Team OPBD
Jamie Tarne	KNF	Team OSC1
Mike Dietrich	BDF	ICT2
Rich Hawkins	CNF	ICT2

## Appendix D: Maps

