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Office of Inspector General
Western Region

Audit Report

Forest Service
Firefighting Safety Program
Washington, DC

Report No. 08601-38-SF
SEPTEMBER 2004



UNITED STATES DEPARTMENT OF AGRICULTURE

OFFICE OF INSPECTOR GENERAL

Washington D.C. 20250



Date: September 23, 2004

Reply to
Attn of : 08601-38-SF

Subject: Forest Service Firefighting Safety Program

To: Dale Bosworth
Chief
Forest Service

Attn: Sandy Coleman
Audit Liaison

This report presents the results of our audit of the Forest Service's firefighting safety program. Your August 11, 2004, response to the draft report is included as exhibit D, with excerpts and the Office of Inspector General's position incorporated into the relevant sections of the report.

Based on the written response, we have accepted the FS' management decision for all the report recommendations, except for Recommendations Nos. 1 and 8. We will be able to accept your management decision for Recommendations Nos. 1 and 8 when you provide us with additional information as outlined in the OIG Position section of the report.

In accordance with Departmental Regulation 1720-1, please furnish a reply within 60 days providing the information requested for Recommendations Nos. 1 and 8. Please note that the regulation requires a management decision to be reached on all findings and recommendations within a maximum of 6 months from report issuance. Follow your internal agency procedures in forwarding final action correspondence to the Office of the Chief Financial Officer.

We appreciate the assistance your staff provided to our auditors during our review.

//S//

ROBERT W. YOUNG
Assistant Inspector General
for Audit

Executive Summary

FS-Firefighting Safety Program (Audit Report No. 08601-38-SF)

Results in Brief

This report presents the results of the Office of Inspector General's (OIG) audit of Forest Service's (FS) Firefighting Safety Program. Our objectives were to assess the controls in place to implement safety recommendations, ensure compliance with firefighting safety standards, and coordinate with other firefighting agencies to improve safety practices.

FS has made significant improvements in the safety of its firefighting operations. Since 2001, the agency has had increased funding for Wildland Fire Preparedness. On October 31, 2001, the Department of Labor's Occupational Safety and Health Administration (OSHA) issued its investigative report for the Thirtymile Fire, which identified weaknesses in the enforcement of safety standards, but acknowledged that FS had excellent written firefighting safety policies and procedures. Units we visited conducted regular fire safety training. The 80 firefighting personnel interviewed during our audit gave very positive reviews of the manner in which the agency emphasized and incorporated safety into training and operations. Finally, FS continues to improve its coordination with other wildland firefighting organizations. The National Wildfire Coordinating Group (NWCG) provides an interagency vehicle to standardize training, policy, and procedures. The FS has incorporated NWCG's training requirements and required additional courses for its own firefighting personnel.

Although we recognize the progress FS has made, this report offers recommendations we believe can help address issues that require further attention. We identified four areas in which the agency can strengthen controls in order to enhance firefighting safety: (1) monitoring its response to fire safety recommendations, (2) maintaining centralized records to support firefighter qualifications, (3) conducting administrative investigations on serious fire accidents, and (4) incorporating firefighting safety standards as critical elements in firefighter performance evaluations. Although the agency does have the needed tools at its disposal, it either does not have procedures in place to govern their use or does not use them as effectively as it should.

As of January 2004, FS had not fully implemented 27 of 81 corrective action items from 3 past wildfire accident reports—a 1995 interagency review of the South Canyon Fire, a 2001 FS report on the Thirtymile Fire, and a 2002 report by OSHA on the Thirtymile Fire. All 27 action items responded to safety issues identified for fires with fatalities. On a positive note, 12 of the 27 action items have been implemented in at least 95 percent of FS' field units. Although the action items were intended to mitigate hazards in future

firefighting operations, FS had not established a formal procedure to monitor their implementation. Lacking a comprehensive tracking system, the agency cannot ensure that needed corrective actions are put into practice in a timely manner. As a result, firefighters continue to work without all of the prescribed safety enhancements.

FS did not have controls that would ensure documentary support for firefighter qualifications. We were not able to obtain required training and position certification documents for over 80 percent of the firefighters reviewed. In July 2003, FS issued direction to centralize qualification records, but units have yet to comply. In fact, the records we were able to locate were usually at various ranger district offices or with the employees themselves. Without complete qualification records, the agency had no assurance that firefighters had the training, skills, and experiences to perform the jobs for which they had been issued credentials.

FS also may not be making full use of its ability to conduct administrative investigations. Unlike accident investigations, which look for causes, administrative investigations examine whether employee misconduct contributed to an accident and may warrant disciplinary or other remedial action. Except for incidents leading to fatalities, we found no evidence that FS had conducted administrative investigations for serious wildfire accidents. At this time, FS directives do not require administrative investigations, nor do they require line officers to document their reasons for not conducting them, even when there is evidence of serious safety violations. By not requiring administrative investigations, FS may be missing opportunities to identify and rehabilitate individuals who do not pay adequate attention to firefighting safety standards.

FS is working with OSHA to develop performance safety standards for its firefighters. We agree with the steps that they are taking to evaluate firefighters based on specific safety criteria. The criteria should cite adherence to the 10 Standard Firefighting Orders and mitigation of the 18 Watch Out Situations (See exhibit C). We believe that FS should also establish these standards as critical elements for evaluating the performance of firefighters and of those responsible for fire safety oversight, supervision and management.

Recommendations In Brief

We recommend that FS:

- Develop a consolidated system to track all outstanding firefighting safety action items and designate a high-level official to ensure their timely implementation.

- Establish controls to ensure that qualification records fully support firefighter credentials in accordance with FS direction.
- Conduct administrative investigations for wildfire incidents referred to the Washington Office (WO) when there is evidence of employee misconduct or serious violation of safety standards.
- Develop specific firefighting safety performance standards for use as critical elements to evaluate firefighters and those responsible for firefighting safety oversight, supervision and management.

**Agency
Response**

In its written response to the official draft report, dated August 11, 2004, the FS generally concurred with the audit findings and recommendations and stated that it believes that most of the audit recommendations will benefit the overall firefighting safety program. The complete written response is shown in exhibit D of the audit report.

OIG Position

Based on the FS' written response, OIG accepts the FS' management decision for all the audit recommendations except for Recommendations Nos. 1 and 8. Additional information is needed in order to reach management action on the two remaining recommendations.

Abbreviations Used in This Report

CDF	California Department of Forestry
CFR	Code of Federal Regulations
COFMS	Central Oregon Fire Management Services
DF & AM	Director of Fire and Aviation Management
FS	Forest Service
FSH	Forest Service Handbook
GAO	Government Accountability Office
IMRT	Interagency Management Review Team
IQCS	Incident Qualification Certification System
NF	National Forest
NWCG	National Wildfire Coordinating Group
ODF	Oregon Department of Forestry
OIG	Office of Inspector General
OSHA	Occupational Safety and Health Administration
OSOH	Office of Safety and Occupational Health
USDA	United States Department of Agriculture
WCT	Work Capacity Test
WFPR	Wildland Fire Protection
WO	Washington Office

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Background and Objectives

Background

Nationwide, over 100,000 wildfires burn about 4.2 million acres in the United States each year. Federal, State, Tribal, and local fire agencies are successful in suppressing over 95 percent of these fires during initial attack.

No single agency has the resources to fight all of the wildfires on the land for which it is responsible. Consequently, wildland firefighting agencies, including FS, have established mutual assistance agreements with other organizations. In order to effectively work together, Federal agencies established the National Wildfire Coordinating Group (NWCG) in 1976. NWCG also has liaison to State and local organizations through the National Association of State Foresters. NWCG has developed safety policies and training courses that have become the standard across the wildfire suppression community. It has also promulgated the 10 Standard Firefighting Orders and 18 Watch Out Situations, which all wildland firefighters need to learn and to keep constantly in mind in order to protect their safety (See exhibit C). The FS has incorporated NWCG's training requirements and required additional courses for its firefighting personnel.

Firefighter Qualifications

Firefighting personnel may qualify for one or more positions within the Incident Command System (ICS), which is the standard organization in the field for fighting wildfires. In order to receive qualifications for any of these specialized jobs, such as Firefighter 1, Crew Boss, or Incident Commander 3, a candidate must successfully complete associated NWCG training courses and receive certification for various on-the-job accomplishments, which are recorded in a task book. The candidate must then receive overall certification for that job from a unit Fire Qualification Review Committee. Each year, firefighting personnel are issued a Qualifications Card (or Red Card) that lists all positions for which they are qualified.

FS and all agencies that subscribe to NWCG standards maintain paper files that contain training and task book documents to support firefighter qualifications. FS also records this information in an electronic database called the Redcard system. (During our audit, FS was using the Redcard System, but was converting to the Web-based Incident Qualification Certification System.)

Accident Investigations

FS' 2003 Accident Investigation Guide prescribes a WO investigation for any incident with one or more fatalities, three or more persons requiring

prolonged hospitalization, wildland fire shelter¹ deployments or entrapments, or property damage that exceeds \$250,000. In accordance with an interagency memorandum of understanding, FS and the U.S. Department of the Interior jointly investigate fatality and hospitalization accidents involving personnel of either or both agencies. The purpose of an accident investigation is to provide management with information to prevent future accidents. Accident investigation teams produce a Factual Report and a Management Evaluation Report. The latter establishes conditions, causal factors, and recommended corrective actions. In FS, an Accident Review Board approves the report and may issue a detailed Accident Prevention Action Plan.

OSHA and OIG may also investigate wildfire accidents. In accordance with 29 CFR 1960, OSHA must investigate any accident that results in a fatality or hospitalization of five or more employees to determine the causal factors involved. If OSHA finds that the agency was responsible for one or more violations of occupational health regulations, it will issue a report with citations. The agency must then either immediately abate the identified hazard or hazards, or develop a Hazard Abatement Plan. Public Law 107-203 stipulates that OIG shall conduct an independent investigation for any firefighter fatality resulting from a burnover or entrapment.

Objectives

Our audit objectives were to (1) assess FS' controls to implement recommendations based on investigative findings, accident prevention plans, and other information; (2) assess FS' controls to ensure compliance with firefighting safety standards; and (3) evaluate FS' coordination with other wildland firefighting agencies to improve safety practices.

See the Scope and Methodology section at the end of this report for details of our audit methodology.

¹ A fire shelter is a tent-like covering each firefighter must carry in the field. It is designed for rapid deployment and provides a measure of protection in burnover situations.

Findings and Recommendations

Section 1 Management Oversight of Firefighting Safety

Finding 1

FS Has Not Timely Implemented Actions To Improve Its Firefighting Safety Program

As of January 2004, FS had not fully implemented 27 of 81 action items to improve firefighting safety, pursuant to the Interagency Management Review Team's Final Report for the 1994 South Canyon Fire and the Accident Prevention Action Plan and Hazard Abatement Plan for the 2001 Thirtymile Fire. This was because the FS had not established effective controls for tracking and monitoring action items and for ensuring their timely implementation. Further, some of the action items have been delayed pending interagency implementation through the NWCG. As a result, firefighters continue to perform their duties without all of the prescribed safety enhancements.

The Government Accountability Office's "Standards for Internal Control in the Federal Government" states that internal control monitoring should assess the quality of performance over time and ensure that the finding of audits and other reviews are promptly resolved.

We compiled a list of 81 planned corrective actions:

- 35 from the Interagency Management Review Team's final report for the South Canyon Fire (June 1995),
- 37 from the Thirtymile Fire's Accident Prevention Action Plan (December 2001),
- 9 from the Thirtymile Hazard Abatement Plan in response to OSHA citations (March 2002).

Since FS recognized that it lacked comprehensive status information for South Canyon and Thirtymile action items, it conducted a field review in 2003. All national forests completed detailed checklists to confirm whether they had implemented the required actions. The regions then prepared summary reports. Finally, the WO summarized the regional summaries and responded to action items requiring implementation. This process culminated in the "Certification of Hazard Abatement Report" in January 2004, which provided the basis for our analysis of the 81 action items.

Comparing our list with FS' certification, we found that the agency had either not implemented or had not fully implemented 27 of the 81 actions (33 percent). On a positive note, the certification disclosed that 12 of the 27 action items had been implemented in at least 95 percent of FS' field units. See exhibit A for the status of corrective actions not fully implemented.

FS' Office of Safety and Occupational Health (OSOH) maintains a database of planned corrective actions for serious accidents involving FS personnel. This database, which FS completed in 2003, includes Accident Prevention Action Plan items from WO accident investigations. It identifies the lead unit responsible for each action item as well as its required completion date. An OSOH staff member follows up on the action items twice a year and provides an annual status report to the Associate Chief.

The OSOH database provided effective tracking for recent safety investigation action items. It did not, however, include information before 2000 or Hazard Abatement Plans that FS developed in response to the OSHA citations. As a result, the 35 South Canyon action items and the 9 Thirtymile abatements were not in the database. Further, the database did not always track required completion dates for action plans established before 2002. Completion dates had been established for only 6 of the 37 Thirtymile Accident Prevention Action Plan items. Three of the six remained open, and their estimated completion dates had long since expired (See exhibit A).

FS is responsible for tracking wildfire safety action items in both the OSOH database and OSHA Hazard Abatement Plans. We believe FS should develop a tracking system that consolidates these efforts and includes any other recommendations from external audits and internal reviews. A high-level official should be assigned overall responsibility for overseeing and coordinating with responsible program staff the timely completion of action items and recommendations within the wildfire safety tracking system.

Recently, the FS created a staff position for monitoring all Fire and Aviation Management action items and recommendations. We confirmed that the person hired for this position was developing a tracking system. It was, however, too early for us to confirm whether this system would include all of the necessary information.

Recommendation No. 1

Establish realistic completion dates for the remaining 27 Accident Prevention Action Plan and Hazard Abatement Plan items for the South Canyon and Thirtymile Fires and take the appropriate management action to meet the dates.

Agency Response.

The majority of the regions have provided target dates for completing outstanding action items. The WO will continue to provide oversight and monitor progress through the Hazard Abatement Certification process. The next certification will be in December 2004.

OIG Position.

FS' response did not address action items without estimated completion dates or with dates after December 2004. To reach management decision, FS needs to confirm that target dates have been established for all action items remaining open at national forests, regional offices, and the WO; and to provide a timeframe for completing all related work.

Recommendation No. 2

Develop a consolidated tracking system that includes all wildfire Accident Prevention Action Plan and Hazard Abatement Plan action items as well as any recommendations from audits or internal reviews that relate to firefighter safety.

Agency Response.

The Hazard Abatement Certification process provides the basis for a tracking system. FS is refining and expanding the system to include all recommendations and action items relating to firefighter safety. The estimated completion date is August 31, 2004.

OIG Position.

We accept FS' management decision for this recommendation. For final action, FS needs to provide the Office of the Chief Financial Officer with documentation that addresses all of the recommendation's points.

Recommendation No. 3

Designate a high level official to oversee the tracking system and to coordinate timely completion of all action items and recommended corrective actions with responsible program staff.

Agency Response.

The FS has determined that Director of Fire and Aviation Management is the designated official. The completion date for this action is August 31, 2004.

OIG Position.

We accept FS' management decision for this recommendation. For final action, FS needs to provide the Office of the Chief Financial Officer with documentation that is responsive to the recommendation.

Section 2 Firefighting Safety Administration

Our audit disclosed three areas where FS can improve the administration of its firefighter safety program. First, FS needs to maintain documentation to support firefighters' qualifications. Second, FS should conduct administrative investigations, where necessary, to determine whether employee misconduct or a serious violation of safety standards contributed to the wildfire accident. Finally, FS needs to include appropriate safety standards in evaluating the job performance of its firefighting personnel.

Finding 2

Documentation Missing To Support Firefighters' Qualifications

FS did not have controls that would ensure documentary support for firefighter qualifications. FS units we visited had not implemented direction to obtain and consolidate qualification records in a centralized location due to other workload priorities. In addition, FS had not provided guidance to units on steps to take for cases where records were no longer retrievable. For 65 of 80 sample firefighters (81 percent), we were not able to locate sufficient documentation to support position qualifications that FS had granted. Without supporting documentation, FS cannot provide adequate assurance that all firefighters have the required training, skill, and experience to perform at the jobs for which they have been issued credentials.

The July 2003 revision to Forest Service Handbook (FSH) 5109.17 requires that FS units maintain firefighter qualification records for each employee in a paper copy format. These records must include

- Training certificates for all FS courses,
- Work Capacity Test records,
- Position task book verifications, and
- Yearly updated Redcard system Master Records.

Although the directive requires that qualification records be maintained in a central location, we found that they were scattered between dispatch centers and ranger district offices, or they were kept by the employees themselves. Since many of these records were lost over time, FS relied on information electronically recorded in the Redcard qualification database.

For the 80 sample firefighters reviewed, qualification records for 65 (81 percent) did not have all of the required training certificates and/or task book verifications. Many of the missing training certificates were for courses that the firefighters had taken 10 or more years before. We considered the

missing task books to be a more serious matter. Firefighters usually received them only after they had completed prerequisite training courses. And task books provided documentation and verification that firefighters had satisfied rigorous on-the-job training requirements. A detailed description of how we performed our review is described in the Scope and Methodology section of this report. The following table shows for each site we visited the number of sample firefighters' qualification records with missing documentation and the number for which the missing documentation included task books. A detailed listing of the sample results for each unit is shown in exhibit B.

Forest/Unit	Firefighters Sampled	Firefighters Missing Documents	Firefighters Missing Task Books
Central Oregon Fire Mgmt. Services	20	19	9
Okanogan/Wenatchee NF	20	15	13
Shasta-Trinity NF	20	14	11
Angeles NF	20	17	13
TOTALS	80	65	46

While performing our analysis, we found inconsistencies and contradictions with data in the Redcard system:

- Course completion, work experience, and task book certification dates recorded in different sections of the Master Record often did not correspond with each other.
- Although Redcard had edit controls that identified some problems with respect to individual firefighters' qualifications, units could override the edits and issue the qualifications without providing additional information or explanation.

FS is in the process of converting from Redcard to an interagency Web-based system called the Incident Qualification Certification System (IQCS). FS will need to correct Redcard data errors before converting records to IQCS.

FS needs assurance that individual firefighters have satisfied training and experience requirements for specific firefighter positions and that they have demonstrated the ability to work in those positions by accomplishing prescribed tasks. Training certificates and position task books provide documentary support that firefighters have met rigorous qualification standards. We found no evidence that any of the 65 sample firefighters were not qualified to work any of the positions for which there were missing documents. Nevertheless, incomplete qualification records weaken FS'

assurance that its firefighting workforce meets prescribed standards. This lack of documentation may also increase the agency's vulnerability to lawsuits.

It may not be possible to retrieve some older training records that are missing from qualification files. FS needs to develop guidance on how to address this issue and comply with documentation requirements in FSH 5109.

Recommendation No. 4

Issue guidance on the firefighter qualification documentation that must be maintained in order to be in accordance with FSH 5109.17.

Agency Response.

FS will issue a letter to all field offices by October 29, 2004, that will reiterate the documentation policy in FSH 5109.17 and will provide direction on the maintenance of this documentation. FS anticipates that complete records for each employee would be in place by May 2005. The estimated completion date for this action is October 29, 2004.

OIG Position.

We accept FS' management decision for this recommendation. In order to complete final action, FS needs to provide the Office of the Chief Financial Officer with a copy of the firefighter records documentation letter and confirmation that all firefighters records have been brought into conformance with FSH 5109.17.

Recommendation No. 5

Establish controls to verify the accuracy and sufficiency of firefighter qualification documentation, in accordance with FSH 5109.17 and related guidance.

Agency Response.

FS will provide a training officer checklist for documentation/recordkeeping requirements to facilitate annual preparedness reviews. The checklist will be attached to a letter to all field offices that reiterates line officers' responsibilities to "[ensure] employees meet all applicable training, experience, and other qualifications standards prior to certification for wildland fire management positions." The estimated completion date for this action is October 29, 2004.

OIG Position.

We accept FS' management decision for this recommendation. In order to complete final action, FS needs to provide the Office of the Chief Financial Officer with the letter and attached checklist.

Recommendation No. 6

Issue guidance on procedures needed to reestablish credentials for firefighters who were not able to satisfy requirements of FSH 5109.17.

Agency Response.

The letter issued for Recommendation No. 4 will include procedures for reestablishing credentials for firefighters who were not able to satisfy requirements of FSH 5109.17. The estimated completion date for this action is October 29, 2004.

OIG Position.

We accept FS' management decision for this recommendation. In order to complete final action, FS needs to provide the Office of the Chief Financial Officer with the letter that is responsive to this recommendation.

Recommendation No. 7

Establish controls to ensure that only valid and supportable Redcard System data is converted to IQCS.

Agency Response.

IQCS data conversion was completed in June 2004. Qualification records that did not have required supporting data did not post to IQCS. Account managers were required to either enter the supporting data or to obtain an override (with justification statement) from the forest fire program manager. The training officer's checklist for annual preparedness reviews (See Recommendation No. 5) will serve as a control over the accuracy of records on FS units. The estimated completion date is October 31, 2004.

OIG Position.

We accept FS' management decision for this recommendation. Final action can be completed concurrently with that for Recommendations Nos. 4, 5, and 6.

Finding 3

FS Needs To Conduct Administrative Investigations for Serious Fire Accidents

FS directives empower line officers² to order administrative investigations when evidence suggests firefighter misconduct may have contributed to serious wildfire accidents. Administrative investigations would determine whether such misconduct merited disciplinary or non-disciplinary personnel action. We did not find evidence in our audit that FS had conducted administrative investigations, except for incidents with fatalities. Current directives do not require administrative investigations, nor do they require line officers to document their reasons for not conducting them, even when there is evidence of fire safety standard violations. Further, FS officials told us that line officers might have been concerned that individuals who were the subject of administrative investigations would not cooperate with accident safety investigators. By not requiring administrative investigations, FS may not be identifying individuals who violate safety standards and may be missing opportunities to prevent future accidents by rehabilitating those individuals.

As stated, FS authorizes, but does not require, administrative investigations to examine individual conduct in order to determine whether disciplinary actions or non-disciplinary remedies are warranted.³ On the other hand, FS mandates accident investigations for all serious incidents that meet certain criteria. These accident investigations gather and interpret information to help managers understand how and why the accidents occurred and to determine program corrections needed to prevent future accidents. Accident investigations may consider individual conduct, but only to the extent needed to provide management with information for accident prevention.⁴

During our audit, we identified administrative investigations for only two FS wildfire accidents—the Thirtymile Fire (2001) and the Cramer Fire (2003)—both of which involved fatalities. In our opinion, such investigations would also be appropriate for serious accidents that do not involve fatalities. For example, we became aware of a burnover and the entrapment of three engine crews on the Curve Fire (2002). During this incident the crews deployed fire shelters, but did not sustain serious injuries.

² In the FS, line authority vests in line officers in all administrative levels of the organization—Chief, regional foresters, forest supervisors, and district rangers.

³ Forest Service Manual 6100, WO Amendment 6100-97-2, Ch. 6170 (Jan 17, 1997).

⁴ Accident Investigation Guide (2003)

Region 5 conducted the accident investigation for this incident.⁵ The region's report concluded that firefighters had not recognized a dangerous condition that prolonged drought had aggravated. The report also cited firefighting safety lapses, including the lack of a dedicated lookout, an ineffective anchor point, and an unusable escape route. Despite these critical departures from standard procedures, FS did not conduct an administrative investigation to establish whether individual misconduct had contributed to the burnover. As a result, FS may have missed an opportunity to take action needed to address serious firefighter performance problems.

The FS should direct line officers to order administrative investigations for wildfire incidents referred to the WO, unless preliminary accident investigations find no evidence of firefighter misconduct or serious violation of safety standards. In such cases, the line officers should document their rationale for not conducting administrative investigations.

Recommendation No. 8

Direct line officers to order administrative investigations for wildfire incidents referred to the WO when there is evidence of firefighter misconduct or serious violation of safety standards, or to document their rationale for not ordering such investigations.

Agency Response.

"After Action Reviews" will be required for all serious fireline safety violations. In addition, FS will continue the current policy of conducting administrative reviews for all fatalities and serious fireline accidents.

OIG Position.

The FS response does not address OIG's recommendation to conduct administrative investigations of fire safety violations or misconduct by firefighters, even though no fatalities occurred as a result of the violation or misconduct. We concluded that the administrative investigation, if appropriately administered, could be an important tool to prevent future misconduct by firefighting personnel, especially in the area of fire safety. The investigation should be performed when violations of safety standards or instances of firefighter misconduct are disclosed in the after action review. In order to reach management decision, we will need a response that addresses the substance of the recommendation.

⁵ This accident investigation was before the 2003 version of the Accident Investigation Guide that prescribed WO oversight of all such burnover investigations.

Finding 4**FS Needs Performance Standards for Firefighting Safety**

FS did not have specific performance standards for firefighting safety. This is because the agency did not perceive the need for specific fire safety standards in order to evaluate the overall performance of firefighting personnel and those responsible for their safety. However, accidents on the South Canyon, Thirtymile, and Cramer Fires, all of which involved fatalities, could have been avoided if certain individuals had followed standard safety practices and procedures in place at the time. Specific fire safety performance standards would underscore the importance of individual responsibility and accountability for safe firefighting practices.

In response to the Thirtymile Fire accident, OSHA cited the FS on February 8, 2002, for violating a regulation that required evaluations of managers and supervisors to measure performance in meeting requirements of the agency's occupational safety and health program.⁶ On March 26, 2002, the Regional Forester for the Pacific Northwest Region (Region 6) provided OSHA a plan to abate the cited hazards. The region reported that it had developed supplemental safety performance standards for all supervisors and managers.

The region's standards, however, were general and applied to all program areas, rather than specifically to firefighting. Although, WO issued a memorandum on August 18, 2003, that it had developed supplemental safety standards for supervisors and managers, they were the same as the general standards already in place in Region 6.

On March 26, 2004, OSHA issued its citations for violations on the Cramer Fire. Included was a "Repeat Violation" of the same federal regulation violated during the Thirtymile Fire in 2002 (29 CFR 1960.11). This citation stated that FS performance evaluations did not specifically address compliance with the 10 Standard Firefighting Orders and 18 Watch Out Situations (See exhibit C).

We understand that FS is working with OSHA to develop specific performance standards. These standards should apply to all firefighting personnel and to those responsible for providing firefighting safety oversight, supervision and management. The standards should cite adherence to the 10 Standard Firefighting Orders and mitigation of the 18 Watch Out

⁶ 29 CFR 1960.11

Situations. In light of safety's special significance in the firefighting program, we believe that FS should establish a critical element for evaluating performance against these standards.

Recommendation No. 9

Develop safety performance standards for all firefighting personnel and for those responsible for providing firefighting safety oversight, supervision and management. The standards should cite adherence to the 10 Standard Firefighting Orders and mitigation of the 18 Watch Out Situations. Related performance elements should be classified as critical (See exhibit C).

Agency Response.

FS has issued performance standards that were responsive to the recommendation for forest supervisors, district rangers, and for fire program managers and supervisors. Standards for non-supervisory firefighters will be in accordance with labor-management obligations. The completion date for this action is July 30, 2004.

OIG Position.

We accept FS' management decision for this recommendation. To complete final action, FS needs to provide the Office of the Chief Financial Officer with the new performance standards as recommended.

General Comments

As part of our audit objectives, we reviewed efforts by FS to coordinate with other Federal and State firefighting organizations on fire safety practices. One area of concern was the performance of 20-person hand crews that FS receives through the Oregon Department of Forestry (ODF). ODF provides large numbers of such crews by contracting with private companies on behalf of the Pacific Northwest Wildfire Coordinating Group.

Poorly trained and ill-equipped contract crews may cause unnecessary distractions, which could impact the safety of the entire firefighting team. This appeared to be the case during the 2002 fire season where numerous incidents with contract crews were documented. For example, a deputy incident commander from the National Forests in Florida wrote a report in 2002, citing serious problems experienced with ODF contract crews during that year's fire season. Among these problems were inexperienced squad and crew bosses, poor English communication and comprehension, and disciplinary issues. In addition, a Government Accountability Office (GAO) report on the Biscuit Fire of 2002⁷ concluded that insufficiently trained and inexperienced contract crews negatively impacted firefighting efforts because the crews were not always able to carry out planned operations. GAO cited an ODF official who said that insufficient funding and personnel have resulted in few, if any, evaluations of contract crews' qualifications prior to the start of the 2002 fire season.

ODF officials confirmed the existence of problems like the above in 2002 and indicated that they had begun implementing controls to tighten contract crews' adherence to firefighting safety standards. Specifically, in 2003, ODF added a Contract Manager; in 2004 it has brought in a Contracting Officer, office support, and plans to hire a Compliance Officer. Also beginning in 2003, ODF has made changes in the way it managed the program. Forty percent of crewmembers must have at least one year's experience. (ODF can track this on a crewmember database.) In addition, crew and squad bosses must satisfactorily speak, read, and write English. Squad bosses must be able to speak the languages of all of their crewmembers. ODF will also significantly expand its monitoring of training courses provided crewmembers.

For the 2004 fire season, 100 companies submitted responsive bids for a total of 365 crews. ODF personnel inspected over 1,400 records (mostly for crew bosses and squad bosses) to ensure that they contained required

⁷ GAO Report "Biscuit Fire- Analysis of Fire Response, Resource Availability, and Personnel Certification Standards" issued April 2004.

training certificates, task books, and fitness for duty records. ODF qualified 91 companies representing 298 crews.

Nothing came to our attention to indicate that control improvements ODF has implemented and plans to implement would not be effective in improving contract crew quality. Consequently, we decided not to perform additional audit work at this time.

Scope and Methodology

We reviewed policies and procedures for FS' firefighting safety program. The audit included investigation reports on serious accidents involving FS firefighting personnel between 1994 and 2003. These accidents related directly to fire behavior and did not include aviation mishaps or indirect situations such as falling snags, off-site vehicular crashes, or heart attacks. We considered accidents as "serious" if they satisfied any of the following criteria from FS' Accident Investigation Guide:

- One or more fatalities,
- Three or more persons hospitalized for longer than just observation, and
- Wildland fire shelter deployment or entrapments.

We examined FS' accident investigation process. During the audit, FS personnel were involved in an interagency accident investigation of the 2003 Cramer Fire. This provided us the opportunity to attend meetings of the investigative team at the Missoula Technology and Development Center and to review investigative documents.

Before Cramer, there were only two serious wildfire accidents within the scope of our review that involved fatalities and resulted in recommendations to correct deficiencies identified through interagency and OSHA accident investigations—South Canyon (1994) and Thirtymile (2001). We identified and traced the South Canyon and Thirtymile recommendations to determine the extent to which FS had implemented them.

We conducted audit work at FS' Washington Office; the National Interagency Fire Center in Boise, Idaho; and in the Pacific Southwest and Pacific Northwest Regions. For fiscal year 2004, these two regions were scheduled to receive a combined allocation of \$294.1 million in Wildfire Preparedness funds, which would have been 50.8 percent of FS' allocation of \$578.5 million to all of its regions.

In the Pacific Southwest Region, we performed fieldwork at the Regional Office in Vallejo, California; the McClellan Training Center in Sacramento, California; the Shasta-Trinity National Forest in Redding, California; and the Angeles National Forest in Arcadia, California. We selected the two national forests based primarily on fiscal year 2003 Wildland Fire Protection (WFPR) budgetary allocations. The Angeles and Shasta-Trinity received the largest amounts in Northern and Southern California, respectively.

In the Pacific Northwest Region, we performed fieldwork at the Regional Office in Portland, Oregon; the Central Oregon Fire Management Services (COFMS) unit in Prineville, Oregon;⁸ and the Okanogan-Wenatchee National Forest in Wenatchee, Washington. Again, we selected the two units based primarily on fiscal year 2003 WFPR allocations. The Deschutes National Forest (which is a component of COFMS) and the Okanogan-Wenatchee National Forest received the largest and second largest allocations in the region, respectively.

To examine FS' firefighting qualifications recordkeeping, we judgmentally selected 20 firefighters from dispatch records for permanent employees in each of the four units we visited. We tried to obtain personnel with a variety of qualifications, with emphasis on individuals who had leadership roles in wildfire suppression. For each sample firefighter, we obtained the Redcard System Training and Qualifications Master Record, which provided the following information we used in our analysis:

- Qualification Description – Positions for which firefighters have satisfied qualification requirements. The system will issue a Qualification Card, or Red Card, that lists all positions for which an individual is qualified.
- Experience Description – First and last experience dates for various positions.
- Training Description – Required courses the individual has taken and their completion dates.
- Task Book Description – This provides task book initiation, completion, approval, and certification dates. Firefighters usually receive a task book after they have completed prerequisite training courses for a position for which they are seeking qualification. The task book lists numerous accomplishments that an evaluator must sign. The evaluator certifies when all tasks have been completed, and an agency representative provides a final certification verifying the qualification.

From the Master Records, we determined positions in the Operations Section and Command and Staff areas for which each sample firefighter was entered in the Redcard System as qualified at the time of our review. Then we searched the files for those individuals to obtain training certificates and task book verifications required to support the qualifications. Since few of these documents were in the central files, we allowed time for the units to produce

⁸ COFMS is comprised of fire management operations in two national forests, the Ochoco and the Deschutes, and in the BLM's Prineville District. We did not include BLM operations in our review.

them. In conducting our analysis, we took two significant timing issues into account:

- Required training courses and course numbers changed over time.
- Task books have been used only since about 1994. Individuals who received qualifications before then, or were in the process of earning their qualifications when task books were introduced, are considered “grandfathered” into the related positions.

We also interviewed a judgmental sample of 20 permanent and/or seasonal firefighting personnel at each of the four national forests/units visited during the audit in order to determine their experiences and concerns regarding FS safety standards. In selecting this sample, we tried to obtain a representative group in terms of experiences and qualifications.

Interagency cooperation is a critical aspect of wildfire suppression operations. We considered how FS personnel worked with other Federal, State, and county wildland firefighting agencies and the extent to which FS firefighter safety procedures and training complied with NWCG standards. We met with personnel from the Department of the Interior at the National Interagency Fire Center in Boise, Idaho (Bureau of Land Management, National Park Service, Bureau of Indian Affairs, and Fish and Wildlife Service); the Oregon Department of Forestry (ODF) in Salem, Oregon; the Washington Department of Natural Resources in Wenatchee, Washington; and the California Department of Forestry in Sacramento, California. ODF contracts with companies to provide firefighting crews for wildfire suppression organizations, including FS, in the Pacific Northwest and elsewhere. With ODF staff, we discussed improvements they had made to crew contract administration. We also met with OSHA staff to learn about their investigative process.

Following are significant audit procedures we used to develop our findings:

- Reviewed all applicable laws, regulations, FS directives, and NWCG policy.
- Conducted discussions with FS Deputy Chiefs for Business Operations and the National Forest System, Associate Deputy Chiefs for Business Operations and State and Private Forestry, the Deputy Director for Fire and Aviation Management, and the Director of OSOH, and their staffs.

- At the WO, obtained and reviewed fire activity data and actual and planned wildfire preparedness allocations to the regions for budget years 1998-2005.
- Also at the WO, reviewed prior and current procedures for tracking program improvements pursuant to accident investigation action and hazard abatement plans.
- Interviewed regional and forest Fire and Aviation Management staff.
- Interviewed regional Safety and Health Managers.
- At the regional offices, obtained and reviewed fire activity data and wildfire preparedness allocations to national forests. This information provided input for our judgmental selection of forests for audit fieldwork.
- Interviewed 20 judgmentally selected firefighting personnel at each selected national forest to learn about their experiences and concerns regarding firefighting safety standards.
- Analyzed qualification records for 20 judgmentally selected firefighting staff at each selected national forest to determine the extent to which these records provided support that the staff members had satisfied training and experience requirements.
- Conducted discussions with staff members from the Department of the Interior, State wildland firefighting agencies, and OSHA, as stated above.

We performed fieldwork from November 2003 through March 2004 and conducted the audit in accordance with generally accepted government auditing standards.

Exhibit A – STATUS OF FIRE SAFETY RECOMMENDATIONS NOT FULLY IMPLEMENTED BY THE FOREST SERVICE AS OF JANUARY 6, 2004

(All recommendation (item) numbers are shown as they appear in the original reports)

South Canyon Fire Interagency Management Review Team (Issued June 1995)		
<p>The South Canyon Interagency Management Review Team (IMRT) presented FS with recommended corrective actions in June 1995. FS did not establish completion dates for these corrective actions. We found that FS had not fully implemented 5 of the 35 recommendations in the South Canyon Fire Accident Prevention review.</p>		
Item No.	Condition	Status
A.2	A fire behavior analyst should be available or requested whenever a fire weather meteorologist is requested for a fire coordination center.	Regions 1, 4, and 6 do not have suggested guidance in their Geographic Area Mobilization Guides.
A.3.a	Fire weather forecasts must be communicated to firefighters on initial attack and extended attack incidents.	Region 6 has one NF not compliant.
A.6	A national interagency strategy and implementation plan should be developed to improve technical transfer of fire danger and fire behavior technology.	Only Regions 5 and 10 are fully compliant.
B.6	Fire behavior and fire weather concepts should be reviewed in training each year for all fire managers.	Nationwide there is 50 percent compliance.
D.1	As part of the management review, special attention should be given to analysis of how all Federal, State, and local firefighting organizations plan and conduct fire operations to respond to wide variations in fire severity from season to season.	Region 2 has three NF's not compliant and Region 6 has two NF's not compliant.
Thirtymile Fire Accident Prevention Action Plan (Issued December 14, 2001)		
<p>There were 37 fire safety recommendations in this plan. FS established completion dates on only 6 of the 37 recommendations. Of the six recommendations with completion dates, three remain open (Recommendations Nos. A-19, A-22, and A-26) and the expected completion dates have expired. In total, 14 of 37 recommendations had not been implemented.</p>		
Item No.	Condition	Status
A-1	The FS Director of Fire and Aviation Management (FS/DF&AM), working through the NWCG, will initiate changes in the Federal Wildland Fire Management Policy to include recommendations for fire suppression and for firefighter safety, in preparation for and in the transition phase between initial attack and extended attack fires.	NWCG task group developed implementation direction and is coordinating FS Manual and Handbook changes.
A-3-c	Identify the thresholds at which large fires typically occur. These thresholds indicate fire danger levels that significantly compromise safety and control. When thresholds are approached, fire program managers will request additional supervisory and suppression support.	The NWCG Risk Threshold Project is developing a risk threshold chart for field use.

Exhibit A – STATUS OF FIRE SAFETY RECOMMENDATIONS NOT FULLY IMPLEMENTED BY THE FOREST SERVICE AS OF JANUARY 6, 2004

(All recommendation (item) numbers are shown as they appear in the original reports)

Thirtymile Fire Accident Prevention Action Plan (Continued)		
Item No.	Condition	Status
A-4	The FS/DF&AM, working through NWCG, will initiate changes to the Federal Wildland Fire Policy to ensure there are defined indicators for the need to transition from initial attack to extended attack. An example that might be considered is establishing a fire-specific perimeter limit trigger point.	NWCG task group developed implementation direction and is coordinating FS Manual and Handbook changes.
A-5-a	Require agency administrators to periodically review Time and Attendance records for compliance with work-rest guidelines.	Region 6 has one NF not in compliance.
A-6	The FS Director of Human Resources will evaluate existing training in fatigue awareness, and other associated management training and make it available to all employees.	Half of the units are compliant. Many units were not aware of the training developed and released in July 2003.
A-8-a	Requires forest fire management organizations, including the Agency Administrators, fire program managers, and Incident Commanders meet annually to review the responsibilities, expectations, and authorities of the Type 3-5 Incident Commanders in fire suppression operations and Incident Operations Protocols.	Region 8 has one NF not compliant.
A-14	The FS/DF&AM working through the NWCG will assess the need for a complexity analyses for Type 3-5 incident that would assist fire program managers in determining the appropriate level of management. Factors such as historic levels of fire danger, fuels, fire history, fire potential and historic fires in the vicinity, should be considered.	Region 6 has one NF not compliant and Region 8 has two NF's not compliant.
A-15	The FS/DF&AM working through the NWCG will ensure that fire management plans require a single dedicated Incident Commander for all incidents Type 3-1. Incident Command responsibilities should not be diluted with collateral duties. The exception would be as trainer, or as an evaluator of an assigned trainee.	Region 8 has one NF not compliant.
A-17	The FS/DF&AM working through the NWCG will initiate the adoption of an interagency "Standards for Fire Operations" handbook modeled upon the Bureau of Land Management's "Red Book." The interagency handbook should be developed to ensure an agency's standards, which are unique, are maintained.	Region 1 has one NF not compliant.

Exhibit A – STATUS OF FIRE SAFETY RECOMMENDATIONS NOT FULLY IMPLEMENTED BY THE FOREST SERVICE AS OF JANUARY 6, 2004

(All recommendation (item) numbers are shown as they appear in the original reports)

Thirtymile Fire Accident Prevention Action Plan (Continued)		
Item No.	Condition	Status
A-18	The FS/DF&AM and the Director of Human Resources will work with the FS Line Officer Team to develop core fire management competencies for agency administrators having fire program responsibilities. Seek inclusion of these competencies into the position descriptions and in selection criteria for agency administrators.	All regions, to some extent, are not in compliance with this recommendation.
A-19	The FS/DF&AM will adopt and implement newly developed “Interagency Fire Program Management Qualifications” for key fire program management positions.	Most regions are using the GS-401 series for management qualifications. All regions requested national direction and standardization. The original date to complete this action was March 2002.
A-22	The FS Chief, Regional Foresters, Forest Supervisors, and District Rangers will personally communicate their expectations of leadership in fire management to their employees and staff. This should be completed prior to fire season and in conjunction with Leadership Team meetings, annual fire schools and annual refresher training.	Regions 1, 6, and 8 have one NF not in compliance and Region 3 has two NF’s not in compliance. The original date to complete this action was April 2002.
A-25	The FS/DF&AM will work with the NWCG in the development of the Leadership Curriculum to ensure there is adequate attention to the preparation fire personnel to effectively exercise personal responsibilities and leadership.	NWCG has developed a strategy to provide developmental training in leadership. A course structure has been identified to include five modules of Leadership training. Several modules are in the testing stage of development.
A-26	The FS Deputy Chief for Business Operations and the DF&AM should develop and implement a comprehensive safety and health program utilizing all of the tools available. This should include risk management, system safety analysis, compliance, inspection, oversight, human factor and behavior modification. Use of a “Behavior Based Safety Program” for fire management which: (1) Focuses on active agency administrator involvement, (2) encourages monitoring and intervention, (3) Promotes individual safe behavior on the fire line, (4) Rewards safe behavior, and (5) Reinforces the agency’s commitment to safety through the use of incentives, recognition and disciplinary procedures could be the first part of this program.	A pending revision of FSM 6700 will institutionalize a comprehensive, behavior-based safety and health program for the agency. The original date to complete this action was January 2003.

Exhibit A – STATUS OF FIRE SAFETY RECOMMENDATIONS NOT FULLY IMPLEMENTED BY THE FOREST SERVICE AS OF JANUARY 6, 2004

(All recommendation (item) numbers are shown as they appear in the original reports)

<u>Thirtymile Fire Accident Prevention Action Plan (Continued)</u>		
Item No.	Condition	Status
A-26 (cont'd)	Additionally, develop procedures and protocols to ensure accountability at all levels of the organization. These procedures and protocols should enable fire line supervisors, fire management personnel and line officers to obtain safe performance at all times.	
<u>Thirtymile Fire Hazard Abatement Plan (Issued March 26, 2002)</u>		
OSHA issues citations to agencies found responsible for unsafe work conditions that result in serious injury or death. In response to the OSHA's citations for the Thirtymile Fire, FS issued a Hazard Abatement Plan in March 26, 2002. However, FS did not establish completion dates for the units to complete implementation. The FS has not implemented eight of the nine recommendations issued with the citations.		
Item No.	Condition	Status
1-1-A	Work-rest cycles developed by FS were not followed. This resulted in a lack of situational awareness and impaired judgment in responding to critical fire situations.	Region 6 has one NF not in compliance.
1-1-B	An Incident Commander for all stages of the Thirtymile fire was not clearly assigned. Incident Command was not formally passed between various leaders.	Region 8 has one NF not compliant.
1-1-C	Fire shelter deployment procedures had not been developed for firefighters whose escape routes were compromised. All firefighters must begin preparing for deployment of fire shelters when they are surrounded by fire, even if they believe they are in a safety zone.	Region 1 has one NF not compliant.
1-2-A	Evaluations of supervisory and management officials at the Okanogan and Wenatchee NF's above the level of crew boss did not have performance elements relating to their support of or meeting of the requirements in the occupational safety and health program.	All regions, to some extent, are not in compliance with the procedures.
2-1-A	All of the 10 Standard Firefighting Orders from the NWCG Fireline Handbook 410-1 were violated. Supervisors at the Wenatchee National Forest and at the Thirtymile Fire did not ensure that the 10 Standard Firefighting Orders were followed.	Recommendations Nos. 2-1-A and 2-1-B are combined for implementation. Regions 1, 3, 6, and 8, are not in full compliance with the procedures.

Exhibit A – STATUS OF FIRE SAFETY RECOMMENDATIONS NOT FULLY IMPLEMENTED BY THE FOREST SERVICE AS OF JANUARY 6, 2004

(All recommendation (item) numbers are shown as they appear in the original reports)

<u>Thirtymile Fire Hazard Abatement Plan (Continued)</u>		
Item No.	Condition	Status
2-1-B	FS Supervisory personnel at the Thirtymile Fire did not take immediate actions to mitigate "Watch Out" situations. The 18 situations are listed in the NWCG Fireline Handbook.	Recommendations Nos. 2-1-A and 2-1-B are combined for implementation. Regions 1, 3, 6, and 8, are not in full compliance with the procedures.
2-2-A	Management failed to conduct inspections of firefighting operations including on-site, frontline evaluations of Type 3, 4, and 5 fires to ensure that established firefighting practices were enforced.	Regions 6 and 8 are not in full compliance with this action item.
2-2-B	After-action reports prepared for out-of-forest firefighting crews on Type 3, 4, and 5 fires did not identify safety and health hazards.	Regions 1, 3, 6, and 8 are at various levels of compliance.

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

The following table records the results of our analysis of qualification records for 20 firefighting personnel at each of four units we visited during the audit. Sample firefighters are identified by their unit and a sequential number. We will make corresponding names available to FS officials. Unit names are abbreviated as follows:

- COFMS – Central Oregon Fire Management Services
- OWF – Okanogan-Wenatchee NF
- SHF – Shasta-Trinity NF
- ANF – Angeles NF

For each firefighter, we record qualifications per the Redcard System Master Record at the time of our review. Finally, we identify missing records in accordance with the analysis, which we discuss in the Scope and Methodology Section of this report.

Sample Firefighter	Current Qualifications	Missing Training Certificates and Task Books
COFMS-1	ICT4, CRWB, FFT1, ENGB	S-131, S-212 (FFT1) S-270, S-290 (ENGB/CRWB) ENGB Task Book
COFMS-2	ICT3, DIVS, TFLD, STCR, STEN, CRWB	S-270 (ENGB/CRWB)
COFMS-3	TFLD, DOZB, ICT4, STCR, STEN, FELB	S-234 (DOZB/FELB) ICT4 Task Book
COFMS-4	DIVS, ICT3, TFLD	S-330, S-339 (TFLD) S-339 (DIVS) S-300 (ICT3) TFLD Task Book ICT3 Task Book
COFMS-5	ICT3, DIVS	S-/I-339 (DIVS)
COFMS-6	DIVS, ICT3, FELB, TFLD, FIRB	I-220, S-230, S-234, S-260, S-270, S-290 (FIRB/FELB) I-/S-330, S-390 (TFLD) S-339 (DIVS) S-300 (ICT3) ICT3 Task Book

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

COFMS-7	STEN, STCR, FELB, DOZB, ICT4	I-200, S-230 (DOZB/FELB) S-232 (DOZB) ICT4 Task Book
COFMS-8	STCR	N/A
COFMS-9	DIVS, ENGB, ICT3	I-220, S-230 (ENGB)
COFMS-10	CRWB	I-220, S-230, S-234, S-260, S-270 (CRWB)
COFMS-11	STDZ, STCR, DIVS	I-/S-330, S-390 (STDZ/STCR) I/S-339 (DIVS)
COFMS-12	CRWB, DIVS, FIRB, ICT3	I-200, S-215, S-230, S-234, S-260, S-270, S-290 (FIRB/CRWB) I/S-339 (DIVS) S-300 (ICT3) FIRB Task Book
COFMS-13	STCR, TFLD, DOZB, ICT4, STEN CRWB, ENGB	I-220/I-200, S-215, S-230, S-260, S-270, S-290 (DOZB/ENGB/CRWB) I-300 (DOZB/CRWB/STEN/STCR) I/S-330, S-390 (TFLD/STEN/STCR) S-200 (ICT4)
COFMS-14	CRWB, DIVS, FELB, STCR, TFLD, ICT4	I-200 (FELB/CRWB) S-200 (ICT4)
COFMS-15	ICT3, STCR, STEN	I-300 (STEN/STCR) STEN Task Book
COFMS-16	ICT3, DIVS, OSC2	S-430 (OSC2)
COFMS-17	ICT3, DIVS, DOZB, FELB	I-220 (DOZB/FELB) S-232 (DOZB) DOZB Task Book
COFMS-18	DIVS, TFLD, ICT4, DOZB, FELB	I-200, S-230, S-234, S-260, S-270, S-290 (DOZB/FELB) S-200 (ICT4) S-232 (DOZB) S-390 (TFLD) ICT4 Task Book
COFMS-19	DIVS, ICT3, ENGB, TFLD, DOZB	I-220, S-215, S-230, S-234, S-260, S-270, S-290 (DOZB/ENGB) S-232 (DOZB) S-330, S-390 (TFLD)
COFMS-20	DIVS, ICT3, FELB, FIRB	I-220, S-290 (FIRB/FELB)

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

OWF-1	SOF2, DIVS, ICT3, DOZB	I-220/200, S-230, S-232, S-234, S-260, S-290 (DOZB) S-300 (ICT3) S-339 (DIVS) S-404 (SOF2) SOF2 Task Book
OWF-2	DIVS, ICT3, TFLD	N/A
OWF-3	DIVS, STCR, STEN FIRB, ICT3	I-220, S-205/215, S-290 (STCR/FIRB) S-300 (ICT3) S-390 (STCR/STEN)
OWF-4	ICT3, DIVS, DOZB, FELB, TFLD	I-200 (DOZB/FELB) S-230, S-234, S-260, S-270 (DOZB/FELB) S-232 (DOZB) S-300 (ICT3) ICT3 Task Book
OWF-5	ICT2, SOF1, IOF2, ICT3	S-520 (SOF1) ICT2 Task Book SOF1 Task Book
OWF-6	ICT3, DIVS	N/A
OWF-7	ICT3, DIVS	N/A
OWF-8	DIVS, ICT3, TFLD	N/A
OWF-9	OSC2, DIVS, ICT3, TFLD	S-300 (ICT3) OSC2 Task Book ICT3 Task Book
OWF-10	DIVS, FELB, ICT3, TFLD	I-220, S-234 (FELB)
OWF-11	DIVS, ENGB, SOF3, ICT3	I-220, S-230, S-234, S-260, S-270, S-290 (ENGB) SOF3 Task Book
OWF-12	OSC2, DIVS, ICT2	I/S-400 (ICT2) I/S-339 (DIVS) I/S-420 (OSC2) ICT2 Task Book
OWF-13	DIVS, ICT3, SOF2	S-300 (ICT3) S-420 (SOF2) DIVS Task Book ICT3 Task Book
OWF-14	ICT2, OSC2	OSC2 Task Book
OWF-15	ICT1, OSC1	N/A
OWF-16	DIVS, ICT3	I/S-339 (DIVS) ICT3 Task Book
OWF-17	DIVS, DOZB, CRWB	I-220, S-230, S-260, S-270 (CRWB/DOZB) S-232 (DOZB) DIVS Task Book

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

		CRWB Task Book DOZB Task Book
OWF-18	DIVS, ICT3, STEN, STCR, CRWB, FIRB	S-215, S-230, S-260, S-270 (CRWB/FIRB) STEN Task Book CRBW Task Book FIRB Task Book
OWF-19	ICT3, STCR	S-300 (ICT3) ICT3 Task Book
OWF-20	OSC2, DIVS, ICT3, TFLD	ICT3 Task Book
SHF-1	DIVS, ICT3, STCR, TFLD, STEN, OSC2	I-300 (STEN/STCR) S-330, S-390 (STEN/STCR/TFLD) S-339 (DIVS) S-300 (ICT3) ICT3 Task Book
SHF-2	ICT2, OSC2, DIVS,	N/A
SHF-3	DIVS, FELB, ICT4, STEN, CRWB, ENGB	N/A
SHF-4	DIVS, ENGB, FELB, ICT4, TFLD	N/A
SHF-5	CRWB, ENGB, ICT4	S-234 (ENGB/CRWB) CRWB Task Book (No Certifying Official's Signature) ICT4 Task Book
SHF-6	CRWB, DIVS, ENGB, STCR, STEN	I-300 (STEN/STCR) S-270 (ENGB/CRWB) DIVS Task Book
SHF-7	DIVS, ICT3	S-300 (ICT3) ICT3 Task Book
SHF-8	DIVS, ICT3, DOZB, FELB	S-300 (ICT3)
SHF-9	DIVS, STEN, ICT3, OSC2	I-300 (STEN) S-300 (ICT3) ICT3 Task Book OSC2 Task Book
SHF-10	DIVS, ICT3	N/A
SHF-11	CRWB, DIVS, FELB, STCR, SOF2	I-200, S-215, S-230, S-234, S-260, S-270, S-290 (CRWB/FELB) I-300, S-330, S-390 (STCR)
SHF-12	CRWB, ENGB, ICT4	ICT4 Task Book
SHF-13	OSC2, DIVS, ICT3	S-300 (ICT3) S-339 (DIVS) S-430 (OSC2)

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

SHF-14	CRWB, DOZB, DIVS, ICT4, ENGB, STCR, TFLD	S-232 (DOZB) ENGB Task Book
SHF-15	DIVS, SOF2, OSC2, ICT3,	S-300 (ICT3) OSC2 Task Book
SHF-16	OSC2, DIVS, ICT3	S-300 (ICT3) S-339 (DIVS) OSC2 Task Book ICT3 Task Book
SHF-17	ICT2, OSC1, SOF1, ICT3	N/A
SHF-18	ICT4, ENGB, CRWB	N/A
SHF-19	DIVS, DOZB, STEN, STCR	I-200/I-220, S-215, S-230, S-232, S-234, S-260, S-270, S-290 (DOZB) S-390 (STEN/STCR) DIVS Task Book
SHF-20	CRWB, ENGB, ICT4	ICT4 Task Book CRWB Task Book ENGB Task Book
ANF-1	ENGB, CRWB, DIVS	S-215 (ENGB/CRWB)
ANF-2	STCR, CRWB, DIVS, ICT3, DOZB	S-215, S-270 (DOZB/CRWB) S-300 (ICT3) S-330 (STCR) ICT3 Task Book
ANF-3	CRWB, ENGB, ICT4	I-220, S-215, (ENGB/CRWB) S-200 (ICT4) ICT4 Task Book
ANF-4	ENGB, CRWB, ICT4	S-215 (ENGB/CRWB) ENGB Task Book ICT4 Task Book CRWB Task Book
ANF-5	CRWB, ENGB, ICT4	ENGB Task Book CRWB Task Book ICT4 Task Book
ANF-6	DIVS, ICT3, OSC2, STEN	N/A
ANF-7	OSC2, ICT3	S-300 (ICT3) ICT3 Task Book

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

ANF-8	CRWB, DIVS, DOZB, ICT3, STCR, STEN	S-215, S-260 (DOZB) I-300 (STEN/STCR) S-339 (DIVS) S-300 (ICT3) STEN Task Book STCR Task Book ICT3 Task Book
ANF-9	DIVS, CRWB, ENGB, STEN, ICT4	I-220, S-215, S-234, (ENGB/CRWB) I-300 (STEN) S-200 (ICT4) S-339 (DIVS) DIVS Task Book ICT4 Task Book
ANF-10	DIVS, OSC2, ICT2	N/A
ANF-11	DIVS, ICT3, DOZB, STCR, SOF3	I-220, S-215, S-230, S-232, S-234, S-260, S-290 (DOZB) I-300, I/S-330 (STCR) STCR Task Book ICT3 Task Book SOF3 Task Book DIVS Task Book
ANF-12	CRWB, DIVS, STCR, ICT4	I-300 (STCR)
ANF-13	ICT1, OSC1, IARR, LOFR	S-520 (OSC1/ICT1) I-400 (LOFR)
ANF-14	OSC2, DIVS, SOF2	I/S-339 (DIVS) S-404 (SOF2) I/S-420 (OSC2/SOF2) S-430 (OSC2) OSC2 Task Book SOF2 Task Book
ANF-15	OSC2, DIVS, STCR, STEN ICT3	N/A
ANF-16	ENGB, CRWB, ICT4	S-215, S-234, S-270, S-290 (ENGB/CRWB) S-200 (ICT4) CRWB Task Book ICT4 Task Book

Exhibit B – SAMPLE RESULTS OF FIREFIGHTER QUALIFICATIONS RECORD REVIEW

ANF-17	DIVS, STEN, ICT4, ICT3, DOZB, STDZ	I-200, S-215, S-230, S-232, S-234, S-260, S-270, S-290 (DOZB) I-300, S-330, S-390 (STDZ/STEN) S-339 (DIVS) S-200 (ICT4) S-300 (ICT3) DOZB Task Book STDZ Task Book STEN Task Book DIVS Task Book ICT3 Task Book ICT4 Task Book
ANF-18	CRWB	I-200, S-215, s-230, S-232, S-234, S-260, S-270, S-290 (CRWB) CRWB Task Book
ANF-19	DIVS, STEN, CRWB	I-200, S-215, S-234 (CRWB) STEN Task Book
ANF-20	DIVS	I/S-339 (DIVS)

Exhibit C – 10 STANDARD FIREFIGHTING ORDERS AND 18 WATCH OUT SITUATIONS

10 Standard Firefighting Orders

1. Keep informed on fire weather conditions and forecasts.
2. Know what your fire is doing at all times.
3. Base all actions on current and expected behavior of the fire.
4. Identify escape routes and safety zones, and make them known.
5. Post lookouts when there is possible danger.
6. Be alert. Keep calm. Think clearly. Act decisively.
7. Maintain prompt communications with your forces, your boss, and adjoining forces.
8. Give clear instructions and be sure they are understood.
9. Maintain control of your forces at all times.
10. Fight fire aggressively, having provided for safety first.

18 Watch Out Situations

1. Fire not scouted and sized up.
2. Located in country not previously seen in daylight.
3. Safety zones and escape routes not identified.
4. Unfamiliar with weather/local factors influencing fire behavior.
5. Uninformed on strategy, tactics, and hazards.
6. Instructions and assignments not clear.
7. No communication link with crew members/supervisors.
8. Constructing fireline without a safe anchor point.
9. Building fireline downhill with fire below.
10. Attempting frontal assault on the fire.
11. Unburned fuel between you and the fire.
12. Cannot see main fire, not in contact with anyone who can.
13. On a hillside where rolling material can ignite fuel below.
14. Weather becoming hotter and drier.
15. Wind increases and/or changes direction.
16. Getting frequent spot fires across line.
17. Terrain and fuels make escape to safety zones difficult.
18. Taking a nap near the fireline.

Exhibit D – FOREST SERVICE RESPONSE TO THE DRAFT REPORT



United States
Department of
Agriculture

Forest
Service

Washington
Office

1400 Independence Avenue, SW
Washington, DC 20250

File Code: 1430
Route To:

Date: AUG 11 2004

Subject: Response to the Office of Inspector General (OIG) Official Draft Report, Audit No. 08601-38-SF, Forest Service Firefighting Safety Program

To: Robert W. Young, Assistant Inspector General for Audit, Office of Inspector General, USDA

Thank you for the opportunity to review and comment on the official draft OIG Audit Report No. 08601-38-SF, "Forest Service Firefighting Safety Program." The Forest Service takes its responsibility for ensuring the safest possible work environment on fires very seriously and continuously works to improve its safety program. In addition, the agency welcomes constructive criticism of our firefighting safety program from both internal and external sources. The Forest Service generally concurs with the recommendations in the report and believes most of them will benefit the overall firefighting safety program. However, it is important to provide further context regarding some of the report findings.

Specifically, the Forest Service's December Hazard Abatement Certification that was used by OIG to develop a number of the findings and recommendations in this report has already been superceded by the most recent July Hazard Abatement Certification for the South Canyon and Thirtymile Fires. The July Certification indicates that further progress has been made in implementing the action items with 15 action items not being fully implemented as compared with the 27 open action items cited in December 2003. In addition, although not every action item related to South Canyon and Thirtymile has been fully implemented at this time, it is important to understand that these action items are only one part of the overall improvements the agency continues to make to its firefighting safety standards. The agency has taken many other steps in recent years to improve safety that are not a direct result of the South Canyon and Thirtymile tragedies. These include simulation training, the 10 Standard Firefighting Orders, establishing an Aviation Safety Assistance Team (ASAT) and a Wildland Fire and Aviation Safety Team (FAST), LCES, "Six Minutes for Safety" and SAFECOM.

The Forest Service has also organized and staffed for success with safety experts in headquarters and each of the regions as well as the recent hiring of someone in headquarters to oversee performance and accountability issues including tracking recommendations and action items. In addition, our Fire and Aviation Management staff work closely with our Office of Safety and Occupational Health and we continue to seek an alliance with OSHA. Furthermore, while the Forest Service continuously strives to achieve its goal of safely returning every firefighter from every assignment, the work is inherently dangerous and in some years we fall short of achieving our goal. However, a recent Forest Service analysis of firefighter entrapment fatalities during the years 1933 – 2003 indicates that there has been an overall decrease in fatalities that can be linked to specific actions we have taken through the years to improve safety. Specifically, the average entrapment fatality has dropped from an average of 3.65 per year to 0.67 per year during this period.



Caring for the Land and Serving People

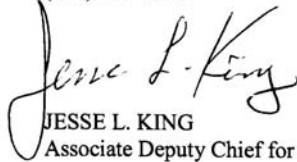
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Robert W. Young, Assistant Inspector General for Audit, Office of Inspector General, USDA 2.

If you have any questions, please contact Sandy Coleman, Agency OIG/GAO Audit Liaison, on (703) 605-4940.



JESSE L. KING
Associate Deputy Chief for Business Operations/Chief Financial Officer

Enclosure

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United States Department of Agriculture
Forest Service (FS)

**Office of Inspector General (OIG) Audit Report No. 08601-38-SF
Review of Forest Service Firefighting Safety Program**

August 2004

FS Response to Official Draft

OIG Recommendation No. 1: Establish realistic completion dates for the remaining 27 Accident Prevention Action Plan and Hazard Abatement Plan items for the South Canyon and Thirtymile Fires and take the appropriate management action to meet the dates.

FS Response to Recommendation No. 1: In the July 2004 Forest Service Certification of Hazard Abatement, the Washington Office requested all respondents to provide a target date for completing any outstanding action items. The majority of the regions have complied with this requirement in their responses. The Washington Office will continue to provide oversight and monitor progress through the Hazard Abatement Certification process, with the next Certification due in December 2004. The Washington Office will also be monitoring those National Forests and Regional Offices which have action items with target completion dates due between now and December to ensure that they are on track to meet their dates.

Estimated Completion Date: December 31, 2004

OIG Recommendation No. 2: Develop a tracking system that includes all wildfire Accident Prevention Action Plan and Hazard Abatement Plan action items as well as any recommendations from audits or internal reviews that relate to firefighter safety.

FS Response to Recommendation No. 2: Last year the Forest Service developed a process to track and monitor implementation of all action items related to South Canyon, Thirtymile, Cramer and OSHA reports. This system is the Certification of Hazard Abatement, which is updated twice a year and was used by OIG to develop some of the findings in this report. The agency continues to refine and further develop the tracking system to include all service-wide recommendations and action items that relate to firefighter safety.

Estimated Completion Date: August 31, 2004

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OIG Recommendation No. 3: Designate a high level official to oversee the tracking system and to coordinate timely completion of all action items and recommended corrective actions with responsible program staff.

FS Response to Recommendation No. 3: The agency has determined that Fire and Aviation Management is the most appropriate unit to track all service-wide reviews that relate to firefighter safety. Therefore the “**Director of Fire and Aviation Management**” is the designated official to oversee the tracking system and timely completion of all action items and recommendations.

Estimated Completion Date: August 31, 2004

OIG Recommendation No. 4: Issue guidance on the firefighter qualification documentation that must be maintained in order to be in accordance with FSH 5109.17.

FS Response to Recommendation No. 4: The Forest Service will issue a letter to all field offices that reiterates the policy in the Fire and Aviation Management Qualifications Handbook, FSH 5109.17, Chapter 20 – Qualification and Certification regarding the type of documentation that must be kept to ensure that firefighters have the appropriate skills and experience to perform the work for which they have been issued credentials. Included in the letter will be direction concerning the location where the documents are to be stored. A May 2005 compliance due date for compilation of the records for each employee will be targeted.

Estimated Completion Date: October 29, 2004

OIG Recommendation No. 5: Establish controls to verify the accuracy and sufficiency of firefighter qualification documentation, in accordance with FSH 5109.17 and related guidance.

FS Response to Recommendation No. 5: A Training Officer checklist, which includes record-keeping/documentation requirements found in 5109.17, will be provided to all field units in preparation for annual preparedness reviews for the 2005 season. The Forest Service will issue a letter to all field offices, re-iterating Line Officer responsibilities found in Forest Service Manual 5126, for “ensuring employees meet all applicable training, experience, and other qualifications standards prior to certification for wildland fire management positions” with the checklist attached.

Estimated Completion Date: October 29, 2004

OIG Recommendation No. 6: Issue guidance on procedures needed to reestablish credentials for firefighters who were not able to satisfy requirements of FSH 5109.17.

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FS Response to Recommendation No. 6: Included in the letter to all field units, discussed in the Forest Service response to Recommendation No. 4, will be procedures to reestablish credentials for firefighters who were not able to satisfy requirements of FSH 5109.17, with a compliance due date of May 2005.

Estimated Completion Date: October 29, 2004

OIG Recommendation No. 7: Establish controls to ensure that only valid and supportable Redcard System data is converted to IQCS.

FS Response to Recommendation No. 7: Data conversion of 27,000 Forest Service employee records was completed in June. Qualifications that were listed in Redcard which did not have matching supporting data entries (task book initiation and certification dates and/or experience records for that position) did not post in IQCS. Forest Service Account Managers were required to enter the supporting data prior to the qualification being reflected on the IQCS Redcard or provide an over-ride which requires a justification statement by the Certifying Official (Forest Fire Program Manager). Utilization of the Training Officer's checklist in annual preparedness reviews will serve as a control to begin to audit and verify maintenance and accuracy of records on Forest Service units.

Estimated Completion Date: October 31, 2004

OIG Recommendation No. 8: Direct line officers to order administrative investigations for wildfire incidents referred to the WO when there is evidence of firefighter misconduct or serious violation of safety standards, or to document their rationale for not ordering such investigations.

FS Response to Recommendation No. 8: We will continue to formalize our process for conducting "After Action Reviews" and require that these reviews be conducted for all serious fireline safety violations including entrapments and shelter deployments. In addition, we will continue with our current policy of conducting administrative reviews for all fatalities and serious fireline accidents.

Estimated Completion Date: May 27, 2005

OIG Recommendation No. 9: Develop safety performance standards for all firefighting personnel and for supervisors and managers responsible for their safety. The standards should cite adherence to the 10 Standard Firefighting Orders and the 18 Watch Out Situations. Related performance elements should be classified as critical.

FS Response to Recommendation No. 9: On May 24, 2004, the Forest Service issued direction to include supplemental safety performance standards for Forest Supervisors, District Rangers,

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Supervisors, Managers and Fire Program Leaders. The supplemental performance standards specifically cite “consistent adherence to the Standard Fire Orders and mitigation of the Watch Out Situations.” Application of the standards to non-supervisor firefighters will be in accordance with labor-management obligations.

Estimated Completion Date: July 30, 2004

Informational copies of this report have been distributed to:

Office of the Chief Financial Officer
Planning and Accountability Division

Director	(1)
General Accounting Office	(1)
Office of Management and Budget	(1)