U.S. Fish and Wildlife Service Fire Management Handbook

Interagency Cover Letter

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Appendix X-Job Hazard Analysis
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Chapter 01
Federal Wildland Fire Management Policy and Guidance Overview

Scope
These standards apply to all the signatories of this document. They are designed to ensure safe and efficient wildland fire, fuels, and fire aviation operations. This document is reviewed annually and updated as needed. Exceptions and/or supplemental direction to the *Interagency Standards for Fire and Fire Aviation Operations* are found in agency specific manuals and handbooks as referenced in individual chapters of this document.

Purpose
This document provides a reference for current operational policies, procedures, and guidelines for managing wildland fire and fire aviation operations. Employees engaged in fire management activities will follow all safety standards and guidelines in their agency specific health and safety guides and handbooks. All employees engaged in fire suppression activities will adhere to standards and mitigate risks defined in the *Incident Response Pocket Guide (PMS #461, NFES #1077).*

Federal Wildland Fire Management Policy
In 2001 an update of the 1995 Federal Fire Policy was completed and approved by the Secretaries of Interior and Agriculture. On April 21, 2004 the Secretaries approved the *"Interagency Strategy for the Implementation of the Federal Wildland Fire Policy"*. This document directs the agencies to work together to develop common language, unified guidance and direction for all agencies and bureaus manuals, handbooks and guidelines to complete final implementation of the policy.

Elements of the Federal Wildland Fire Management Policy

Safety
Firefighter and public safety is the first priority. All Fire Management Plans and activities must reflect this commitment.

Fire Management and Ecosystem Sustainability
The full range of fire management activities will be used to help achieve ecosystem sustainability, including interrelated ecological, economic, and social components.

Response to Wildland Fire
Fire as a critical natural process will be integrated into land and resource management plans and activities on a landscape scale across agency boundaries. Response to wildland fires is based on ecological, social and legal consequences of the fire. The circumstances, under which a fire occurs, and the likely consequences on firefighter and public safety and

welfare, natural and cultural resources, and values to be protected; dictate the appropriate response to fire.

Use of Wildland Fire

Wildland fire will be used to protect, maintain and enhance resources and, as nearly as possible, be allowed to function in its natural ecological role. Use of fire will be based on approved Fire Management Plans and will follow specific prescriptions contained in operational plans.

Emergency Stabilization and Rehabilitation

Rehabilitation and restoration efforts will be undertaken to protect and sustain ecosystems, public health, safety, and to help communities protect infrastructure.

Protection Priorities

The protection of human life is the single overriding suppression priority. Setting priorities among protecting human communities and community infrastructure, other property and improvements, and natural and cultural resources will be done based on the values to be protected, human health and safety, and the costs of protection. Once people have been committed to an incident, these human resources become the highest value to be protected.

Wildland Urban Interface

The operational roles of the federal agencies as a partner in the Wildland Urban Interface are wildland firefighting, hazard reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state or local governments. Federal agencies may assist with exterior structural fire protection activities under formal fire protection agreements that specify the mutual responsibilities of the partners, including funding. (Some federal agencies have full structural protection authority for their facilities on lands they administer and may also enter into formal agreements to assist state and local governments with structural protection.)

Planning

Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plan's are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved Land Management Plan. Fire Management Plans must provide for firefighter and public safety and contain:

- fire management strategies
- tactics and alternatives
- values to be protected
- public health issues
- resource management objectives

- use activities of the area
- pertinent environmental laws and regulations

Science
Fire management plans and programs will be based on a foundation of the best available science. Research will support ongoing efforts to increase our scientific knowledge of biological, physical, and sociological factors. Information needed to support fire management will be developed through an integrated interagency fire science program. Scientific results must be made available to managers in a timely manner and must be used in the development of land management plans, fire management plans, and implementation plans.

Preparedness
Agencies will ensure their capability to provide safe, cost-effective fire management programs in support of land and resource management plans through appropriate planning, staffing, training, equipment, and management oversight.

Suppression
Fires are suppressed at minimum cost, considering firefighter and public safety, benefits, and all values to be protected; consistent with resource objectives.

Prevention
Agencies will work together with their partners, other affected groups, and individuals to prevent unauthorized ignition of wildland fires.

Standardization
Agencies will use compatible planning processes, funding mechanisms, training and qualification requirements, operational procedures, values-to-be-protected methodologies, and public education programs for all fire management activities.

Interagency Coordination
Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners.

Communication and Education
Agencies will enhance knowledge and understanding of wildland fire management policies and practices through internal and external communication and education programs. These programs will be continuously improved through the timely and effective exchange of information among all affected agencies and organizations.

Agency Administrator and Employee Roles
Agency administrators will ensure that their employees are trained, certified and made available to participate in the wildland fire program locally, regionally, and nationally as the situation demands. Employees with operational, administrative, or other skills will support the wildland fire programs as necessary. Agency administrators are responsible and will be held accountable for making employees available.

Evaluation
Agencies will develop and implement a systematic method of evaluation to determine effectiveness of projects through implementation of the 2001 Federal Wildland Fire Management Policy. The evaluation will assure accountability, facilitate resolution of areas of conflict, and identify resource shortages and agency priorities.

Training and Qualification
All fire personnel will meet specific agency training, experience, and qualification requirements for incident assignments. *(See NWCG 310-1, DOI Incident Qualification and Certification System, and FSH 5109-17.)*

Safety
Follow all safety policies, standards, and guidelines identified within the *Interagency Incident Business Management Handbook (IIBMH), Fireline Handbook, Interagency Helicopter Operations Guide (IHOG), Interagency Standards for Fire and Fire Aviation Operations, and Incident Response Pocket Guide (IRPG).*

Code of Conduct for Fire Suppression
Firefighter safety comes first on every fire every time. The Ten Standard Firefighting Orders are firm. All 18 Watch Out Situations must be mitigated before engagement or re-engagement of wildland fire suppression activities. Every firefighter has the right to know that their assignments are safe. Every fireline supervisor, every fire manager, and every administrator has the responsibility to confirm that safe practices are known and observed.

Economic Efficiency
Fire management programs and activities will be based on economic analyses that incorporate commodity, non-commodity, and social values.

Fire Cause Determination and Cost Recovery
Agency policy requires all wildland fires to be investigated to determine cause, origin, and responsibility. Agencies must pursue cost recovery, or document why cost recovery is not initiated for all human-caused fires on public and/or other lands under protection agreements.

Employee Responsibility

All employees, cooperators, contractors, and volunteers who participate in wildland fire operations have the duty to treat one another with respect and maintain a work environment free of harassment.

Hazing is considered a form of harassment. Hazing is defined as any action taken, or situation created intentionally, to produce mental or physical discomfort, embarrassment, or ridicule.

There is zero tolerance of misconduct, whether it is harassment or hazing, or any other inappropriate behavior. We must all take responsibility for creating and ensuring a healthy and safe work environment.

Every individual has a responsibility to report harassment, inappropriate behavior, and take positive action to mitigate its effects.

Operational Clarification for Consistent Wildland Fire Management

Policy Implementation

Only one management objective will be applied to a wildland fire. Wildland fires will either be managed for resource benefits or suppressed. A wildland fire cannot be managed for both objectives concurrently. If two wildland fires converge, they will be managed as a single wildland fire.

Human caused wildland fires will be suppressed in every instance and will not be managed for resource benefits.

Once a wildland fire has been managed for suppression objectives, it may never be managed for resource benefit objectives.

The Appropriate Management Response (AMR) is any specific action suitable to meet Fire Management Unit (FMU) objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by using FMU strategies and objectives identified in the Fire Management Plan.

The Wildland Fire Situation Analysis (WFSA) process is used to determine and document the suppression strategy from the full range of responses available for suppression operations. Suppression strategies are designed to meet the policy objectives of suppression.

Wildland Fire Use is the result of a natural event. The Land/Resource Management Plan, or the Fire Management Plan, will identify areas where the strategy of wildland Fire Use is suitable.

The Wildland Fire Implementation Plan (WFIP) is the tool that examines the available response strategies to determine if a fire is being considered for wildland fire use.

When a Prescribed Fire or a fire designated for Wildland Fire Use is no longer achieving the intended resource management objectives and, contingency or mitigation actions have failed, the fire will be declared a wildfire. Once a wildfire, it cannot be returned to a prescribed fire or wildland fire use status.

Fire Management Objectives

The federal wildland fire management agencies fire management activities should result in safe, cost-effective fire management programs that protect, maintain, and enhance federal lands.

The objectives of the wildland fire management program are to:

- Protect human life, property, and natural/cultural resources both within and adjacent to agency administered lands.
- Minimize damages and maximize overall benefits of wildland fire within the framework of land use objectives and Resource Management Plans.
- Manage the wildland fire program in accordance with congressional intent as expressed in the annual appropriations act and enabling legislation, and comply with applicable departmental manual and agency policies and procedures.
- Promote an interagency approach to managing fires on an ecosystem basis.
- Employ strategies to manage wildland fires that provide for firefighter and public safety, minimize cost and resource damage, and are consistent with values to be protected and management objectives.
- Restore and rehabilitate resources and improvements lost in or damaged by fire or suppression activities.
- Minimize, and where necessary, mitigate human-induced impacts to resources, natural processes, or improvements attributable to wildland fire activities.
- Promote public understanding of fire management programs and objectives.
- Organize a fire staff that can apply the highest standards of professional and technical expertise.
- Encourage research to advance the understanding of fire behavior, effects, ecology, and management.
- Integrate fire management through all levels of the planning process.
- Prevent and investigate all unplanned human-caused fires.

Chapter 02
BLM Wildland Fire and Aviation Program Organization and Responsibilities

Introduction

This document states, references, or supplements policy for Bureau of Land Management (BLM) Fire and Aviation Program Management. The standards provided in this document are based on current Department of Interior (DOI) and Bureau policy, and are intended to provide fire program guidance. The intent is to ensure safe, consistent, efficient and effective fire and aviation operations. This document will be reviewed and updated annually.

Office of Fire and Aviation

The Bureau of Land Management Office of Fire and Aviation (OF&A) consists of a Director (OF&A), Deputy Director (Boise), Deputy Director (Washington), Fire Operations Group Manager, Aviation Group Manager, Planning and Resources Group Manager, Support Services Group Manager, Budget and Evaluation Chief, External Affairs Group Manager, Equal Employment Opportunity Manager and the International Program Manager.

Program Manager Responsibilities

Director, Office of Fire and Aviation

- Develops policies and standards for firefighting safety, training, and for the prevention, suppression and use of wildland fires on Bureau lands.
- Provides guidance to State Directors on the use of prescribed fire and fuels management to achieve hazardous fuels reduction and resource management objectives.
- Integrates fire and aviation management procedures into natural resource management.
- Establishes position competencies, standards and minimum qualifications for Fire Management Officers, Fire Management Specialists, and leaders based on federal interagency standards recommended by the National Fire and Aviation Executive Board.
- Implements the interagency Fire Program Analysis (FPA) process and develops procedures and standards for the distribution of program resources.
- Reviews and evaluates state fire and aviation management programs.
- Represents the Bureau of Land Management in the coordination of overall fire and aviation management activities at National Interagency Fire Center (NIFC), on intra- and interagency fire committees, groups, and working teams.
- In conjunction with Federal Fire Directors, establishes priorities for assignment of critical resources during wildland fire emergencies.

- Initiates or participates in Boards of Review concerning actions taken on selected wildland fires.
- Negotiates cooperative agreements and/or modifications of existing national level agreements to improve fire and aviation management activities on bureau lands.
- Reviews funding requests for severity, hazardous fuel reduction, and emergency rehabilitation of bureau lands damaged by wildland fires; makes determinations on funding levels, and recommends approval to the Director, Bureau of Land Management.
- Serves as designated contact for the United States Department of the Treasury for the certification and revocation of Certifying Officers and Assistant Disbursing Officers (CO/ADO) and Designated Officials for emergency incident payments.

Fire Operations Group Manager

- Serves as the principal technical expert on fire operations to the Director, OF&A and to the BLM State Fire Programs.
- Provides the Director, OF&A, technical advice, operational oversight, and leadership in all aspects of fire operations.
- Performs annual fire program preparedness reviews. Evaluates compliance with policies, objectives, and standards. Assesses operational readiness and provides technical assistance to solve identified problems. Performs other operations reviews as required /requested.
- Assists the Director, OF&A, in the formulation and establishment of national policies and programs pertinent to wildland fire preparedness, suppression, shared national resources, safety, training, and equipment.
- Serves as the BLM technical expert on national interagency mobilization and utilization of fire suppression resources.
- Develops national plans, standards, and technical guides for BLM and interagency fire management operations.

Aviation Group Manager

- Serves as principal aviation advisor to the Director, Office of Fire and Aviation, other staffs, states, and to the DOI.
- Identifies and develops bureau aviation policies, methods and procedures, as well as standardized technical specifications for a variety of specialized firefighting and other missions for incorporation into the directives system.
- Coordinates aviation-related activities between the Washington Office (WO), states, and with other wildland firefighting, regulatory, investigative, military agencies, and services.
- Coordinates provision and use of aviation resources with Business Practices, aviation user staffs at the WO, and state office level.
- Represents the BLM at interagency meetings, in interagency committees developing government-wide aviation policies, requirements, procedures, reports, and at aviation industry meetings and conventions.

- Develops and implements aviation safety programs, accident investigation procedures, and aviation safety trend analyses.
- Plans and conducts reviews and evaluations of state aviation programs.
- Plans and conducts technical and managerial analyses relating to the identification of aviation organization and resources appropriate for agency use, cost-effectiveness of aviation firefighting, other specialized missions, aircraft acquisition requirements, equipment developmental needs, and related areas.

Planning and Resources Group Manager

- Responsible for the development and implementation of the bureau wide fire planning program. Provides guidance and assistance in administering the technical and operational aspects of the Bureau's fire planning program at the regional and agency levels for the accurate identification of program funding needs. Checks for accuracy in computations with instructions and policies.
- Responsible for the development and coordination of the Bureau's prescribed fire, fuels management, and fire prevention annual program, and recommends the distribution of program funds to regions.
- Tracks all fuels management fund distributions and prior year carryover funds. Develops and maintains a national database for fuels management accomplishments in Indian Trust Lands.
- Analyzes hazards and risks in the wildland urban interface using fuels modification or reduction techniques, and develops recommendations for bureau-wide application. Examines and analyzes laws and regulations pertaining to prescribed fire use/fuels management in the wildland urban interface, and works with top level bureau representatives, states and rural fire districts to recommend policy which will achieve uniformity.
- Serves as the BLM's primary subject matter expert for National Fire Management Analysis System (NFMAS) fire planning, Personal Computer Historical Analysis (PCHA), Geographic Information System (GIS), Global Positioning System (GPS), Lightning Detection System (LDS), Weather Information Management System (WIMS), prescribed fire software programs, and provides user training in those applications.

Support Services Group Manager

- Manage all aspects of the responsibilities and programs under the jurisdiction of NIFC for the benefit of the BLM and cooperating agencies.
- Directs the accomplishment of the approved operating budget, exercising appropriate control to assure program quality goals are met according to established standards.
- Interprets departmental and bureau policies and directives as they affect NIFC programs.
- Participates in the bureau-wide and interagency task force activities as a leader or member.

- Responsible for the NIFC Site and Facilities Management, Business Practices, Human Resources, and Information Resource Management.
- Is a focal point and frequent spokesperson for the bureau and the national level management, assures a public awareness of bureau programs and coordinates with key officials in affected federal agencies, states, and occasionally with other entities such as: foreign governments, private individuals, private organizations, vendors, suppliers, transportation groups, airlines, and others.
- Supports the implementation of the Bureau's Automation/Modernization/Information Resource Management (IRM) initiatives as they apply to the BLM/NIFC.

External Affairs Group Manager

- Responsible for coordination of information between the Departmental Office of Wildland Fire Coordination to the BLM, BIA, USFWS, NPS, FS, National Association State Foresters (NASF), and Federal Emergency Management Agency (FEMA) at NIFC.
- Responsible for coordination of the responses to: Office of management ad Budget (OMB), Government Accounting Office (GAO), congressional, political and other external inquires between agencies and departments, establishing and maintaining cooperative relationships resulting in quality work products.
- Serves as the manager of the External Affairs program for the National Interagency Fire Center.
- Develops recommendations pertaining to External Affairs aspects for BLM Fire and Aviation policies.
- Initiates External Affairs policies and procedures pertaining to Fire and Aviation for adoption at the department level in conjunction with other departments and agencies.
- Serves as personal and direct representative of the Director, Office of Fire and Aviation at various meetings and functions with members of congress and staff, state governors and legislatures, officials of local, state and federal agencies, major private corporations, public and private interest groups, and foreign governments.
- Serves as External Affairs expert and consultant to the Director, Office of Fire and Aviation on a wide variety of issues and policies of controversial nature, providing analysis and advice on public reaction to major policy and program issues.

Equal Employment Opportunity Manager (EEO)

- Manages the Equal Employment Opportunity (EEO) program in accordance with legal, regulatory, and policy requirements.
- Manages and directs the Counseling Program, and Alternative Dispute Resolution (ADR) programs, in accordance with Equal Employment

Opportunity Commission (EEOC) regulations and BLM policy as well as for other NIFC agencies.

- Advises managers and aggrieved persons of employee rights and responsibilities, procedural options and timeframes in conflict situations, formulates proposed resolutions.
- Negotiates with managers, aggrieved persons and their representatives to informally resolve EEO matters, and executes final settlement agreements.
- Manages the Affirmative Employment Program (AEP).
- Develops and maintains the accessibility program for the disabled, required under Section 504 of the *Rehabilitation Act of 1973*, as amended, and the *Americans with Disability Act* (ADA of 1990).
- Conducts analyses to evaluate progress in meeting equal employment opportunity program goals.
- Administers training activities for the organization.
- Provides managers and supervisors with guidance and advice on issues related to EEO/civil rights program activities.
- Represents the organization in meetings with public and private groups, universities, minority and women's organizations, other DOI components, and other federal agencies.

International Program Coordinator

- Defines the mission, goals, and objectives of the BLM Office of Fire and Aviation International Program (IP).
- Develops and updates written guidelines for Internal Affairs and manages the program on a day-to-day basis.
- Is the primary liaison between BLM and departmental level offices (Policy, Management and Budget, External and Inter-governmental Affairs, and the Solicitor's Office) on Fire and Aviation's IP activities.
- Initiates, plans, and coordinates the preparation of letters of invitation, necessary visas and clearances, prepares agendas, and presents briefings to high level international visitors brought to the United States through the IP.
- Collaborates in the formulation of interagency fire management and fire suppression program activities in order to identify and promote domestic "best practices" for potential use in the international fire management environment.
- Advises the Director and other senior managers within the Office of Fire and Aviation on issues related to BLM involvement in all-risk disasters such as wildfire, other natural disasters, and terrorism.
- Identifies qualified BLM employees for international disaster assistance support and international assignments.
- Coordinates the interagency relationship with the Forest Service's Disaster Assistance Support Program (DASP), the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA), and manages the Memorandum of Understanding (MOU) between DASP and BLM.

- Provides leadership in developing disaster management coordination mechanisms, procedures, methodologies, and written guidelines for use during international disaster response activities with DASP, OFDA, the Department of Defense, UN relief organizations, and humanitarian relief organizations.
- Performs as both the National Military Logistics Coordinator and the International Logistics Coordinator during National Preparedness Levels 4 and 5.

State Director

The State Director is responsible to the Director of BLM for fire management programs and activities within their state. The State Director will meet the required elements outlined in the *Interagency Fire Program Management Qualifications Standards and Guide* and ensure training is completed to support delegations to line managers and principal actings.

District/Field Manager

The District/Field Manager is responsible to the State Director for the safe and efficient implementation of fire management activities within their unit. This includes cooperative activities with other agencies or landowners in accordance with delegations of authorities. The District/Field Manager and their principal actings will meet the required elements outlined in the *Management Performance Requirements for Fire Operations* below.

Management Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	OF&A Directorate	State Director /Associate	District /Resource Area Manager	Field Manager
1. Ensures that Fire Management Plans (FMP) reflects the agency commitment to firefighter and public safety, while utilizing the full range of fire management activities available for ecosystem sustainability.	X	X	X	X
2. Develops fire prevention, fire suppression, and fire use standards that are compliant with agency fire policies.	X	X	X	X

PERFORMANCE REQUIRED	OF&A Directorate	State Director /Associate	District /Resource Area Manager	Field Manager
3. Ensures use of fire funds is in compliance with department and agency policies.	X	X	X	X
4. Ensures that incident responses will be based on current and approved Resource Management Plans (RMP) and FMPs.		X	X	X
5. Attends the *Fire Management Leadership Course.* Ensure that personnel delegated fire program responsibilities have completed the *Fire Management Leadership Course.*			X	X
6. Provides a written Delegation of Authority to FMOs that gives them an adequate level of operational authority. If fire management responsibilities are zoned, ensure that all appropriate Agency Administrators have signed the Delegation.		X	X	X
7. Ensures that only trained, certified fire and non-fire personnel are available to support fire operations at the local and national level.	X	X	X	X
8. Ensures that master agreements with cooperators are valid and in compliance with agency policy, and that attached Annual Operating Plans are current.	X	X	X	X

PERFORMANCE REQUIRED	OF&A Directorate	State Director /Associate	District /Resource Area Manager	Field Manager
9. Personally visits at least one wildland and one prescribed fire each year.			X	X
10. Annually convenes and participates in pre-and post season fire meetings.	X	X	X	X
11. Reviews critical operations and safety policies and procedures with fire and fire aviation personnel.		X	X	X
12. Ensures timely follow-up to fire management program reviews.	X	X	X	X
13. Ensures that fire and fire aviation preparedness reviews are conducted annually in all unit offices. Personally participate in at least one review annually.	X	X	X	X
14. Ensures that investigations are conducted for incidents with potential, entrapments, and serious accidents as per agency policy.	X	X	X	X
15. Provides a written delegation of authority, WFSA, and an *Agency Administrator Briefing to Incident Management Teams.*		X	X	X
16. Ensures that resource advisors are identified, trained and available for incident assignment. Refer to *Resource Advisors Guide for Wildland Fire* PMS 313, NFES 1813, Jan 2004.			X	X

PERFORMANCE REQUIRED	OF&A Directorate	State Director /Associate	District /Resource Area Manager	Field Manager
17. Attends post fire closeout on Type 1 and Type 2 fires. (Attendance may be delegated.)		X	X	X
18. Ensures that a Wildland Fire Implementation Plans (WFIP) are completed, implemented and updated daily for all fires managed as wildland fire use.		X	X	X
19. Ensures that trespass actions are initiated and documented to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements for all human-caused fires where liability can be determined, as per *"Fire Trespass Handbook" H-9238-1*.		X	X	X
20. Ensures compliance with National and State Office policy for prescribed fire activities. Provides periodic reviews of the prescribed fire program.	X	X	X	X
21. Ensures that Prescribed Fire Plans are approved and meet agency policies.		X	X	X
22. Ensures that the Prescribed Fire Plan has been reviewed and recommended by a qualified technical reviewer who was not involved in the plan preparation.			X	X
23. Ensures that a policy has been established to review and sign the go-no/go checklist.			X	X

PERFORMANCE REQUIRED	OF&A Directorate	State Director /Associate	District /Resource Area Manager	Field Manager
24. Ensures Unit Safety Program is in place, has a current plan, has an active safety committee, and includes the fire program.	X	X	X	X
25. Annually updates and reviews the *Agency Administrator's Guide to Critical Incident Management* (NFES 1356)	X	X	X	X
26. Ensure that current fire and weather information is posted and available for all employees.			X	X

State Office

The State Fire Management Officer (SFMO) provides leadership for their agency fire and fire aviation management program. The SFMO is responsible and accountable for providing planning, coordination, training, technical guidance, and oversight to the state fire management programs. The SFMO also represents the State Director on interagency geographic coordination groups and Multi-Agency Coordination (MAC) groups. The SFMO provides feedback to Districts/Field Offices on performance requirements.

District/Field Office

The District/Field Office Fire Management Officer (FMO) is responsible and accountable for providing leadership for fire and fire aviation management programs at the local level. The FMO determines program requirements to implement land use decisions through the Fire Management Plan (FMP) to meet land management objectives. The FMO negotiates interagency agreements and represents the District/Field Office Manager on local interagency fire and fire aviation groups.

Manager's Oversight

Agency Administrators are required to personally visit an appropriate number of fires each year. Appendix A contains information to support the Agency Administrators during these visits.

After Action Review

Appendix B the "Managers Supplement for After Action Review" emphasizes the factors that are critical for ensuring safe and efficient wildland fire

suppression, and provides examples for managers to use in their review of incident operations and incident commanders.

Requirements for fire management positions are outlined in the *Interagency Fire Program Management Qualifications Standards and Guide* (IFPM) Standard. The supplemental Qualification Standard for professional GS-0401 Fire Management Specialist positions, approved by the Office of Personnel Management, is also included in the IFPM Standard. The *Interagency Fire Program Management Qualification Standards and Guide* can be found in it's entirety on the IFPM website: http://www.ifpm.nifc.gov.

Training for Acting Agency Administrators

Agency administrators and their actings must complete one of the following courses within two years of being appointed to a designated management position.

- National- *Fire Management Leadership*
- Geographic- *Local Fire Management Leadership*

Either class is acceptable but the national course is preferred.

Experience requirements for positions in Alaska Fire Service, Oregon and California (O&C) Districts, NIFC, national office, and other fire management positions in units and state/regional offices will be established as vacancies occur, but will be commensurate with the position's scope of responsibilities. The developmental training to fully achieve competencies should be addressed in an IDP within a defined time period.

Fire Management Staff Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	State FMO	District/ Zone FMO	Field Office/ Resource Area FMO
1. Establishes and manages a safe, effective, and efficient fire program.	X	X	X
2. Ensures that the Fire Management Plan (FMP) reflects the agency commitment to firefighter and public safety, while utilizing the full range of fire management activities available for ecosystem sustainability. *(Federal Wildland Fire Management Plan 2001 [FWFMP])*	X	X	X
3. Provides the expertise and skills to fully integrate fire and fire aviation management into interdisciplinary planning efforts.	X	X	X

PERFORMANCE REQUIRED	State FMO	District/ Zone FMO	Field Office/ Resource Area FMO
4. Ensures that only trained and qualified personnel are assigned to fire and fire aviation duties.	X	X	X
5. Ensures completion of a Job Hazard Analysis (JHA) for fire and fire aviation activities so mitigation measures are taken to reduce risk.		X	X
6. Ensures compliance with work/rest guidelines during all fire and fire aviation activities.	X	X	X
7. Ensures that the fire and fire aviation management employees understand their role, responsibilities, authority, and accountability.	X	X	X
8. Organizes trains, equips, and directs a qualified work force. Establishes and implements performance review process.	X	X	X
9. Develops implements, evaluates, and documents fire and fire aviation training to meet current and anticipated needs.	X	X	X
10. Ensures fire and fire aviation policies are understood, implemented, and coordinated with other agencies as appropriate.	X	X	X
11. Monitors fire suppression activities to recognize when complexity levels exceed program capabilities. Increases managerial and operational resources to meet the need.	X	X	X
12. Monitors fire season severity predictions, fire behavior, and fire activity levels. Takes action to ensure safe, efficient, and effective operations.	X	X	X
13. Ensures that master agreements with cooperators are valid and in compliance with agency policy, and that attached Annual Operating Plans are current.	X	X	X
14. Develops, maintains and implements current operational plans. (e.g., dispatch, preparedness, prevention).		X	X
15. Ensures use of fire funds is in compliance with department and agency policies.	X	X	X

PERFORMANCE REQUIRED	State FMO	District/ Zone FMO	Field Office/ Resource Area FMO
16. Ensures that fire severity funding is requested, used, and documented in accordance with agency standards (*Interagency Standards for Fire and Fire Aviation Operations*, Chapter 9).	X	X	X
17. Reviews and approves appropriate overtime authorization requests for personnel providing fire suppression coverage during holidays, special events, and abnormal fire conditions.		X	X
18. Ensures a process is established to communicate fire info to public, media, and cooperators.	X	X	X
19. Annually convenes and participates in pre-and post season fire meetings. Specifically address management controls and critical safety issues.	X	X	X
20. Oversees pre-season preparedness review of fire and fire aviation program.	X	X	X
21. Initiates, conducts, and/or participates in fire program management reviews and investigations.	X	X	X
22. Personally participates in periodic site visits to individual incidents and projects.		X	X
23. Utilizes the Incident Complexity Analysis appendix L & M to ensure the proper level of management is assigned to all incidents.	X	X	X
24. Ensures that transfer of command occurs as per appendix D on incidents.		X	X
25. Ensures that incoming personnel and crews are briefed prior to fire and fire aviation assignments.		X	X
26. Ensures an accurate and defensible Wildland Fire Situation Analysis (WFSA) is completed and updated daily for all fires that escape initial attack.	X	X	X
27. Ensures that a Wildland Fire Implementation Plan (WFIP) is completed, approved, and certified daily for all fires managed for Wildland Fire Use objectives.	X	X	X

PERFORMANCE REQUIRED	State FMO	District/ Zone FMO	Field Office/ Resource Area FMO
28. Works with cooperators, groups and individuals to develop and implement processes and procedures for providing fire safe communities within the wildland urban interface.	X	X	X
29. Ensures that trespass actions are initiated and documented to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements for all human-caused fires where liability can be determined, as per H-9238-1.	X	X	X
30. Ensures training for fire cause determination and fire trespass.	X	X	X
31. Ensures compliance with National and State Office policy for prescribed fire activities. Provides periodic reviews of the prescribed fire program.	X	X	X
32. Annually updates and reviews the *Agency Administrator's Guide to Critical Incident Management.* (NFES 1356)	X	X	X
33. Ensures that fire season severity predictions, weather forecasts, fire behavior predictors, and fire activity levels are monitored and communicated daily to all employees (hard copy, web page, email, radio, or fax).		X	X
34. Uses current National and Local Mobilization Guides and ensures that national, geographic and local mobilization standards are followed.	X	X	X
35. Complies with established property control/management procedures.	X	X	X

Delegation of Authority

Delegation for State Fire Management Officers

In order to effectively perform their duties, a SFMO must have certain authorities delegated from the State Director. This delegation is normally placed in the state office supplement to agency manuals. This delegation of authority should include the following roles and responsibilities:

- Serve as the State Director's authorized representative on geographic area coordination groups, including MAC groups.
- Coordinate and establish priorities on uncommitted fire suppression resources during periods of shortages.
- Coordinate logistics and suppression operations statewide.
- Relocate agency pre-suppression/suppression resources within the state/region based on relative fire potential/activity.
- Correct unsafe fire suppression activities.
- Direct accelerated, aggressive initial attack when appropriate.
- Enter into agreements to provide for the management, fiscal, and operational functions of combined agency operated facilities.
- Suspend prescribed fire activities when warranted.
- Give authorization to hire Emergency Firefighters in accordance with the DOI Pay Plan for Emergency Workers.
- Approve emergency fire severity funding expenditures not to exceed the agency's annual authority.
- Appendix C provides a sample "Delegation of Authority".

Safety Officer

Safety and occupational health program responsibilities are interwoven throughout Bureau program areas, including fire management. Safety of our employees lies within every level of the organization and program implementation can have a direct impact on firefighting personnel. To ensure that program requirements are met, the following checklist shall be utilized.

Safety Responsibilities to the Fire Program

PERFORMANCE REQUIRED	State Safety Manager	District/Zone Safety Manager	Unit Fire Management Officer	Field/Resource Area Manager
1. A Unit Safety Plan, addressing general safety and health program management, has been approved by the Agency Administrator.		X	X	X
2. A work place hazard/risk assessment has been completed for non suppression related fire activities.		X		
3. An individual has been designated as the Unit Safety Officer.	X			X
4. Maintains a working relationship with all facets of the fire organization including outstations.		X	X	

PERFORMANCE REQUIRED	State Safety Manager	District/Zone Safety Manager	Unit Fire Management Officer	Field/Resource Area Manager
5. A safety committee or group which includes fire representation is organized to monitor safety and health concerns and activities.		X	X	X
6. Written safety and health programs required by OSHA are in place and being implemented to include fire personnel.	X	X		
7. Employees are being provided mandatory safety and health training.		X	X	
8. Fire safety programs (e.g., SAFENET, 6 Minutes for Safety, Safety Alerts) are known and being utilized.			X	
9. Safety publications are available to all fire employees (e.g., *Incident Response Pocket Guide, 1112-2 Manual, Fireline Handbook 410-1).*			X	
10. Procedures are in place to ensure *Interagency Standards for Fire and Fire Aviation Operations* is being followed.			X	
11. Procedures are in place to monitor WCT results and ensure medical examination policies are followed.			X	
12. Material Safety Data Sheets (MSDS) are present, accessible, and available for all hazardous materials used and stored in the work area.		X	X	
13. Special projects risk assessments are completed and crew briefings are given prior to beginning work.		X	X	

PERFORMANCE REQUIRED	State Safety Manager	District/Zone Safety Manager	Unit Fire Management Officer	Field/Resource Area Manager
14. Procedures are in place to purchase non-standard equipment as identified in the JHA/Risk Assessment process, and to ensure compliance with consensus standards (e.g., ANSI, NIOSH) for PPE.	X	X		X
15. PPE is being supplied, serviceable, and being utilized.		X	X	
16. Ensures tailgate safety meetings are held and documented.			X	
17. Monitors and reviews wildland fire activities to ensure adherence to agency safety policy.		X	X	
18. Procedures are in place for reporting unsafe and unhealthful working conditions.		X		X
19. Accident reporting procedures are documented and supervisors are trained in the use of Safety Management Information System (SMIS).	X	X		X
20. Injury data is monitored and reviewed to determine trends affecting the health and welfare of employees.	X	X		
21. General facility and work areas inspections are conducted to ensure requirements are met per 29 CFR 1910.	X	X		

Employee Responsibility

All employees, cooperators, contractors, and volunteers who participate in wildland fire operations have the duty to treat one another with respect and to maintain a work environment free of misconduct and harassment. Misconduct includes but is not limited to: alcohol misuse, driving while intoxicated, the use of illegal drugs, hazing, insubordination, disregard for policies and procedures and the destruction or theft of government property.

Harassment is coercive or repeated, unsolicited and unwelcome verbal comments, gestures or physical contacts and includes retaliation for confronting or reporting harassment.

Harassment and misconduct will not be tolerated under any circumstances and will be dealt with in the strictest of terms. We must all take responsibility for creating and ensuring a healthy and safe work environment. Employees who experience or witness harassment, misconduct or any inappropriate activity should report it to the proper authority immediately.

Examples of harassment and misconduct

- **Physical conduct -** Unwelcome touching, standing too close, looking up and down, inappropriate or threatening staring or glaring, obscene, threatening, or offensive gestures.
- **Verbal or written misconduct -** Inappropriate references to body parts; derogatory or demeaning comments, jokes, or personal questions; sexual innuendoes; offensive remarks about race, gender, religion, age ethnicity, or sexual orientation: obscene letters or telephone calls, catcalls, whistles or sexually suggestive sounds.
- **Visual or symbolic misconduct -** Display of nude pictures, scantily-clad, or offensively-clad people; display of offensive, threatening, demeaning, or derogatory symbols, drawings, cartoons, or other graphics; offensive clothing or beverage containers, bumper stickers, or other articles.
- **Hazing -** Hazing is considered a form of harassment. "Hazing" is defined as "*any action taken, or situation created intentionally, to produce mental or physical discomfort, embarrassment, or ridicule*".
- **Alcohol -** The use of alcohol during any work period is strictly prohibited. The performance of job duties while under the influence of alcohol is prohibited. Underage personnel alcohol use is prohibited at all times.

Chapter 03
National Park Service Program Organization & Responsibilities

Agency Administrator Roles

Director
The Director of the National Park Service is responsible to the Secretary of the Interior for fire management programs on public lands administered by the National Park Service. The Division of Fire and Fire Aviation Management is responsible to the Director for policy formulation and program oversight.

The Chief, Division of Fire and Aviation Management will meet the required elements outlined in the *Management Performance Requirements for Fire Operations.*

Regional Director
The Regional Director is responsible to the Director for fire management programs and activities within their region.

The Regional Director will meet the required elements outlined in the *Management Performance Requirements for Fire Operations* and ensure training is completed to support delegations to line managers and principal acting's.

Park Superintendent
The Park Superintendent is responsible to the Regional Director for the safe and efficient implementation of fire management activities within their unit, including cooperative activities with other agencies or landowners in accordance with delegations of authorities. The Park Superintendent or principal acting will meet the required elements outlined in the *Management Performance Requirements for Fire Operations.*

Management Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	NPS Director.	Regional Director.	Park Supt.
1. Take necessary and prudent actions to ensure firefighter and public safety.	X	X	X
2. Ensure sufficient qualified fire and non-fire personnel are available to support fire operations at a level commensurate with the local and national fire situations.	X	X	X
3. Ensure Fire Management Officers (FMOs) are fully qualified as identified in the *Interagency Fire Program Management Qualification Standards.*	X	X	X

PERFORMANCE REQUIRED	NPS Director.	Regional Director.	Park Supt.
4. Provide a written delegation of authority to FMOs that provides an adequate level of operational authority. Include Multi-Agency Coordinating (MAC) Group authority, as appropriate.	X	X	X
5. Identify resource management objectives to maintain a current fire management plan (FMP) that identifies an accurate and defensible Normal Year Readiness of funding and personnel.		X	X
6. Develop protection and use standards and constraints that are in compliance with agency fire policies.		X	X
7. Ensure use of fire funds is in compliance with Department and Agency policies.	X	X	X
8. Management teams will meet once a year to review fire and aviation policies, roles, responsibilities, and delegations of authority. Specifically address oversight and management controls, critical safety issues, and high-risk situations such as team transfers of command, periods of multiple fire activity, and Red Flag Warnings.	X	X	X
9. Review safety policies, procedures, and concerns with field fire and fire aviation personnel. Discussions should include issues that could compromise safety and effectiveness during the upcoming season.			X
10. Ensure timely follow-up actions to program reviews, fire preparedness reviews, fire and fire aviation safety reviews, fire critiques, and post-season reviews.	X	X	X
11. Ensure fire and fire aviation preparedness reviews are conducted in all unit offices each year.		X	X

PERFORMANCE REQUIRED	NPS Director.	Regional Director.	Park Supt.
12. Ensure an approved burn plan is followed for each prescribed fire project, including follow-up monitoring and documentation to ensure management objectives are met.		X	X
13. Meet annually with major cooperators and review interagency agreements to ensure their continued effectiveness and efficiency (may be delegated).		X	X
14. Ensure that a Wildland Fire Situation Analysis (WFSA) is completed and approved on all fires that escape initial attack.			X
15. Ensure reviews are conducted on all fires that require a WFSA. Personally attend reviews on Type 1 and Type 2 fires (Regional Director may delegate).		X	X
16. Ensure that a Wildland Fire Implementation Plan (WFIP) is completed and implemented for all fires managed for resource benefits.			X
17. Provide management oversight by personally visiting wildland and prescribed fires each year.		X	X
18. Provide incident management objectives, written delegations of authority, and Agency Administrator briefings to Incident Management Teams.			X
19. Monitor the fire situation and provide oversight during periods of critical fire activity/situations of high risk.	X	X	X
20. Evaluate the need for resource advisors for all fires, and assign as appropriate.			X
21. Convene and participate in annual pre- and post-season fire meetings.	X	X	X
22. Attend *Fire Management Leadership Course.*		X	X
23. Ensure appropriate investigations are conducted for incidents, entrapments, and serious accidents.	X	X	X

PERFORMANCE REQUIRED	NPS Director.	Regional Director.	Park Supt.
24. For all unplanned human-caused fires where liability can be determined, ensure trespass actions are initiated to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements.		X	X
25. Certify Wildland Fire Implementation Plan or Wildland Fire Situation Analysis on a daily basis.			X
26. Complete Go/No-Go checklist for prescribed fire.			X
27. Ensure there is adequate direction in fire management plans to identify fire danger awareness with escalating fire potential.			X
28. Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	X	X	X
29. Review Prescribed Fire Plans and recommend or approve the plans depending upon the delegated authority. Ensure that the Prescribed Fire Plan has been reviewed and recommended by a qualified technical reviewer who was not involved in the plan preparation.		X	X

Fire Management Staff Roles

National Office

The National Fire Director (Chief, Division of Fire and Aviation Management) provides leadership for their fire and aviation management programs, and assists regions and parks to develop, implement, and maintain safe, effective, and efficient fire and aviation management programs that meet land management objectives.

The National Fire Director is responsible and accountable for developing policy, program direction, and international coordination. The Director works with interagency cooperators to coordinate, reduce duplication, increase efficiencies in wildland fire management, and provide feedback to regional offices on performance requirements.

Regional Office

The Regional Fire Management Officer (RFMO) provides leadership for their fire and fire aviation management program.

The RFMO is responsible and accountable for providing planning, coordination, training, technical guidance, and oversight to the park fire management programs. The RFMO also represents the Regional Director on interagency geographic coordination groups and Multi-Agency Coordination (MAC) Groups. The RFMO provides feedback to units on performance requirements.

Park

The Fire Management Officer (FMO) is responsible and accountable for providing leadership for fire and fire aviation management programs at the local level. The FMO determines program requirements to implement land use decisions through the Fire Management Plan (FMP) to meet land management objectives. The FMO negotiates interagency agreements and represents the Agency Administrator on local interagency fire and fire aviation groups.

Fire Management Staff Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	Fire Director	RFMO	FMO
1. Maintain safety first as the foundation for all aspects of fire and fire aviation management.	X	X	X
2. Ensure completion of a job hazard analysis (JHA) for fire and fire aviation activities so mitigation measures are taken to reduce risk.			X
3. Ensure work/rest and length of assignment guidelines are followed during all fire and fire aviation activities. Deviations must be approved and documented.	X	X	X
4. Ensure that only trained and qualified personnel are assigned to fire and fire aviation duties.	X	X	X
5. Develop, implement, evaluate, and document fire and fire aviation training program to meet current and anticipated needs.	X	X	X
6. Establish an effective process to gather, evaluate, and communicate information to managers, supervisors, and employees. Ensure clear and concise communications are maintained at all levels.	X	X	X
7. Develop and maintain an open line of communication with public and cooperators.	X	X	X

PERFORMANCE REQUIRED	Fire Director	RFMO	FMO
8. Ensure that the fire and fire aviation management staff understand their role, responsibilities, authority, and accountability.	X	X	X
9. Based on allocated funding level, provide a safe, effective, and efficient fire protection and use program.	X	X	X
10. Organize, train, equip, and direct a qualified work force. An Individual Development Plan must be provided for incumbents who do not meet new standards. Establish qualification review committees.	X	X	X
11. Take appropriate action when performance is exceptional or deficient.	X	X	X
12. Ensure fire and fire aviation policies are understood, followed, and coordinated with other agencies as appropriate.	X	X	X
13. Monitor to recognize when complexity levels exceed program capabilities. Increase managerial and operational resources to meet the need.	X	X	X
14. Initiate, conduct, and/or participate in fire management related reviews and investigations.	X	X	X
15. Provide for and personally participate in periodic site visits to individual incidents and projects.	X	X	X
16. Utilize the incident complexity analysis to ensure the proper level of management is assigned to all incidents.		X	X
17. Review and evaluate performance of the fire management organization and take appropriate actions.	X	X	X
18. Ensure incoming personnel and crews are briefed prior to fire and fire aviation assignments.		X	X
19. Ensure a Wildland Fire Situation Analysis (WFSA) is completed and retained for all fires that escape initial attack.		X	X
20. Monitor fire season severity predictions, fire behavior, and fire activity levels. Take appropriate actions to ensure safe, efficient, and effective operations.	X	X	X

PERFORMANCE REQUIRED	Fire Director	RFMO	FMO
21. Ensure that adequate resources are available to implement fire management operations.	X	X	X
22. Provide fire personnel with adequate guidance, training and decision-making authority to ensure timely decisions.		X	X
23. Ensure a written/approved burn plan exists for each prescribed fire project.		X	X
24. Ensure all escaped prescribed fires receive a review at the proper level.	X	X	X
25. Ensure effective transfer of command of incident management occurs and oversight is in place.	X	X	X
26. Develop and maintain agreements, annual operating plans, and contracts on an interagency basis to increase effectiveness and efficiencies.	X	X	X
27. Provide the expertise and skills to fully integrate fire and fire aviation management into interdisciplinary planning efforts.	X	X	X
28. Work with cooperators to identify processes and procedures for providing fire safe communities within the wildand urban interface.	X	X	X
29. Develop, maintain, and annually evaluate the FMP to ensure accuracy and validity.		X	X
30. Ensure budget requests and allocations reflect Normal Year Readiness in the FMP.	X	X	X
31. Develop and maintain current operational plans, e.g., dispatch, pre-attack, prevention.	X	X	X
32. Ensure that reports and records are properly completed and maintained.	X	X	X
33. Ensure fiscal responsibility and accountability in planning and expenditures.	X	X	X
34. Assess, identify, and implement program actions that effectively reduce unwanted wildland fire ignitions and mitigate risks to life, property, and resources.		X	X
35. Effectively communicate the “natural role” of wildland fire to internal and external agency audiences.	X	X	X

PERFORMANCE REQUIRED	Fire Director	RFMO	FMO
36. Complete trespass actions when unplanned human-caused fires occur.		X	X
37. Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	X	X	X

Requirements for Fire Management Positions

All NPS employees assigned dedicated fire management program responsibilities at the park, regional, or national level shall meet established interagency and NPS competencies (knowledge, skills and abilities) and concomitant qualifications.

All NPS employees assigned to wildland fire management incidents will meet the training and qualification standards set by the National Wildfire Coordinating Group.

All wildland fires will be managed by an individual qualified and certified at the command level appropriate to the complexity level of the incident.

The qualification standards identified in the *Interagency Fire Program Management Qualifications Standards* will be required, in conjunction with specific agency requirements, when filling vacant fire program positions, and as an aid in developing Individual Development Plans (IDPs) for employees.

Training

Training for Park Superintendents

The following training is required for park superintendents with significant fire programs, including but not limited to those that are fire program funded.

Fire Management Leadership

The national course is the preferred alternative to the regionally-sponsored course. The training should be completed within two years of appointment to a designated management position.

Training for Fire Management Officers

The following training is required for fire management officers.

- Fire Program Management

Delegation of Authority

Delegation for Regional Fire Management Officers

In order to effectively perform their duties, the RFMO must have certain authorities delegated from the Regional Director. The delegation of authority should include the following roles and responsibilities:

- Serve as the Regional Director's authorized representative on geographic area coordination groups, including MAC groups.
- Coordinate and establish priorities on uncommitted fire suppression resources during periods of shortages.
- Coordinate logistics and suppression operations regionwide.
- Relocate agency pre-suppression/suppression resources within the region based on relative fire potential/activity.
- Correct unsafe fire suppression activities.
- Direct accelerated, aggressive initial attack when appropriate.
- Enter into agreements to provide for the management, fiscal, and operational functions of combined agency operated facilities.
- Suspend prescribed fire activities when warranted.
- Give authorization to hire Emergency Firefighters in accordance with the DOI Pay Plan for Emergency Workers.
- Approve emergency fire severity funding expenditures not to exceed the Regional annual authority.

Chapter 04
U.S. Fish & Wildlife Service Program Organization & Responsibilities

Introduction

The purpose of the *Interagency Standards for Fire and Fire Aviation Operations* handbook is to provide program guidance to ensure safe, consistent, efficient and effective fire and aviation operations. This handbook supplements the policies, objectives, and standards for fire management presented in the *U.S. Fish and Wildlife Service Manual* and the *Department of the Interior Departmental Manual*. This handbook will be reviewed and updated annually.

Agency Administrator Roles

The Secretary of the Interior, through the Directors of the Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), National Park Service (NPS) and the Deputy Commissioner of Indian Affairs (BIA) is responsible for wildland fire management activities of the Department (including such activities when contracted for, in whole or in part, with other agencies or tribes) under the statutes cited in *620 DM 1.1*.

Director

The Director of the Fish and Wildlife Service has overall responsibility for the service wildland fire management program. The Director will ensure that all regional fire management activities are formally evaluated.

Chief, National Wildlife Refuge System

The National Wildlife Refuge System under the Chief provides leadership for the wildland fire management program. The National Wildlife Refuge System also formally evaluates all regional fire activities at least every five years. The Assistant Director is authorized to promulgate and approve the *Fire Management Handbook* and other fire related handbooks as needed to provide guidance.

Regional Director

The Regional Director is responsible for the wildland fire management program in the region and for designating a qualified Regional Fire Management Coordinator. The Regional Director, through the Regional Fire Management Coordinator, will provide wildland fire management program support to service lands located within their geographic region. The Regional Director will identify and clarify the roles and responsibilities of other Regional Office staff that might provide oversight to the Fire Management Program.

Project Leader

The Project Leader is responsible for planning and implementing an effective wildland fire management program on service lands under his/her jurisdiction. The Project Leader, in conjunction with fire management specialists, determines the level of fire management effort required to meet wildland fire management

objectives of each unit. The Project Leader will ensure that an approved FMP is prepared for service lands under their jurisdiction. This would include appropriate consultation with staff specialists such as the Regional Historic Preservation Officer or Service Archeologist if appropriate. If the fire management program warrants, the Project Leader will establish a position to function as the Fire Management Officer for the field office. Otherwise, the Project Leader will assign the fire management responsibilities to a staff member as a collateral duty. A staff member, assigned fire management responsibilities as a collateral duty, will meet fire management qualification requirements established by the service. Project Leaders are to ensure that personnel hired in dedicated, fire funded positions are made available for dispatch to off-refuge/interagency wildland and prescribed fire management operations. Project Leaders will meet fire management training requirements established by the service for their positions.

Management Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	FWS Director	Regional Director	Project Leader
1. Take necessary and prudent actions to ensure firefighter and public safety.	X	X	X
2. Ensure sufficient qualified fire and non-fire personnel are available to support fire operations at a level commensurate with the local and national fire situations.	X	X	X
3. Ensure Fire Management Officers (FMOs) are fully qualified.	X	X	X
4. Provide a written Delegation of Authority to FMOs that provides an adequate level of operational authority. Include Multi-Agency Coordinating (MAC) Group authority, as appropriate.	X	X	X
5. Identify resource management objectives to maintain a current fire management plan (FMP) that identifies an accurate and defensible Normal Year Readiness of funding and personnel.		X	X
6. Develop protection and use standards and constraints that are in compliance with agency fire policies.		X	X
7. Ensure use of fire funds is in compliance with Department and Agency policies.	X	X	X

PERFORMANCE REQUIRED	FWS Director	Regional Director	Project Leader
8. Management teams will meet once a year to review fire and aviation policies, roles, responsibilities, and delegations of authority. Specifically address oversight and management controls, critical safety issues, and high-risk situations such as team transfers of command, periods of multiple fire activity, and Red Flag Warnings.	X	X	X
9. Review safety policies, procedures, and concerns with field fire and fire aviation personnel. Discussions should include issues that could compromise safety and effectiveness during the upcoming season.			X
10. Ensure timely follow-up actions to program reviews, fire preparedness reviews, fire and fire aviation safety reviews, fire critiques, and post-season reviews.	X	X	X
11. Ensure fire and fire aviation preparedness reviews are conducted in all unit offices each year.		X	X
12. Ensure an approved burn plan is followed for each prescribed fire project, including follow-up monitoring and documentation to ensure management objectives are met.		X	X
13. Meet annually with major cooperators and review interagency agreements to ensure their continued effectiveness and efficiency (may be delegated by Regional Level).		X	X
14. Ensure that a Wildland Fire Situation Analysis (WFSA) is completed and approved on all fires that escape initial attack.			X
15. Ensure reviews are conducted on all fires that require a WFSA. Personally attend reviews on Type 1 and Type 2 fires. (Regional Director may delegate)		X	X

PERFORMANCE REQUIRED	FWS Director	Regional Director	Project Leader
16. Ensure that a Wildland Fire Implementation Plan (WFIP) is completed and implemented for all fires managed for resource benefits.			X
17. Provide management oversight by personally visiting wildland and prescribed fires each year.			X
18. Provide incident management objectives, written delegations of authority, and agency administrator briefings to incident management teams.			X
19. Monitor the fire situation and provide oversight during periods of critical fire activity/situations of high risk.	X	X	X
20. Evaluate the need for resource advisors for all fires, and assign as appropriate.			X
21. Convene and participate in annual pre- and post-season fire meetings.	X	X	X
22. Attend *Fire Management Leadership Course*.		X	X
23. Ensure appropriate investigations are conducted for incidents, entrapments, and serious accidents.	X	X	X
24. For all unplanned human-caused fires where liability can be determined, ensure trespass actions are initiated to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements.		X	X
25. Certify Wildland Fire Implementation Plan or Wildland Fire Situation Analysis on a daily basis.			X
26. Complete Go/No-Go checklist for prescribed fire.			X
27. Ensure there is adequate direction in fire management plans to identify fire danger awareness with escalating fire potential.			X
28. Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	X	X	X

PERFORMANCE REQUIRED	FWS Director	Regional Director	Project Leader
29. Ensure that the Prescribed Fire Plan has been reviewed and recommended by a qualified technical reviewer who was not involved in the plan preparation.		X	X

Fire Management Staff Roles

National Office

Service Fire Management Coordinator (SFMC)

The Service Fire Management Coordinator is the Chief of the Fire Management Branch in the National Wildlife Refuge System, and is the Service representative at the National Interagency Fire Center (NIFC). The SFMC, through *Service Manual 621 FW 1*, is delegated authority by the Director to represent the Service on the National Multi-Agency Coordinating Group (MAC Group). The SFMC is responsible for implementing the decisions of the MAC Group as they affect U.S. Fish and Wildlife Service areas. The decisions of the MAC Group include the prioritizing of incidents nationally and the allocation or reallocation of firefighting resources to meet national priorities.

The Fire Management Branch is responsible for providing technical direction and coordination of fire management planning, policy development, and procedures servicewide.

Regional Office

Regional Fire Management Coordinator (RFMC)

The RFMC provides coordination, training, planning, evaluation, and technical guidance for the region and is available to provide assistance for intra-agency and interagency wildland fire management needs. The RFMC will meet qualification requirements established by the service for the position. The RFMC, through written delegation by the Regional Director, is delegated authority to represent the region on the Geographic Multi-Agency Coordinating Group (GMAC Group). The RFMC is responsible for implementing the decisions of the MAC Group as they affect U.S. Fish and Wildlife Service areas. The decisions of the GMAC Group include the prioritizing of incidents and the allocation or reallocation of firefighting resources to meet wildland fire management priorities.

Refuge Fire Management Officer (FMO)

Fire Management Officers will be assigned where an individual refuge wildland fire management program requires wildland fire management expertise. An FMO may be assigned to provide wildland fire management support to a group of refuges (zone or district) when individually each refuge does not warrant a fulltime FMO. These are dedicated, fire funded positions, and as such are a regional and national resource. The FMO may be called upon to assist in both

intra-agency and interagency wildland fire management needs. The FMO will meet qualification standards established or adopted by the Service for the position.

Fire Management Staff Performance Requirements for Fire Operations

PERFORMANCE REQUIRED	Fire Director	RFMC	FMO
1. Maintain safety first as the foundation for all aspects of fire and fire aviation management.	X	X	X
2. Ensure completion of a job hazard analysis (JHA) for fire and fire aviation activities so mitigation measures are taken to reduce risk.			X
3. Ensure work/rest and R&R guidelines are followed during all fire and fire aviation activities. Deviations are approved and documented.	X	X	X
4. Ensure that only trained and qualified personnel are assigned to fire and fire aviation duties.	X	X	X
5. Develop, implement, evaluate, and document fire and fire aviation training program to meet current and anticipated needs.	X	X	X
6. Establish an effective process to gather, evaluate, and communicate information to managers, supervisors, and employees. Ensure clear and concise communications are maintained at all levels.	X	X	X
7. Develop and maintain an open line of communication with public and cooperators.	X	X	X
8. Ensure that the fire and fire aviation management staff understand their role, responsibilities, authority, and accountability.	X	X	X
9. Based on allocated funding level, provide a safe, effective, and efficient fire protection and use program.	X	X	X
10. Organize, train, equip, and direct a qualified work force. An Individual Development Plan must be provided for incumbents who do not meet new standards. Establish qualification review committees.	X	X	X
11. Take appropriate action when performance is exceptional or deficient.	X	X	X

PERFORMANCE REQUIRED	Fire Director	RFMC	FMO
12. Ensure fire and fire aviation policies are understood, followed, and coordinated with other agencies as appropriate.	X	X	X
13. Monitor to recognize when complexity levels exceed program capabilities. Increase managerial and operational resources to meet the need.	X	X	X
14. Initiate, conduct, and/or participate in fire management related reviews and investigations.	X	X	X
15. Provide for and personally participate in periodic site visits to individual incidents and projects.	X	X	X
16. Utilize the incident complexity analysis to ensure the proper level of management is assigned to all incidents.		X	X
17. Review and evaluate performance of the fire management organization and take appropriate actions.	X	X	X
18. Ensure incoming personnel and crews are briefed prior to fire and fire aviation assignments.		X	X
19. Ensure a Wildland Fire Situation Analysis (WFSA) is completed and retained for all fires that escape initial attack.		X	X
20. Monitor fire season severity predictions, fire behavior, and fire activity levels. Take appropriate actions to ensure safe, efficient, and effective operations.	X	X	X
21. Ensure that adequate resources are available to implement fire management operations.	X	X	X
22. Provide fire personnel with adequate guidance, training and decision-making authority to ensure timely decisions.		X	X
23. Ensure a written, approved burn plan exists for each prescribed fire project.		X	X
24. Ensure all escaped prescribed fires receive a review at the proper level.	X	X	X
25. Ensure effective transfer of command of incident management occurs and oversight is in place.	X	X	X
26. Develop and maintain agreements, annual operating plans, and contracts on an interagency basis to increase effectiveness and efficiencies.	X	X	X

PERFORMANCE REQUIRED	Fire Director	RFMC	FMO
27. Provide the expertise and skills to fully integrate fire and fire aviation management into interdisciplinary planning efforts.	X	X	X
28. Work with cooperators to identify processes and procedures for providing fire safe communities within the wildland urban interface.	X	X	X
29. Develop, maintain, and annually evaluate the FMP to ensure accuracy and validity.		X	X
30. Ensure budget requests and allocations reflect Normal Year Readiness in the FMP.	X	X	X
31. Develop and maintain current operational plans, e.g., dispatch, pre-attack, prevention.	X	X	X
32. Ensure that reports and records are properly completed and maintained.	X	X	X
33. Ensure fiscal responsibility and accountability in planning and expenditures.	X	X	X
34. Assess, identify, and implement program actions that effectively reduce unwanted wildland fire ignitions and mitigate risks to life, property, and resources.		X	X
35. Effectively communicate the “natural role” of wildland fire to internal and external agency audiences.	X	X	X
36. Complete trespass actions when unplanned human-caused fires occur.		X	X
37. Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.	X	X	X

Delegation of Authority

Delegation for Regional Fire Management Coordinators (RMFC)

In order to effectively perform their duties, a RFMC must have certain authorities delegated from the Regional Director. This delegation is normally placed in the regional office supplement to agency manuals. This delegation of authority should include:

- Serve as the Regional Director’s authorized representative on geographic area coordination groups, including MAC groups.

- Coordinate and establish priorities on uncommitted fire suppression resources during periods of shortages.
- Coordinate logistics and suppression operations regional-wide.
- Relocate agency pre-suppression/suppression resources within the region based on relative fire potential/activity.
- Correct unsafe fire suppression activities.
- Direct accelerated, aggressive initial attack when appropriate.
- Enter into agreements to provide for the management, fiscal, and operational functions of combined agency operated facilities.
- Suspend prescribed fire activities when warranted.
- Give authorization to hire Emergency Firefighters in accordance with the DOI Pay Plan for Emergency Workers.
- Approve emergency fire severity funding expenditures not to exceed the agency's annual authority.

Zone/District Fire Management Officer

In order to effectively perform their duties, the FMO must have certain authorities delegated from the Agency Administrator(s). A sample "Delegation of Authority" can be found in Appendix WFS 01 at the end of this chapter.

APPENDIX WFS-01
Delegation for Zone/District Fire Management Officer

The Fire Management Officer for the Arizona Fire District (including; Buenos Aires NWR, San Bernardino NWR, Leslie Canyon NWR, Imperial NWR, Cibola NWR, Bill Williams NWR, Kofa NWR, Havasu NWR, Alchesay-Williams Creek Fish Hatchery Complex) is delegated authority to act on my behalf for the following duties and actions:

1. Provide direction, supervision and leadership to District Fire Management Staff outlined in the attached organization chart.

2. Coordinate with and provide timely and accurate reports to Project Leaders, Deputy Project Leaders and Appropriate Refuge Managers, on all activities of the district and personnel.

3. Responsible for Fire Budget coordination and oversight to assure the fiscal guidelines are adhered to within the District.

4. Coordinate all prescribed fire activities for the district including requests and oversight of funding for Hazardous Fuel and WUI projects.

5. Assure personnel participating in prescribed fire and wildfire operations are fully qualified.

6. Request and Oversee distribution of Severity and Emergency Pre-suppression Funding for District Fire and Aviation.

7. Ensure all district incidents are managed in a safe and cost-effective manner.

8. Oversee the recruitment and hiring of district fire personnel.

9. Responsible for representing the Arizona Fire District in all matters related to the Wildland/Prescribed Fire Management Program with local cooperators and on the Southeast Zone and Central West Zone Boards.

10. Coordinate district fire and prevention activities and provide appropriate program direction and guidance.

11. Provide for management of property records for equipment and supplies purchased with program allocations.

12. Coordinate, preposition, send and order fire and aviation resources in response to current and anticipated district, regional and national fire conditions.

13. Hire emergency firefighters in accordance with Department of Interior "Pay Plan for Emergency Workers."

14. Manage Incident Qualification Certification System and certify Incident Qualification Cards within the District.

_____ _____
Buenos Aires NWR Refuge Manager Date

_____ _____
San Bernardino/ Date
Leslie Canyon NWR Refuge Manager

_____ _____
Imperial NWR Refuge Manager Date

_____ _____
Cibola NWR Refuge Manager Date

_____ _____
Bill Williams River NWR Refuge Manager Date

_____ _____
Kofa NWR Refuge Manager Date

_____ _____
Havasu NWR Refuge Manager Date

_____ _____
Alchesay-Williams Creek Complex Manager Date

_____ _____
FWS Region 2 Fire Management Coordinator Date

_____ _____
Arizona Fire Management District FMO Date

Chapter 05
USDA Forest Service Wildland Fire and Aviation Program Organization and Responsibilities

Introduction

This handbook is intended to be a program reference guide that documents the standards for operational procedures and practices for the USDA Forest Service Fire and Aviation Management program. The standards provided in this handbook are based on current agency and interagency wildland fire management policy, and is intended to provide fire and aviation program guidance and to ensure safe, consistent, efficient and effective fire and aviation operations. This document will be reviewed and updated annually.

The Forest Service Director of Fire and Aviation Management, the Director of Human Resources and the Forest Service Line Officer Team have developed core fire management competencies for inclusion into the position descriptions and in selection criteria for Agency Administrators. They are presented here for reference.

Evaluation Criterion

Knowledge of fire program management including ability to integrate fire and fuels management across all program areas and functions; ability to implement fire management strategies and integrate natural resource concerns into collaborative community protection and ecosystem restoration strategies; knowledge to oversee a fire management program including budget, preparedness, prevention, suppression, and hazardous fuels reduction; ability to serve as an Agency Administrator during an incident on an assigned unit; and ability to provide a fully staffed, highly qualified, and diversified firefighting workforce that exists in a "safety first" and "readiness" environment.

Training and Core Competencies

Attend a regional or national *"Fire Management Leadership for Agency Administrators"* training session.

Require a shadow assignment with a fully qualified Agency Administrator.

Receive training or experience in the Wildfire Situation Analysis (WFSA) and Wildland Fire Implementation Plan (WFIP).

Provide a Delegation of Authority to Incident Commanders.

Performance Standards

Add the following standards to the existing performance standards for Forest Supervisors and District Rangers under Performance Standard #4, Leadership, Coaching, and Supervising:

- Integrate fire and fuels management across all functional areas.

- Implement fire management strategies and integrate natural resource concerns into collaborative community protection and ecosystem restoration strategies on the unit.
- Manage a budget that includes fire preparedness, prevention, suppression, and hazardous fuels in an annual program of work for the unit.
- Perform duties of Agency Administrator and maintain those qualifications.
- Provide a fully staffed, highly qualified, and diverse workforce in a "safety first" environment.

These standards are based on current policy and provide program guidance to ensure safe, consistent, efficient, and effective Fire and Aviation Operations. This document will be reviewed and updated annually.

Specific Agency Administrator Performance Standards for Fire and Aviation at the Field Level

Preparedness

- Take all necessary and prudent actions to ensure firefighter and public safety.
- Ensure sufficient qualified fire and non-fire personnel are available to support fire operations at a level commensurate with the local and national fire situation.
- Ensure accurate position descriptions are developed and reflect the complexity of the unit. Individual Development Plan's promote and enhance FMO currency and development.
- Provide a written Delegation of Authority to FMOs that provides an adequate level of operational authority at the unit level. Include Multi-Agency Coordinating (MAC) Group authority, as appropriate.
- Identify resource management objectives to maintain a current Fire Management Plan (FMP) that identifies an accurate level of funding for personnel and equipment.
- Develop preparedness and fire use standards that are in compliance with agency fire policies.
- Management teams meet once a year to review fire and aviation policies, roles, responsibilities, and delegations of authority. Specifically address oversight and management controls, critical safety issues, and high-risk situations such as transfers of incident command, periods of multiple fire activity, and Red Flag Warnings.
- Ensure fire and aviation preparedness reviews are conducted each year.
- Meet annually with major cooperators and review interagency agreements to ensure their continued effectiveness and efficiency.
- Convene and participate in annual conferences and fire reviews.

Suppression

- Ensure use of fire funds is in compliance with Agency policies.
- Wildland Fire Situation Analysis (WFSA) is completed and approved on all fires that escape initial attack. Alternative evaluation and certification requirements are followed.
- WFSA's that are expected to exceed $10,000.000.00 in suppression costs are forwarded to the Regional Office for review and approval.
- Management reviews are conducted on all fires that require a WFSA. Personally attend reviews on Type 1 and Type 2 fires.
- Provide incident management objectives, written delegations of authority, and a complete Agency Administrator Briefing to Incident Management Teams.
- Evaluate the need for resource advisors for all fires, and assign as appropriate.
- For all unplanned human-caused fires where responsibility can be determined, ensure actions are initiated to recover cost of suppression activities, land rehabilitation, damages to the resource and improvements.

Safety

- Review safety policies, procedures, and concerns with field fire and aviation personnel.
- Ensure timely follow-up actions to program reviews, fire preparedness reviews, fire and aviation safety reviews, and management reviews.
- Monitor the fire situation and provide oversight during periods of critical fire activity and situations of high risk.
- Ensure there is adequate direction in fire management plans to maintain fire danger awareness.
- Take appropriate actions with escalating fire potential.
- Ensure appropriate investigations are conducted for incidents, entrapments, and serious accidents.

Fire Use

- Ensure an approved burn plan is followed for each prescribed fire project, including follow-up monitoring and documentation to ensure management objectives are met.
- Ensure that a Wildland Fire Implementation Plan (WFIP) is completed and implemented for all fires managed for resource benefits.
- Provide management oversight by personally visiting wildland and prescribed fire activities each year.
- Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.
- Approve Prescribed Fire Plans. Authority may be delegated to the Agency Administrators as provided under specific directions.

- Review Prescribed Fire Plans and recommend or approve the plans depending upon the delegated authority. Ensure that the Prescribed Fire Plan has been reviewed and recommended by a qualified technical reviewer who was not involved in the plan preparation.

Fire Management Positions

The following lists show the minimum operational experience recommended for fire management positions. *The Interagency Fire Program Management Qualifications Standards* will be used as guidelines in conjunction with specific agency requirements when filling vacant fire program positions, and as an aid in developing Individual Development Plans (IDPs) for employees.

Specific Fire Management Staff Performance Standards for Fire Operations at the Field Level

Preparedness

- Maintain "safety first" as the foundation for all aspects of fire and aviation management.
- Ensure that only trained and qualified personnel are assigned to fire and aviation duties.
- Develop, implement, evaluate, and document fire and aviation training program to meet current and anticipated needs.
- Establish an effective process to gather, evaluate, and communicate information to managers, supervisors, and employees. Ensure clear concise communications are maintained at all levels.
- Ensure fire and aviation management staffs understand their roles, responsibilities, authority, and accountability.
- Develop and maintain an open line of communication with public and cooperators.
- Regardless of funding level, provide a safe, effective, and efficient fire preparedness and fire use program.
- Organize, train, equip, and direct a qualified work force. An Individual Development Plan (IDP) must be provided for incumbents who do not meet new standards. Establish qualification review process.
- Take appropriate action when performance is exceptional or deficient.
- Ensure fire and aviation policies are understood, followed, and coordinated with other agencies as appropriate.
- Ensure that adequate resources are available to implement fire management operations.
- Provide fire personnel with adequate guidance, training and decision-making authority to ensure timely decisions.
- Develop and maintain agreements, annual operating plans, and contracts on an interagency basis to increase effectiveness and efficiencies.
- Develop, maintain, and annually evaluate the FMP to ensure accuracy and validity.

- Ensure budget requests and allocations reflect preparedness requirements in the FMP.
- Develop and maintain current operational plans, (e.g., dispatch, pre-attack, prevention).
- Ensure that reports and records are properly completed and maintained.
- Ensure fiscal responsibility and accountability in planning and expenditures.
- Assess, identify, and implement program actions that effectively reduce unwanted wildland fire ignitions and mitigate risks to life, property, and resources.
- Work with cooperators to identify processes and procedures for providing fire safe communities within the wildland urban interface.

Suppression

- Ensure completion of a job hazard analysis (JHA) for fire and fire aviation activities, and implement applicable risk mitigation measures.
- Provide for and personally participate in periodic site visits to individual incidents and projects.
- Utilize the incident complexity analysis to ensure the proper level of management is assigned to all incidents.
- Ensure incoming personnel and crews are briefed prior to fire and aviation assignments.
- Coordinate the development of the Wildland Fire Situation Analysis (WFSA) with local unit staff specialists for all fires that escape initial attack.
- Ensure effective transfer of command of incident management occurs and safety is considered in all functional areas.
- Monitor fire activity to anticipate and recognize when complexity levels exceed program capabilities. Increase managerial and operational resources to meet needs.
- Complete cost recovery actions when unplanned human-caused fires occur.

Safety

- Ensure work/rest and R&R guidelines are followed during all fire and aviation activities. Deviations are approved and documented.
- Initiate, conduct, and/or participate in fire management related reviews and investigations.
- Monitor fire season severity predictions, fire behavior, and fire activity levels. Take appropriate actions to ensure safe, efficient, and effective operations.

Fire Use

- Ensure a written, approved burn plan exists for each prescribed fire project.
- Ensure all escaped prescribed fires receive a review at the proper level.
- Provide the expertise and skills to fully integrate fire and aviation management into interdisciplinary planning efforts.
- Effectively communicate the “natural role” of wildland fire to internal and external agency audiences.
- Ensure compliance with National and Regional Office policy and direction for prescribed fire activities and ensure that periodic reviews and inspections of the prescribed fire program are completed.

Chapter 06
Safety

Policy

Firefighter and public safety is our first priority. All Fire Management Plans and activities must reflect this commitment. The commitment to and accountability for safety is a joint responsibility of all firefighters, managers, and administrators. Individuals must be responsible for their own performance and accountability.

Every supervisor, employee, and volunteer is responsible for following safe work practices and procedures, as well as identifying and reporting unsafe conditions.

All firefighters, fireline supervisors, fire managers, and Agency Administrators have the responsibility to ensure compliance with established safe firefighting practices.

Attention to safety factors is critical to the individual employee incident position evaluation process. These evaluations must be honest appraisals of performances. The documentation of sub-standard or unsafe performances is mandatory.

Agency Specific Safety Policy Guides:

- ***BLM*** *- BLM Handbook 1112-1, 1112-2*
- ***FWS*** *- Service Manual 241 FW7, Firefighting*
- ***NPS*** *- DO-50 and RM-50 Loss Control Management Guideline*
- ***FS*** *- FSH-6709.11 Health and Safety Code Handbook*

Goal

The goal of the fire safety program is to provide direction and guidance for safe and effective management in all activities. Safety is the responsibility of everyone assigned to wildland fire, and must be practiced at all operational levels from the national fire director, state/regional director, and unit manger - to employees in the field. Agency administrators need to stress that firefighter and public safety always takes precedence over property and resource loss. Coordination between the fire management staff and unit safety officer(s) is essential in achieving this objective. For additional safety guidance and reference refer to:

- *Fireline Handbook (PMS 410-1, NFES 0065).*
- *Incident Response Pocket Guide (PMS 461, NFES 1077).*
- *Wildland Firefighter Health & Safety Report (MTDC Publication).*
- *National Interagency Mobilization Guide (NFES 2092).*

Risk Management Process

The Risk Management Process identified in the *NWCG Incident Response Pocket Guide (IRPG)* helps ensure that critical factors and risks associated with fireline operations are considered during decision making. This process must be applied to all fire operations prior to taking action. The Risk Management Process is found in Appendix E.

Job Hazard Analysis (JHA)

A completed Job Hazard Analysis is required for:

- Jobs or work practices that have potential hazards.
- New, non-routine, or hazardous tasks to be performed where potential hazards exist.
- Jobs that may require the employee to use non-standard personal protective equipment (PPE).
- Changes in equipment, work environment, conditions, policies, or materials.
- Supervisors and appropriate line managers must ensure that established JHAs are reviewed and signed prior to any non-routine task or at the beginning of the fire season. Additional JHA information can also be obtained at: http://www.fs.fed.us/r1/people/jha/jha_index_www.html.
- ***BLM -*** *A risk assessment (in lieu of JHA) must be completed for all non-suppression work practices/projects that have potential hazards.*

Work/Rest

To assist in mitigating fatigue, days off are allowed during and after assignments. If necessary to reduce fatigue, the Type 1 or 2 Incident Commander (IC) or Agency Administrator (AA) (incident host or home unit) may provide time off supplementary to mandatory days off requirements. For Type 3-5 incidents, paid days off should be rare exceptions. However, if necessary, the Agency Administrator (incident host or home unit) may authorize day(s) off with pay.

The IC or AA authority to grant a day off with pay lies within 5 U.S.C. 6104, 5 CFR 610.301-306, and 56 Comp. Gen. Decision 393 (1977).

- Plan for and ensure that all personnel are provided a minimum 2:1 work to rest ratio (for every 2 hours of work or travel, provide 1 hour of sleep and/or rest).
- Work shifts that exceed 16 hours and/or consecutive days that do not meet the 2:1 work/rest ratio should be the exception, and no work shift should exceed 24 hours. However, in situations where this does occur (for example, initial attack), incident management personnel will resume 2:1 work/rest ratio as quickly as possible.
- The Incident Commander or Agency Administrator must justify work shifts that exceed 16 hours and those that do not meet 2:1 work to rest

ratio. Justification will be documented in the daily incident records. Documentation shall include mitigation measures used to reduce fatigue.

- The Time Officer's/Unit Leader's approval of the Emergency Firefighter Time Report (OF-288), or other agency pay document, certifies that the required documentation is on file and no further documentation is required for pay purposes.

The work/rest guidelines do not apply to aircraft pilots assigned to an incident. Pilots must abide by applicable Federal Aviation Administration (FAA) guidelines, or agency policy if more restrictive.

Length of Assignment

Assignment Definition

An assignment is defined as the time period (days) between the first full operational period at the first incident or reporting location on the original resource order and commencement of return travel to the home unit.

Length of Assignment

Standard assignment length is 14 days, exclusive of travel from and to home unit, with possible extensions identified below. Time spent in staging and preposition status counts toward the 14-day limit, regardless of pay status, for all personnel, including Incident Management Teams.

Days Off

After completion of a 14 day assignment and return to the home unit, two mandatory days off will be provided (2 after 14). Days off must occur on the calendar days immediately following the return travel in order to be charged to the incident. (See Section 12.1-2) (5 U.S.C. 6104, 5 CFR 610.301-306, and 56 Comp. Gen. Decision 393 (1977). If the next day(s) upon return from an incident is/are a regular work day(s), a paid day(s) off will be authorized. Regulations may preclude authorizing this for non-NWCG and state/local employees.

Pay entitlement, including administrative leave, for a paid day(s) off cannot be authorized on the individual's regular day(s) off at their home unit. Agencies will apply holiday pay regulations, as appropriate. A paid day off is recorded on home unit time records according to agency requirements. Casuals (AD) are not entitled to paid day(s) off upon release from the incident or at their point of hire.

Contract resources are not entitled to paid day(s) off upon release from the incident or at their point of hire.

Home unit agency administrators may authorize additional day(s) off with compensation to further mitigate fatigue. If authorized, home unit program funds will be used.

All length of assignment rules apply to aviation resources, including aircraft pilots, notwithstanding the FAA and Agency day off regulations.

Assignment Extension

Prior to assigning incident personnel to back-to-back assignments, their health, readiness, and capability must be considered. The health and safety of incident personnel and resources will not be compromised under any circumstance.

- Assignments may be extended when:
  - life and property are imminently threatened,
  - suppression objectives are close to being met,
  - a military battalion is assigned,
  - replacement resources are unavailable, or have not yet arrived.

Upon completion of the standard 14 day assignment, an extension of up to an additional 14 days may be allowed (for a total of up to 30 days, inclusive of mandatory days off, and exclusive of travel). Regardless of extension duration, two mandatory days off will be provided prior to the 22nd day of the assignment.

Contracts and Emergency Equipment Rental Agreements (EERA) should be reviewed for appropriate pay requirements and length of assignment. If the contract or EERA do not address, the incident Finance/Administration Section Chief or the procurement official should be consulted as to whether compensation for a day off is appropriate.

Single Resource/Kind Extensions

The Section Chief or Incident Commander will identify the need for assignment extension and will obtain the affected resource's concurrence. The Section Chief and affected resource will acquire and document the home unit supervisor's approval.

The Incident Commander approves the extension. If a convened geographic or national multi-agency coordinating group (GMAC/NMAC) directs, the Incident Commander approves only after GMAC/NMAC concurrence.

If the potential exists for reassignment to another incident during the extension, the home unit supervisor and affected resource will be advised and must concur prior to reassignment.

Incident Management Team Extensions

Incident management team extensions are to be negotiated between the incident Agency Administrator, the Incident Commander, and the GMAC/NMAC (if directed).

Upon release from the assignment, regardless of extension duration, two mandatory days off will be provided immediately following the return to the

home unit, and are chargeable to the incident. (See above for compensation and days off guidelines).

Driving Standard

All employees driving motor vehicles are responsible for the proper care, operation, maintenance and protection of the vehicle. The use of government-owned, rented, or leased motor vehicles is for official business only. Unauthorized use is prohibited.

General Driving Policy

- Employees must have a valid state driver's license in their possession for the appropriate vehicle class before operating the vehicle. Operating a government-owned or rental vehicle without a valid state driver's license could result in disciplinary action.
- All drivers whose job duties require the use of a motor vehicle will receive initial defensive driver training within three months of entering on duty and refresher driver training every three years thereafter.
- The operator and all passengers are required to wear seat belts and obey all federal and state laws.
- All traffic violations or parking tickets will be the operator's responsibility.
- All driving requiring CDL will be performed in accordance with applicable Department of Transportation regulations.
- ***BLM -*** *All employees operating a Government motor vehicle will be required to submit Form DI-131 (Application for U.S. Government Motor Vehicle Operator's Identification Card) and OF-345 (Physical Fitness Inquiry for Motor Vehicle Operators). When the supervisor signs the DI-131, the employee is authorized to operate Government-owned or leased vehicles, or privately-owned vehicles on official business. Individual office forms equivalent to the OF-345 and DI-131 are acceptable.*
- ***FS -*** *Policy requires all operators of government owned, or leased vehicles to have a Forest Service issued identification card indicating the type of vehicles or equipment the holder is authorized and qualified to operate.*
- ***BLM/FWS/NPS -*** *The DOI has granted wildland fire agencies a waiver to allow employees between the ages of 18 and 21 to operate agency commercial fire vehicles using a state issued CDL under the specific conditions as stated below:*
  - Drivers with a CDL may only drive within the state that has issued the CDL and must comply with the state's special requirements and endorsements.
  - These drivers must only drive vehicles that are equipped with visible and audible signals, and are easily recognized as fire fighting equipment. This excludes, but not limited to, school buses used for crew transport and "low-boy" tractor trailers used for construction equipment transport.

- Supervisors must annually establish and document that these drivers have a valid license (i.e. that the license has not been suspended, revoked, canceled, or that the employee has not been otherwise unqualified from holding a license - 485 DM 16.3.B (1), ensure that the employee has the ability to operate the vehichle(s) safely in the operational environment assigned (485 DM 16.3.B (2), and review and validate the employee's driving record (485 DM 16.3.B(4)).
- Wildland fire driving safety statistics from the Safety Management Information System (SMIS) will be reviewed at the ends of 2005, 2006, and 2007 fire seasons to determine if there is any reason why the waiver should not become permanent policy.

Non-incident Operations Driving

Refer to the current Driving Standards for each individual agency.

Incident Operations Driving

This policy addresses driving by personnel actively engaged in wildland fire suppression or all-risk activities; including driving while assigned to a specific incident (check-in to check-out) or during initial attack fire response (includes time required to control the fire and travel to a rest location).

- Agency resources assigned to an incident or engaged in initial attack fire response will adhere to the current agency work/rest policy for determining length of duty day.
- No driver will drive more than 10 hours (behind the wheel) within any duty-day.
- Multiple drivers in a single vehicle may drive up to the duty-day limitation provided no driver exceeds the individual driving (behind the wheel) time limitation of 10 hours.
- A driver shall drive only if they have had at least 8 consecutive hours off duty before beginning a shift. Exception to the minimum off-duty hour requirement is allowed when essential to:
  - Accomplish immediate and critical suppression objectives.
  - Address immediate and critical firefighter or public safety issues.
- As stated in the current agency work/rest policy, documentation of mitigation measures used to reduce fatigue is required for drivers who exceed 16 hour work shifts. This is required regardless of whether the driver was still compliant with the 10 hour individual (behind the wheel) driving time limitations.
- ***FWS/NPS -*** *Program funds are authorized to pay for the cost of CDL licensing fees and exams, necessary for employees to operate fire equipment, with one exception. That exception involves those cases where a test has been failed and must be retaken, in which case the employee will be responsible for costs associated with additional testing.*

Fire Vehicle Operation Standards

Operators of all vehicles must abide by state traffic regulations. Operation of all vehicles will be conducted within the limits specified by the manufacturer. Limitations based on tire maximum speed ratings and Gross Vehicle Weight restrictions must be followed. It is the vehicle operator's responsibility to ensure vehicles abide by these and any other limitations specified by agency or state regulations.

Headlights and taillights will be illuminated at all times while the vehicle is in motion. Emergency lighting will not be used except when performing suppression or prescribed fire operations, or to mitigate serious safety hazards. Overhead lighting and other emergency lighting must meet state code requirements, and will be illuminated whenever the visibility is reduced to less than 300 feet. Blue lights are not acceptable for wildland fire operations.

Personal Protective Equipment (PPE)

All personnel are required to use Personal Protective Equipment (PPE) appropriate for their duties and/or as identified in JHAs. Employees must be trained to use safety equipment effectively. PPE devices will be used only when equipment guards, engineering controls, or management control do not adequately protect employees.

Required Fireline PPE includes:

- 8-inch high, lace-type exterior leather work boots with non-slip, Vibram-type, melt-resistant soles. The 8-inch height requirement is measured from the bottom of the heel to the top of the boot. Alaska is exempt from the Vibram-type sole requirement. All boots that meet the footware standard as described above are authorized for firefighting.
- fire shelter
- hard hat with chinstrap
- goggles/safety glasses
- ear plugs/hearing protection
- yellow aramid shirts
- aramid trousers
- leather gloves
- Wear additional PPE as identified by local conditions, material safety data sheet (MSDS), or JHA.

Permanent-press materials are not to be worn, as they melt and stick to the skin when exposed to flame or heat. Because most synthetic fibers melt when exposed to flame or extreme radiant heat, personnel should wear only undergarments made of 100 percent cotton or wool, aramid, or other fire resistant materials.

Aramid clothing will be cleaned or replaced whenever soiled, particularly with oils. Aramid clothing will be replaced when the fabric is so worn as to reduce the fire resistance capability of the garment or is so faded as to significantly reduce the desired visibility qualities. Any modification to personal protective equipment that reduces the fire retardant ability such as iron-on logos is an unacceptable practice and will not be allowed on fires.

Head Protection

Personnel must be equipped with hard hats and wear them at all times while on the fireline. Hard hats must be equipped with a chinstrap, which must be fastened while riding in, or in the vicinity of, helicopters.

Acceptable helmets for fireline use are "helmet, safety, plastic" (NFES 0109, 8415-01-055-2265/GSA) listed in NWCG *National Fire Equipment System Catalog: Fire Supplies and Equipment*, or equivalent helmet meeting 1977 National Fire Protection Association (NFPA) standard requirements and American National Standards Institute (ANSI) Z89.1-1986. Hard hats consist of two components - the shell and the suspension - which work together as a system. Both components require periodic inspection and maintenance. Specific inspection and maintenance instructions are found in Missoula Technology Development Center (MTDC) Tech Tip publication (0267-2331-MTDC).

Eye and Face Protection

The following positions require the wearing of eye protection:

- nozzle operator
- chainsaw operator/faller
- helibase and ramp personnel
- retardant mixing crews
- other duties may require eye protection as identified in a specific JHA.

Face shields providing full face protection must be worn when working in any position where face protection has been identified as required in the job specific JHA: Terra-Torch®, power sharpener operators, etc.

Hearing Protection

Personnel who are exposed to a noise level in excess of 85db must be provided with, and wear, hearing protection. This includes, but is not limited to:

- chainsaw operators/fallers
- pump operators
- helibase and aircraft ramp personnel
- retardant mixing personnel,
- any other personnel exposed on a regular basis to damaging noise levels.

Other duties may require hearing protection as identified in a specific JHA.

Employees with a time weighted average exposure of 85 db or higher are required to be placed under a hearing conservation program as required by *29 CFR 1910.9* - consult with local safety & health personnel for specifics.

Neck Protection

Aramid fiber "shrouds" are not required PPE. If used, the shrouds must meet the design and performance requirements identified in the *NFPA 1977 Standard on Protective Clothing and Equipment for Wildland Fire Fighting, 1998 ed*. If issued, shrouds should be used only in impending flash fuel or high radiant heat situations and not routinely worn throughout the operational period, due to increases in physiological heat stress.

Leg Protection

All chainsaw chaps will meet specification FS 6170-4F. All chainsaw operators must wear chainsaw chaps maintained as per the manufacturer's specifications.

Foot Protection

Personnel assigned to fires must wear 8-inch high, lace-type exterior leather work boots with non-slip, Vibram-type, melt-resistant soles. The 8-inch height requirement is measured from the bottom of the heel to the top of the boot. Alaska is exempt from the Vibram-type sole requirement. All boots that meet the footware standard as described above are authorized for firefighting.

The boots are a condition of employment for firefighting positions and are purchased by the employee prior to employment.

- ***FWS -*** *The leather top must be at least 8 inches in height, measured from the top of the heel. Red carded fireline permanent, temporary and seasonal Fish and Wildlife personnel will be provided with these boots from station funds not more often than every three years. Emergency or casual firefighters will provide their own boots. Some refuge situations may require special footwear such as waders, hip boots, snake boots, etc.*
- ***NPS -*** *Government funds will be utilized for purchase of wildland fire boots for those employees currently red carded/certified in positions which require wildland and prescribed fireline duties. The individual employee must be available to perform those duties when assigned; if not routinely available for park fire assignments, FIREPRO funds should not be used to purchase boots for that employee.*
- ***NPS -*** *FIREPRO funds, not to exceed $100 a pair, may be used to purchase or repair boots. Other government funds, such as from safety, protection or maintenance accounts, may also be used for purchase or to augment FIREPRO funds, dependent on local management direction. Costs to repair boots not damaged on fire should be charged to other appropriate accounts.*
- ***NPS -*** *It is the responsibility of the local FMO to determine those employees requiring boots as personal protective equipment, and the frequency of necessary replacement or repair. Boots will be considered*

similar to uniform items and will not be subject to cache item return, due to health, sanitation, and individual sizing considerations.

Respiratory Protection

The use of respiratory protection (e.g., dust masks, half-mask respirators) must be in compliance with agency safety and health regulations and *OSHA's Respiratory Protection Standard 29 CFR 1910.134*.

- ***BLM/FWS/NPS -*** *Managers and supervisors will not knowingly place wildland firefighters in positions where exposure to noxious gases or chemicals would require the use of self-contained breathing apparatus.*
- ***FS - FSM - 5135.3 - Self-Contained Breathing Apparatus -*** *Wildland firefighters may use only an open-circuit, self-contained breathing apparatus (SCBA) of the positive pressure type when smoke from vehicle, dump, structure, or other non-wildland fuel fire cannot be avoided while meeting wildland fire suppression objectives (29 CFR 1910.134, Respiratory Protection). If such an apparatus is not available, avoid exposure to smoke from these sources.*
- ***FS -*** *The acquisition, training, proper use, employee health surveillance programs, inspection, storage, and maintenance of an SCBA must comply with the National Fire Protection Association Standard, NFPA-1981 and 29 CFR 1910.134I, and be justified by a Job Hazard Analysis. Where an SCBA is approved, it may be carried only on a fire engine and its use must be consistent with FSM 5130.2 and FSM 5130.3.*

Fire Shelters

Fire shelters will be issued and carried in a readily accessible manner by all line personnel. Fire shelters will be inspected regularly, to ensure they meet agency and manufacturer standards. New Generation fire shelters will replace all existing stock of old fire shelters by the beginning of calendar year 2008.

"Training Shelters" will be deployed at required Annual Fireline Safety Refresher Training. No "live fire" exercises for the purpose of fire shelter deployment training will be conducted.

The deployment of shelters is to be viewed as a last resort, and will not be used as a tactical tool. Supervisors and firefighters must never rely on fire shelters instead of using well-defined escape routes and safety zones. When deployed on a fire, fire shelters will be left in place and not be removed pending approval of authorized investigators.

Specialized or non standard PPE

Specialized Personal Protective Equipment not routinely supplied by the agency required to perform a task safely must be ordered in accordance with agency direction.

A risk assessment must be completed and reviewed by the Unit Safety Officer and supervisor's approval is required. Items must meet agency and industry standards for specific intended use. In the case of fire resistant clothing such as cold weather inner and outer wear, all materials (cloth, zipper tape, thread) other than "Velcro ®" must be certified inherently flame resistant by the manufacturer.

Fireline Safety

Incident Briefings

Fire managers must ensure that safety briefings are occurring throughout the fire organization, and that safety factors are addressed through the IC and communicated to all incident personnel at operational briefings. The identification and location of escape routes and safety zones must be stressed. A briefing checklist can be found in Appendix F and in the *Incident Response Pocket Guide (IRPG).*

LCES will be used in all operational briefings and tactical operations as per the *Incident Response Pocket Guide (IRPG).*

- **LCES - A System for Operational Safety**
- L - Lookout(s)
- C - Communication(s)
- E - Escape Route(s)
- S - Safety Zone(s)

Incident Safety Oversight

Agency administrators must be actively involved in the management of wildfires, and personally visit an appropriate number of escaped fires each year. PPE is required for certain scenarios. Fire and aviation management staff can provide the appropriate PPE and guidance.

- ***FS -*** *Agency Administrators, Fire Program Managers, and/or Safety and Health Program Managers shall conduct after action reviews on all type 3 fires and a minimum of 10% of their unit's Type 4, and 5 fires and document their inspections in the incident records.*

Incident Commanders are responsible for personnel safety. At least one person, operationally qualified at a level commensurate to the complexity of the incident, should be assigned the duties for providing safety oversight. Additional safety oversight may be requested when:

- A fire escapes initial attack or when extended attack is probable.
- There is complex or critical fire behavior.
- There is a complex air operation.
- The fire is in an urban intermix/interface.

Every individual has the right to turn down unsafe assignments as well as be responsible in identifying alternative methods of accomplishing the mission. Appendix G contains process for "How to Properly Refuse Risk".

Unit/Area Closures

Threats to public safety may require temporary closure of a unit/area, or a portion of it. When a fire threatens escape from the unit/area, adjacent authorities must be given as much advance notice as possible in order to achieve orderly evacuation.

Standard Safety Flagging

The NWCG recommends the following Safety Zone/Escape Route flagging for wildland fire (prescribed and suppression) activities:

- Hot-pink flagging marked "Escape Route" (NFES 0566). Crews with colorblind members may wish to carry and utilize lime-green flagging in addition to the hot-pink flagging.
- Hazards. Yellow with black diagonal stripes, 1 inch wide (NFES 0267). If the above recommendation is not utilized on an incident, the incident will need to identify the selected color and make known to all firefighters.

Unexploded Ordnance (UXO)

General guidance is as follows: If UXO is suspected, do not enter the area. Small arms (rifle and shotgun) munitions areas should be flagged and avoided by fire personnel. For suspected larger munitions, the area must be avoided by fire personnel and contact local law enforcement bomb squad or nearest Department of Defense agency. Each unit will determine which employees are authorized to enter known or potential hazardous substance release sites, and the responsibility for these determinations remains with each agency administrator. The general rule of UXO is, "if you did not drop it, do not pick it up, kick it or hit it with equipment".

Hazardous Materials

Employees that discover any unauthorized waste dump or spill site that contains indicators of potential hazardous substances (e.g, containers of unknown substances, pools of unidentifiable liquids, piles of unknown solid materials, unusual odors, or any materials out of place or not associated with an authorized activity) should take the following precautions:

- Follow the procedures in the Incident Response Pocket Guide.
- Treat each site as if it contains harmful materials.
- Do not handle, move, or open any container, breathe vapors, or make contact with the material.
- Move a safe distance upwind from the site.
- Contact appropriate personnel. Generally, this is the Hazardous Materials Coordinator for the local office.

- ***BLM/FWS/NPS -*** *BLM requires that all field personnel complete a First Responder Awareness training. All BLM firefighters are required to take an annual refresher for Hazardous Material protocol.*

The following general safety rules shall be observed when working with chemicals:

- Read and understand the Material Safety Data Sheets.
- Keep the work area clean and orderly.
- Use the necessary safety equipment.
- Label every container with the identity of its contents and appropriate hazard warnings.
- Store incompatible chemicals in separate areas.
- Substitute less toxic materials whenever possible.
- Limit the volume of volatile or flammable material to the minimum needed for short operation periods.
- Provide means of containing the material if equipment or containers should break or spill their contents.

Heat Stress

There are three forms of heat stress. The mildest is heat cramps. Heat stress can progress to heat exhaustion and eventually heat stroke. Heat stroke is a medical emergency. Delayed treatment can result in brain damage and even death. At the first sign of heat stress, stop work, get into the shade, and begin drinking fluid. *See Chapter 05 of Fitness and Work Capacity, 2nd ed. (1997).*

Smoke and Carbon Monoxide

For information of this subject call USDA Forest Service, Technology and Development Program, Publications, (406) 329-3978, and ask for *Health Hazards of Smoke, Recommendations of the Consensus Conference, April 1997 (item Number 97512836).* Copies are available free of charge in limited numbers.

Six Minutes for Safety Training

It is recommended that daily “Six Minutes for Safety” training be conducted that focuses on high-risk, low frequency activities that fire personnel may encounter during a fire season. A daily national “Six Minutes for Safety” briefing can be found at http://www.nifc.gov/sixminutes/dsp_sixminutes.php and in the National Situation Report.

Safety for Non-Operational Personnel Visiting Fires

A wide variety of personnel such as agency administrators, other agency personnel, dignitaries, members of the news media, etc may visit incidents. The following standards apply to all visitors.

Visits to an Incident Base

The minimum recommendation for PPE at an incident base is the same as all field locations.

- Lace-up shoes with non-slip soles and heels
- Long trousers
- Long-sleeve shirt
- For agency personnel, the field uniform is appropriate; however for more flexibility the aramid fire shirts and trousers or flight suit may be worn.
- ***BLM*** *- Refer to BLM Handbook 1112-2, 3.3 BLM requires 6" shoes.*

Visits to the Fireline

Visits to the fireline must have the approval of the IC.

- Visitors must maintain communications with the DIVS or appropriate fireline supervisor of the area they are visiting.
- Required PPE:
  - Personnel assigned to fires must wear 8-inch high, lace-type exterior leather work boots with non-slip, Vibram-type, melt-resistant soles. The 8-inch height requirement is measured from the bottom of the heel to the top of the boot. Alaska is exempt from the Vibram-type sole requirement. All boots that meet the footware standard as described above are authorized for firefighting.
  - Yellow aramid shirts
  - aramid trousers
  - hard hat with chinstrap
  - leather gloves
  - fire shelter
- Required equipment/supplies:
  - hand tool
  - water canteen

Visitors to the Fireline may be "Escorted" or "Non-Escorted" depending on the following requirements:

Non-Escorted

- Visitors must have a physical fitness level of "light".
  - Must have adequate communications and radio training.
  - Completed the following training:
    - Introduction to Fire Behavior (S-190)
    - Firefighter Training (S-130)
    - Annual Fireline Safety Refresher Training.
  - Deviation from this requirement must be approved by the IC for other non-escorted support personnel involved in vehicle operations or other support functions on established roadways and working in areas which pose no fire behavior threat.
- ***BLM/FWS*** *- Law Enforcement physical fitness standard is accepted as equivalent to a "light" WCT work category.*

Escorted

All non-incident, non-agency, visitors lacking the above training and physical requirements must be escorted while on the fireline.

- Visitors must receive training in the proper use of PPE.
- Visitors must be able to walk in mountainous terrain and be in good physical condition with no known limiting conditions.
- Escorts must be minimally qualified at the Single Resource Boss. Any deviation from this requirement must be approved by the IC.

Helicopter Observation Flights

Visitors who take helicopter flights to observe fires must receive a passenger briefing and meet the following requirements:

- **Required PPE:**
  - Flight helmet
  - Leather boots
  - Fire-resistant clothing
  - All leather or leather and aramid gloves

Occasional passengers/visitors have no training requirement, but a qualified flight manager must supervise loading and unloading of passengers.

Fixed-Wing Observation Flights

Required PPE

- No PPE is required for visitors and agency personnel who take fixed-wing flights to observe fires. However, a passenger briefing is required, and the flight level must not drop below 500 feet AGL.

SAFENET

SAFENET is a form, process, and method for reporting and resolving safety concerns encountered in any aspect (e.g., preparedness, training, etc.) of wildland fire or all risk incident management. The information provided on the form will provide important, safety-related data to the National Interagency Fire Center, and determine long-term trends and problem areas.

The objectives of the form and process are:

- To provide immediate reporting and correction of unsafe situations or close calls in wildland fire.
- To provide a means of sharing safety information throughout the fire community.
- To provide long-term data that will assist in identifying trends.
- Primarily intended for wildland and prescribed fire situations, however, SAFENET can be used for training and all-risk events.

Individuals who observe or who are involved in an unsafe situation shall initiate corrective actions if possible, and then report the occurrence using SAFENET. You are encouraged, but not required, to put your name on the report.

Prompt replies to the originator (if name provided), timely action to correct the problem, and discussion of filed SAFENETs at local level meetings encourage program participation and active reporting.

SAFENET is not the only way to correct a safety-related concern and it does not replace accident reporting or any other valid agency reporting method. It is an efficient way to report a safety concern. It is also a way for front line firefighters to be involved in the daily job of being safe and keeping others safe, by documenting and helping to resolve safety issues. SAFENETs may be filed:

- electronically at http://safenet.nifc.gov
- postage paid mail-in form (PMS 405-2, NFES 2633)
- verbally by telephone at 1-888-670-3938.

Appendix H contains the SAFENET form.

Accident/Injury Reporting

The Occupational Safety and Health Administration (OSHA) mandate that all accidents and injuries be reported in a timely manner. This is important for the following reasons:

- To protect and compensate employees for incidents that occur on-the-job.
- To assist supervisors and safety managers in taking corrective actions and establish safer work procedures.
- To determine if administrative controls or personal protective equipment are needed to prevent a future incident of the same or similar type.
- To provide a means for trend analysis.

Employees are required to immediately report to their supervisor every job-related accident or incident. Managers and supervisors shall ensure that an appropriate level of investigation is conducted for each incident and record all personal injuries and property damage. Reporting is the responsibility of the injured employee's home unit regardless of where the accident or injury occurred. Coordinate with your human resources office or administrative personnel to complete appropriate Officer of Worker's Compensation (OWCP) forms.

- DOI employees will report accidents using the Safety Management Information System (SMIS) at www.smis.doi.gov within six working days of the incident.
- Forest Service employees will use the Safety and Health Information Portal System (SHIPS) through the Forest Service Dashboard at https://asp.talx.com/dashboard/usdafs/ within six working days of the incident.

Critical Incident Management

The National Wildfire Coordinating Group has published the *Agency Administrator's Guide to Critical Incident Management (PMS 926, NFES 1356).* The guide is a series of subject-area checklists designed to be reviewed in detail

before a critical incident occurs, during the actual management of the incident, and after the incident has taken place. It is a compilation of lessons learned and suggestions that are designed to assist an Agency Administrator in the management of a critical incident. The guide is not intended to replace local emergency plans or other specific guidance that may be available, but should be used in conjunction with existing SOPs. It is available through the Publications Management System, National Interagency Fire Center.

Chapter 07
Interagency Coordination & Cooperation

Introduction

Fire management planning, preparedness, prevention, suppression, fire use, restoration and rehabilitation, monitoring, research, and education will be conducted on an interagency basis with the involvement of cooperators and partners. The same capabilities used in wildland fire management will also be used, when appropriate and authorized, on non-fire incidents in the United States and on both wildland fires and non-fire incidents internationally.

National Wildland Fire Cooperative Agreements

USDOI and USDA Interagency Agreement for Fire Management

The objectives of the *Interagency Agreement for Fire Management Between the Bureau of Land Management (BLM), Bureau of Indian Affairs (BIA), National Park Service (NPS), Fish and Wildlife Service (FWS) of the United States Department of the Interior (DOI) and the Forest Service (FS) of the United States Department of Agriculture* are:

- To provide a basis for cooperation among the agencies on all aspects of wildland fire management and as authorized in non-fire emergencies.
- To facilitate the exchange of personnel, equipment (including aircraft), supplies, services, and funds among the agencies.

DOI, USDA, and DOD Interagency Agreement

The purpose of the *Interagency Agreement for the Provision of Temporary Support During Wildland Firefighting Operations among the United States Department of the Interior, the United States Department of Agriculture, and the United States Department of Defense* is

- To establish the general guidelines, terms and conditions under which NIFC will request and DoD will provide temporary support to NIFC in wildland fire emergencies occurring within all 50 States, the District of Columbia, and all U.S. Territories and Possessions, including fires on States and private lands. It is also intended to provide the basis for reimbursement of DoD under the Economy Act.

These and other agreements pertinent to interagency wildland fire management can be found in their entirety in the *National Interagency Mobilization Guide* (NFES #2092).

National Wildland Fire Oversight Structure

Wildland Fire Leadership Council (WFLC)

The Council is a cooperative, interagency organization dedicated to achieving consistent implementation of the goals, actions, and policies in the National Fire Plan and the Federal Wildland Fire Management Policy. The Council provides

leadership and oversight to ensure policy coordination, accountability and effective implementation of the National Fire Plan and the Federal Wildland Fire Management Policy.

The Council consists of the Department of Agriculture's Undersecretary for Natural Resources and the Environment and the Chief of the U.S. Forest Service, the Department of the Interior's Directors of the National Park Service, the Fish and Wildlife Service, and the Bureau of Land Management, the Assistant Secretary of Indian Affairs and the Chief of Staff to the Secretary of the Interior. Staffing the Council will be coordinated by the Department of Agriculture's Office of Fire and Aviation Management and the Department of the Interior's Office of Wildland Fire Coordination.

Office of Wildland Fire Coordination (OWFC)

The Office of Wildland Fire Coordination (OWFC) is a Department of Interior organization responsible for managing, coordinating and overseeing the Department’s wildland fire management programs and policies. They include: smoke management, preparedness, suppression, emergency stabilization and rehabilitation, rural fire assistance, prevention, biomass, hazardous fuels, budget and financial initiatives, and information technology. The OWFC also coordinates with interagency partners including government and non-government groups.

The National Fire and Aviation Executive Board (NFAEB)

The National Fire and Aviation Executive Board (NFAEB) is a self-directed group comprised of the federal agency Fire Directors established to resolve wildland fire management issues common to its members. The board seeks to improve coordination and integration of federal fire and aviation programs, while recognizing individual agency missions. The Board focuses on issues currently impacting wildland fire management and provides a forum for better utilization of fire management resources.

National Wildfire Coordinating Group (NWCG)

The National Wildfire Coordinating Group (NWCG) is made up of the USDA Forest Service; four Department of the Interior agencies: Bureau of Land Management (BLM), National Park Service (NPS), Bureau of Indian Affairs (BIA), and the Fish and Wildlife Service (FWS); and State forestry agencies through the National Association of State Foresters. The purpose of NWCG is to coordinate programs of the participating wildfire management agencies so as to avoid wasteful duplication and to provide a means of constructively working together. Its goal is to provide more effective execution of each agency’s fire management program. The group provides a formalized system to agree upon standards of training, equipment, qualifications, and other operational functions.

Multi-Agency Management and Coordination

National Multi-Agency Coordinating Group

National multi-agency coordination is overseen by the National Multi-Agency Coordination (NMAC) Group, which consists of one representative each from the following agencies: Bureau of Land Management (BLM), Fish and Wildlife Service (FWS), National Park Service (NPS), Bureau of Indian Affairs (BIA), Forest Service (FS), National Association of State Foresters (NASF), and the Federal Emergency Management Agency – United States Fire Administration (FEMA-USFA), who have been delegated authority by their respective agency directors to manage wildland fire operations on a national scale when fire management resource shortages are probable. The delegated authorities include:

- Provide oversight of general business practices between the National Multi-Agency Coordination (NMAC) group and the Geographic Area Multi-Agency Coordination (GMAC) groups.
- Establish priorities among geographic areas.
- Direct, control, allocate and reallocate resources among or between geographic areas to meet NMAC priorities.
- Implement decisions of the NMAC.

Geographic Area Coordinating Groups

Geographic area multi-agency coordination is overseen by Geographic Area Multi-Agency Coordinating (GMAC) Groups, which are comprised of geographic area (State, Region) lead administrators or fire managers from agencies that have jurisdictional or support responsibilities, or that may be significantly impacted by resource commitments. GMAC responsibilities include:

- Establish priorities for the geographic area.
- Acquire, allocate, and reallocate resources.
- Issue coordinated and collective situation status reports.

Sub-Geographic/Local Area Multi-Agency Coordinating Groups

Sub-geographic or local area multi-agency coordination is overseen by Sub-Geographic/Local Area Multi-Agency Coordinating Groups, which are comprised of local area lead administrators or fire managers from agencies that have jurisdictional or support responsibilities, or that may be significantly impacted by resource commitments. Local MAC responsibilities include:

- Establish priorities for the local area.
- Acquire, allocate, and reallocate resources.
- Issue coordinated and collective situation status reports.

For additional information on MAC Groups see Chapter 11 of this book, Chapter 30 of the *National Interagency Mobilization Guide* or pertinent Geographic Area mobilization guides.

National Dispatch/Coordination System

The wildland fire dispatch system in the United States has three levels (tiers):

- National
- Geographic
- Local

Logistical dispatch operations occur at all three levels, while initial attack dispatch operations occur primarily at the local level. Any geographic area or local dispatch center using a dispatch system outside the three-tier system must justify why a non-standard system is being used.

The National Interagency Mobilization Guide, which is revised annually, describes interagency mobilization and dispatch procedures at all levels. All state/regional and local units without deviation will follow its directives.

- ***BLM -*** *Any geographic area or local dispatch center using a dispatch structure outside the approved three-tier system must annually request written authorization from the Director, Office of Fire and Aviation.*
- ***FS -*** *Any geographic area or local dispatch center using a dispatch structure outside the approved three-tier system must annually request written authorization from the Forest Service Regional Director of Fire and Aviation.*

National Interagency Coordination Center (NICC)

The National Interagency Coordination Center (NICC) is located at the National Interagency Fire Center (NIFC), Boise, Idaho. The principal mission of the NICC is the cost-effective and timely coordination of land management agency emergency response for wildland fire at the national level. This is accomplished through planning, situation monitoring, and expediting resources orders between the Bureau of Indian Affairs (BIA) Areas, Bureau of Land Management (BLM) States, National Association of State Foresters (NASF), Fish and Wildlife Service (FWS) Regions, Forest Service (FS) Regions, National Park Service (NPS) Regions, National Weather Service (NWS) Regions, Federal Emergency Management Agency (FEMA) Regions through the United States Fire Administration (USFA), and other cooperating agencies.

NICC works with Geographic Area Coordination Centers (GACCs), as well as with other countries (e.g. Canada and Mexico). NICC coordinators also interact with the directors of fire and aviation programs, as well as with the national MAC Group.

NICC supports non-fire emergencies when tasked by an appropriate agency, such as FEMA, through the National Response Plan. NICC collects and consolidates information from the GACCs and disseminates the *National Incident Management Situation Report* through the NICC website at http://www.nifc.gov/nicc/sitreprt.pdf

Geographic Area Coordination Centers (GACCs)

There are 11 GACCs, each of which serves a specific geographic portion of the United States. Each GACC interacts with the local dispatch centers, as well as with NICC and neighboring GACCs. Refer to the *National Interagency Mobilization Guide* for a complete directory of GACC locations, addresses, and personnel.

The principal mission of each GACC is to provide the cost-effective and timely coordination of emergency response for all incidents within the specified geographic area. GACCs are also responsible for determining needs, coordinating priorities, and facilitating the mobilization of resources from their areas to other geographic areas.

Each GACC prepares an intelligence report that consolidates fire and resource status information received from each of the local dispatch centers in its area. This report is sent to NICC and to the local dispatch centers, caches, and agency managers in the geographic area.

Local Dispatch Centers

Local dispatch centers, are located throughout the country as dictated by the needs of fire management agencies. The principal mission of a local dispatch center is to provide safe, timely, and cost-effective coordination of emergency response for all incidents within its specified geographic area. This most often entails the coordination of initial attack responses and the ordering of additional resources when fires escape initial attack.

Local dispatch centers are also responsible for supplying intelligence information relating to fires and resource status to their GACC and to their agency managers and cooperators. Local dispatch centers may work for or with numerous agencies, but should only report to one GACC.

Some local dispatch centers are also tasked with law enforcement and agency administrative workloads for non-fire operations; if this is the case, a commensurate amount of funding and training should be provided by the benefiting activity to accompany the increased workload. If a non-wildland fire workload is generated by another agency operating in an interagency dispatch center, the agency generating the addition workload should offset this increased workload with additional funding or personnel.

Standards for Cooperative Agreements

Agreement Policy

Agreements will be comprised of two components: the actual agreement and an operations plan. The agreement will outline the authority and general responsibilities of each party and the operations plan will define the specific operating procedures.

Any agreement which obligates federal funds or commits anything of value must be signed by the appropriate warranted contracting officer. Specifications for funding responsibilities should include billing procedures and schedules for payment.

Any agreement that extends beyond a fiscal year must be made subject to the availability of funds. Any transfer of federal property must be in accordance with federal property management regulations.

All agreements must undergo periodic joint review; and, as appropriate, revision. The best general reference on agreements is *Partnership for Efficiency through Cooperative Agreements* by the NWCG.

Assistance in preparing agreements can be obtained from local or state office fire and/or procurement staff.

All appropriate agreements and operating plans will be provided to the servicing dispatch center. The authority to enter into interagency agreements is extensive.

- ***BLM -*** *BLM Manual 9200, Departmental Manual 620 DM, the Reciprocal Fire Protection Act, 42 U.S.C. 1856, and the Federal Wildland Fire Management Policy and Program Review.*
- ***FWS -*** *Service Manual, Departmental Manual 620 DM, and Reciprocal Fire Protection Act, 42U.S.C. 1856.*
- ***NPS -*** *Chapter 2, Federal Assistance and Interagency Agreements Guideline (DO-20), and the Departmental Manual 620 (DM-620). NPS-RM-18, Interagency Agreements, Release Number 1, 02/22/99.*
- ***FS -*** *FSM 1580, 5106.2 and FSH 1509.11.*

Elements of an Agreement

The following elements should be addressed in each agreement:

- The authorities appropriate for each party to enter in an agreement.
- The roles and responsibilities of each agency signing the agreement.
- An element addressing the cooperative roles of each participant in prevention, pre-suppression, suppression, fuels, and prescribed fire management operations.
- Reimbursements/Compensation - All mutually approved operations that require reimbursement and/or compensation will be identified and agreed to by all participating parties through a cost-share agreement. The mechanism and timing of the funding exchanges will be identified and agreed upon.
- Appropriation Limitations - Parties to this agreement are not obligated to make expenditures of funds or reimbursements of expenditures under terms of this agreement unless the Congress of the United States of America appropriates such funds for that purpose by the Counties of -

_____, by the Cities of _____, and/or the Governing Board of Fire Commissioners of_____.

- Liabilities/Waivers - Each party waives all claims against every other party for compensation for any loss, damage, personal injury, or death occurring as a consequence of the performance of this agreement unless gross negligence on any part of any party is determined.
- Termination Procedure - The agreement shall identify the duration of the agreement and cancellation procedures.
- A signature page identifying the names of the responsible officials should be included in the agreement.
- ***NPS*** *- Refer to DO-20 for detailed instructions and format for developing agreements.*

Annual Operating Plans (AOPs)

Each agreement shall be accompanied by an Annual Operating Plan, which shall be reviewed, updated, and approved prior to the fire season. The plan may be amended after a major incident as part of a joint debriefing and review.

- The plan shall contain detailed, specific procedures which will provide for safe, efficient, and effective operations.

Elements of an AOP

The following items shall be addressed in the operating plan:

- **Mutual Aid**
  The operating plan should address that there may be times when cooperators are involved in emergency operations and unable to provide mutual aid. In this case other cooperators may be contacted for assistance.
- **Command Structure**
  Unified command should be used, as appropriate, whenever multiple jurisdictions are involved, unless one or more parties request a single agency incident commander (IC). If there is a question about jurisdiction, fire managers should mutually decide and agree on the command structure as soon as they arrive on the fire; Agency Administrators should confirm this decision as soon as possible. Once this decision has been made, the incident organization in use should be relayed to all units on the incident as well as dispatch centers. In all cases, the identity of the IC must be made known to all fireline and support personnel.
- **Communications**
  Radios being used in wildland firefighting operations must be able to function in both wideband and narrowband mode. In mutual aid situations, a common designated radio frequency identified in the operating plan should be used for incident communications. All incident resources should utilize and monitor this frequency for incident information, tactical use, and changes in weather conditions or other emergency situations. In some cases, because of equipment availability/ capabilities, departments/agencies may have to use their own frequencies for tactical

operations, allowing the "common" frequency to be the link between departments. It is important that all department /agencies change to a single frequency or establish a common communications link as soon as practical. Clear text should be used. Avoid personal identifiers, such as names. This paragraph in the Annual Operating Plan shall meet Federal Communications Commission (FCC) requirements for documenting shared use of radio frequencies.

- **Distance/Boundaries**
  Responding and requesting parties should identify any mileage limitations from mutual boundaries where "mutual aid" is either pay or non-pay status. Also, for some fire departments, the mileage issue may not be one of initial attack "mutual aid," but of mutual assistance. In this situation, you may have the option to make it part of this agreement or identify it as a situation where the request would be made to the agency having jurisdiction, which would then dispatch the fire department.
- **Time/Duration**
  Responding and requesting parties should identify time limitations (usually 24 hours) for resources in a non-reimbursable status, and "rental rates" when the resources are in a reimbursable status. Use of geographic area interagency equipment rates is strongly encouraged.
- **Qualifications/Minimum Requirements**
  Agencies, under the National Interagency Incident Management System (NIIMS) concept, have agreed to accept cooperator's standards for fire personnel qualifications and equipment during initial attack. Once jurisdiction is clearly established, then the standards of the agency(s) with jurisdiction prevail. This direction may be found in the documents *NWCG Clarification of Qualifications Standards - Initial Attack 6/20/01*.
- **Reimbursement/Compensation**
  Compensation should be "standard" for all fire departments in the geographic area. The rates identified shall be used. Reimbursements should be negotiated on a case-by-case basis, as some fire departments may not expect full compensation, but only reimbursement for their actual costs. Vehicles and equipment operated under the federal excess property system will only be reimbursed for maintenance and operating costs.
- **Cooperation**
  The annual operating plan will be used to identify how the cooperators will share expertise, training, and information on items such as prevention, investigation, safety, and training.
- **Dispatch Center**
  Dispatch centers will ensure all resources know the name of the assigned IC and announce all changes in incident command. Geographic Area Mobilization Guides, Zone Mobilization Guides and Local Mobilization Guides should include this procedure as they are revised for each fire season.

Types of Agreements

National Interagency Agreements

The national agreement, which serves as an umbrella for interagency assistance among federal agencies is the Interagency Agreement Between the Bureau of Land Management, Bureau of Indian Affairs, National Park Service, Fish and Wildlife Service of the United States Department of the Interior, and the Forest Service of the United States Department of Agriculture. This and other national agreements give substantial latitude while providing a framework for the development of state and local agreements and operating plans.

Regional/State Interagency Agreements

Regional and state cooperative agreements shall be developed for mutual aid assistance. These agreements are essential to the fire management program. Concerns for area-wide scope should be addressed through these agreements.

Local Interagency Agreements

Local units are responsible for developing agreements or contracts with local agencies and fire departments to meet mutual needs for suppression and/or prescribed fire services.

Emergency Assistance

Approved, established interagency emergency assistance agreements are the appropriate and recommended way to provide emergency assistance. If no agreements are established, refer to your agency administrator to determine the authorities delegated to your agency to provide emergency assistance.

Contracts

Contracts may be used where they are the most cost-effective means of providing for protection commensurate with established standards. A contract, however, does not absolve an Agency Administrator of the responsibility for managing a fire program. The office's approved fire management plan must define the role of the contractor in the overall program.

Contracts should be developed and administered in accordance with federal acquisition regulations. In particular, a contract should specify conditions for abandonment of a fire in order to respond to a new call elsewhere.

Domestic Non-Wildland Fire Coordination and Cooperation

Homeland Security Act

The Homeland Security Act of 2002 (Public Law 107-296) established the Department of Homeland Security with the mandate and legal authority to protect the American people from the continuing threat of terrorism. In the act, Congress also assigned DHS as the primary focal point regarding natural and manmade crises and emergency planning.

Stafford Act Disaster Relief and Emergency Assistance

The Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288, as amended) establishes the programs and processes for the Federal Government to provide disaster and emergency assistance to States, local governments, tribal nations, individuals, and qualified private non-profit organizations. The provisions of the Stafford Act cover all hazards including natural disasters and terrorist events. In a major disaster or emergency as defined by the act, the President "may direct any Federal agency, with or without reimbursement, to utilize its authorities and the resources granted to it under Federal law (including personnel, equipment, supplies, facilities, and managerial, technical, and advisory services) in support of State and local assistance efforts."

Homeland Security Presidential Directive-5

HSPD-5, Management of Domestic Incidents, February 28, 2003, is intended to enhance the ability of the United States to manage domestic incidents by establishing a single, comprehensive national incident management system. HSPD-5 designates the Secretary of Homeland Security and the Principal Federal Official (PFO) for domestic incident management and empowers the Secretary to coordinate Federal resources used in response to or recovery from terrorist attacks, major disasters, or other emergencies in specific cases.

National Incident Management System (NIMS)

HSPD-5 directed that the DHS Secretary develop and administer a National Incident Management System (NIMS) to provide a consistent, nationwide approach for Federal, State, and local governments to work effectively and efficiently together to prepare for, respond to, and recover from domestic incidents, regardless of cause, size, or complexity. To provide for interoperability and compatibility among Federal, State, and local capabilities, the NIMS will include a core set of concept, principles, terminology, and technologies covering the incident command system: multi-agency coordination systems; unified command; training; identification and management of resources (including systems for classifying types of resources); qualifications and certification; and the collection, tracking, and reporting of incident information and incident resources.

National Response Plan

Federal disaster relief and emergency assistance are managed under the Department of Homeland Security/Emergency Preparedness and Response/Federal Emergency Management Agency (DHS/EPR/FEMA) using the National Response Plan (NRP). The NRP, using the NIMS, is an all-hazards plan that establishes a single, comprehensive framework for the management of domestic incidents. The NRP provides the structure and mechanisms for the coordination of Federal support to State, local, and tribal incident managers and for exercising direct Federal authorities and responsibilities.

Emergency Support Function (ESF) Annexes

The NRP includes 15 Emergency Support Function (ESF) Annexes, which are a component of the NRP that detail the mission, policies, structures, and responsibilities of Federal agencies for coordinating resource and programmatic support to the States, tribes, and other Federal agencies or other jurisdictions and entities during Incidents of National Significance. Each ESF Annex identifies the ESF coordinator and the primary and support agencies pertinent to the ESF. The primary agency serves as a Federal executive agent under the Federal Coordinating Officer to accomplish the ESF mission. Support agencies, when requested by the DHS or the designated ESF primary agency, are responsible for conducting operations using their own authorities, subject-matter experts, capabilities, or resources. USDA-FS is the coordinator and primary agency for ESF #4 – Firefighting. Other USDA-FS and DOI responsibilities are:

ESF Support Annex	USDA-FS Role	DOI Role
# 1 Transportation	Support	Support
# 2 Communications	Support	Support
# 3 Public Works and Engineering	Support	Support
# 4 Firefighting	Coord. & Primary	Support
# 5 Emergency Management	Support	Support
# 6 Mass Care, Housing, and Human Services	Support	Support
# 7 Resource Support	Support	
# 8 Public Health and Medical Services	Support	
# 9 Urban Search and Rescue	Support	
# 10 Oil and HazMat Response	Support	Support
# 11 Agriculture and Natural Resources		Primary
# 12 Energy		Support
# 13 Public Safety and Security	Support	Support
# 14 Long-term Community Recovery and Mitigation		Support
#15 External Affairs		Support

Non-Stafford Act Non-Wildland Fire Coordination and Cooperation

In an actual or potential Incident of National Significance that is not encompassed by the Stafford Act, the President may instruct a Federal department or agency, subject to any statutory limitations on the department or agency, to utilize the authorities and resources granted to it by Congress. In accordance with Homeland Security Presidential Directive-5, Federal departments and agencies are expected to provide their full and prompt cooperation, available resources, and support, and appropriate and consistent with their own responsibilities for protecting national security.

International Wildland Fire Coordination and Cooperation

U.S. - Mexico Cross Border Cooperation on Wildland Fires

In June of 1999, the Department of Interior and the Department of Agriculture signed a Wildfire Protection Agreement with Mexico. The agreement has two purposes:

- To enable wildfire protection resources originating in the territory of one country to cross the United States-Mexico border in order to suppress wildfires on the other side of the border within the zone of mutual assistance (10 miles/16 kilometers) in appropriate circumstances.
- To give authority for Mexican and U.S. fire management organizations to cooperate on other fire management activities outside the zone of mutual assistance.

National Operational Guidelines for this agreement are located in Chapter 40 of the *National Interagency Mobilization Guide*. These guidelines cover issues at the national level and also provide a template for those issues that need to be addressed in local operating plans. The local operating plans identify how the agreement will be implemented by the GACCs (and Zone Coordination Centers) that have dispatching responsibility on the border. The local operating plans will provide the standard operational procedures for wildfire suppression resources that could potentially cross the U.S. border into Mexico.

U.S. - Canada, Reciprocal Forest Firefighting Arrangement

Information about United States - Canada cross border support is located in Chapter 40 of the *National Interagency Mobilization Guide*. This chapter provides policy guidance, which was determined by an exchange of diplomatic notes between the U.S. and Canada in 1982. This chapter also provides operational guidelines for the Canada – U.S. Reciprocal Forest Fire Fighting Arrangement. These guidelines are updated yearly.

U.S. - Australia/New Zealand Wildland Fire Arrangement

Information about United States - Australia/New Zealand support is located in Chapter 40 of the *National Interagency Mobilization Guide*. This chapter provides a copy of the arrangements signed between the U.S. and the states of Australia and the country of New Zealand for support to one another during severe fire seasons. It also contains the Annual Operating Plan that provides more detail on the procedures, responsibilities, and requirements used during activation.

International Non-Wildland Fire Coordination and Cooperation

International Disasters Support

Federal wildland fire employees may be requested through the Forest Service, to support the U.S. Government's (USG) response to international disasters by serving on Disaster Assistance Response Teams (DARTs). A DART is the

operational equivalent of an ICS team used by the U.S. Agency for International Development's Office of Foreign Disaster Assistance (OFDA) to provide an on-the-ground operational capability at the site of an international disaster. Prior to being requested for a DART assignment, employees will have completed a weeklong DART training course covering information about:

- USG agencies charged with the responsibility to coordinate USG responses to international disaster.
- The purpose, organizational structure, and operational procedures of a DART.
- How the DART relates to other international organizations and countries during an assignment. Requests for these assignments are coordinated through the FS International Programs, Disaster Assistance Support Program (DASP).
- DART assignments should not be confused with technical exchange activities, which do not require DART training. More information about DARTs can be obtained at the FS International Program's website: http://www.fs.fed.us/global/aboutus/dasp/welcome.htm.

Chapter 08
Fire Management Planning

Policy

Every area with burnable vegetation must have an approved Fire Management Plan (FMP). FMPs are strategic plans that define a program to manage wildland and prescribed fires based on the area's approved Resource Management Plan. FMPs must provide for firefighter and public safety; include fire management strategies, tactics, and alternatives; address values to be protected and public health issues; and identify strategies to minimize suppression costs consistent with resource management objectives, activities of the area, and environmental laws and regulations.

Fire Management Plans must identify and integrate all wildland fire management and related activities within the context of approved Resource Management Plans. Wildland fire management goals and components must be coordinated across administrative boundaries on a landscape basis. FMPs must follow the interagency template approved by all agency directors on July 11, 2002.

FMPs should be reviewed annually and updated, as needed, to reflect current conditions, fire organizations, and planned fire management activities. The FMP is supplemented by operational plans, including but not limited to preparedness plans, preplanned dispatch plans, prescribed fire burn plans and prevention plans.

Operational Use of Fire Management Plans

Fire organizations responding to wildland fires must utilize the direction in FMPs to guide the fire management response. The Wildland Fire Situation Analysis (WFSA) and Wildland Fire Implementation Plan (WFIP), when prepared, must be based on the objectives, constraints and strategies identified in the FMP.

FMPs outline Fire Management Units (FMUs) which are the cornerstone for wildland fire planning. The FMU section of the FMP identifies for a specific geographic area the desired future conditions, objectives, standards, and guidelines, and the wildland fire management strategies that will be used to accomplish them. Fire management strategies include suppression strategies, opportunities for wildland fire use, needed fuels treatments, and any operational constraints (e.g., restrictions on the use of dozers or retardant).

FMPs also describe the various components of the fire management program and agency policies and procedures for addressing them irrespective of a specific FMU. These components include such items as safety, education and prevention, training, suppression strategies, wildland fire use, fuels management and rehabilitation.

Organization and Budget Formulation: Fire Program Analysis (FPA)

Fire Program Analysis is a performance-based, landscape scale interagency fire program planning and budgeting system. FPA is driven by land management objectives and will display the most cost-effective organization for any budget allocation. FPA is being developed in two phases. Phase 1, which covers the initial response to unplanned ignitions and wildland fire use, is currently being implemented. Phase 2, which covers extended response, large fire support, prevention, fuels management and rehabilitation is scheduled for implementation in 2008. Further information on FPA can be found at the following web site: http://www.fpa.nifc.gov.

Chapter 8
FWS Specific Fire Management Planning Information

Link to Redbook Chapter 8

08-1-4 U.S. Fish and Wildlife Service fire management planning is an integrated and complex activity incorporating interagency obligations, national and regional coordination, refuge operations, and resource management. It occurs within the overall National Wildlife Refuge System and National Fish Hatchery planning process and is much more efficient and effective if there is the requisite compliment of land/resource management plans completed and approved.

Regional Offices are responsible for coordinating unit, interagency and geographic fire management planning, within the Region. In addition the Regional Offices are responsible for establishing a formal review and approval process identifying who provides biological, technical, policy, fiscal review and how that review takes place.

National Environmental Policy Act Compliance - As required by the National Environmental Policy Act (NEPA), the Fish and Wildlife Service has procedures for assessing environmental effects of specific Service actions. For actions not categorically excluded, an Environmental Assessment (EA), and if necessary, an Environmental Impact Statement (EIS), is prepared before making any land use decision, including fire management actions. See the Service NEPA guidance in 30 AM 2-3, 550 FW 1-3, and Departmental procedures in 516 DM 1-6; or consult with the Regional Environmental (NEPA) Coordinator for details on the NEPA process.

Departmental Categorical Exclusions are listed in 516 DM 2, Appendix 1. These are actions that do not individually or cumulatively have a significant effect on the environment. Additional Service categorical exclusions are also included in the Departmental Manual in 516 DM 6, Appendix 1. If exceptions to categorical exclusions apply, under 516 DM 2, Appendix 2, the Department or Service categorical exclusions cannot be used. Categorical exclusions that may apply to the FWS wildland fire activities include:

- Personnel training, environmental interpretation, public safety efforts, and other educational activities, which do not involve new construction or major additions to existing facilities.
- Minor changes in existing master plans, comprehensive conservation plans, or operations, when no or minor effects are anticipated. Examples could include minor changes in the type and location of compatible public use activities and land management practices.
- The issuance of new or revised site, unit, or activity-specific management plans for public use, land use, or other management activities when only minor changes are planned. Examples include an amended public use plan or fire management plan.
- Fire management activities, including prevention and restoration measures, when conducted in accordance with Departmental and Service procedures.

- The use of prescribed burning for habitat improvement purposes, when conducted in accordance with local and State ordinances and laws.

The determination on whether a Fire Management Plan EA is needed is made at the field level with Regional Office consultation.

Other Legal Mandates - Other compliance requirements include Section 106 of the 1966 National Historic Preservation Act, Section 7 of the Endangered Species Act (as amended in 1973), Section 810 of the 1980 Alaska National Interest Land Conservation Act, and Section 118 of the Clean Air Act (as amended in 1990). Additional state and local compliance requirements may also exist.

Fire Management Plan - Every area with burnable vegetation must have an approved Fire Management Plan. Fire Management Plans must be consistent with firefighter and public safety, values to be protected, and land, natural, and cultural resource management plans, and must address public health issues. Fire Management Plans must address all potential wildland fire occurrences and may include the full range of wildland fire management actions. Fire Management Plans must be coordinated, reviewed, and approved by responsible agency administrators to ensure consistency with approved land management plans. At a minimum, Fire Management Plans will be reviewed by the Regional Fire Management Coordinator for concurrence and approved by the Regional Director. Refuges should review and/or revise Fire Management Plans at a minimum of 5-year intervals or when significant changes are proposed.

The Fire Management Plan is a strategic plan that defines a program to manage wild and prescribed fires and use wildland fire for resource benefits. The plan is supplemented by operational procedures such as preparedness, dispatch, prescribed fire, step-up, prevention, monitoring, and wildland fire implementation plans.

A unit that uses wildland fire to achieve resource benefits (wildland fire use) must include specific prescribed conditions in the Fire Management Plan. Prescriptive criteria that must be included covers quantifiable criteria as well as clearly written verbal guidance that states under what conditions the wildland fire will be managed to achieve the stated benefits or suppressed. The prescriptive criteria that must be addressed in the FMP are the following:

- Environmental and Fire Behavior – temperature, relative humidity, windspeed, wind direction, fuel moisture, ignition component, probability of ignition, flame length, rate of spread, spotting distance, and smoke duration and direction of movement, and at least one indicator of drought (e.g., 1000 hour time lag fuel moisture content, Keetch-Byram drought index, Palmer drought index, Emergency release component.
- Legal Limits - Include elements that ensure compliance with legal limits and constraints. These may include, but are not limited to air quality laws , threatened and endangered species protection, cultural resources protection, and mutual agreements and contingency plans.
- Geographic Limits. Spatial or geographic prescriptions <u>must</u> include the Maximum Manageable Area (MMA). These may include: acres (single or multiple fire

acreage), perimeter, percent of area, fire management unit, and ecosystem or sensitive resource(s) burned. Operationally, the MMA of a fire should be defined and approved by the line officer in a manner similar to a suppression action. The ultimate MMA will be defined in the Interagency Wildland Fire Implementation Plan for the specific incident.

- Administrative. In addition to prescription elements which specify the size of the fire and its behavior and effects, the workload requirements imposed from the management of the fire must be defined and met. All positions (overhead, logistics, equipment or aircraft) that will be required to manage the fire, will be identified in the Incident Action Plan.

08-1-14 Interagency Fire Management Plan Template - To facilitate transitioning between the old FWS Fire Management Plan outline and the Interagency Fire Management Plan Template a crosswalk guide was developed.

FIREBASE

FIREBASE is a Windows based system, which FWS designed, and uses to program and budget for all fire management needs. These include preparedness, prescribed fire and fuels management. Funds and staffing are allocated based on the fire workload history for each station. Suppression operations and emergency rehabilitation are both funded by the Department of the Interior Wildland Fire Operations account and expand and contract as necessary to meet the emergency workload.

Preparedness - Preparedness needs are forecast based on the historical wildland fire occurrence at each refuge with weather and fuel conditions factored in as well. Staffing, equipment and funds are projected to provide sufficient initial attack capability to successfully suppress 95% of the unplanned fires, which occur within the 97th percentile of the local Burn Index (measure of potential fire severity). This figure is known as Most Efficient Level. While this may seem like a complicated process it is mostly transparent to the refuge user. Staffing and budgets are not established at the levels necessary to suppress 100% of the unplanned wildland fires. No Federal wildland fire agency attempts to suppress 100% of their fires because the costs outweigh the resource benefits. Additionally, Congress has never appropriated 100% of the Service's projected MEL needs.

Preparedness is more than just the ability to initial attack fires. It also includes training, medical and job task related testing of personnel, planning, maintenance and acquisition of equipment and supplies, interagency coordination, statistical analysis, and everything else required before firefighters are ready to do their jobs.

Hazardous Fuels Reduction Operations - Hazardous fuels reduction operations include the application of prescribed fire to reduce unwanted fuel loads and the use of prescribed fire as a resource enhancement tool. FIREBASE includes particular emphasis on FWS prescribed fire activities and needs. It assists in determining the needed staffing and documents the support needs to safely and efficiently manage prescribed fire programs. Funding for the Hazardous Fuels subactivity actually comes from the same account as suppression operations. This approach was justified to give the Interior bureaus flexibility

in conducting prescribed fires and fuels management activities. This flexibility brings with it responsibility to carefully oversee the use of these funds in a manner strictly dedicated to fuels management activity. An annual fund target is established based on the project proposals submitted and approved in FIREBASE. Suppression Operations Wildland fire suppression operations are funded from the wildland fire operations account, formerly known as emergency suppression operations. While the total account is a finite appropriation, it is based on the average costs for suppression and rehabilitation for Interior bureaus over the previous 10 years. In practice, there is an open ended authority to expend suppression funds as needed to manage wildland fires, and in certain instances to temporarily increase staffing for extreme fire potential situations. The agency fire management plan dictates what kind of management actions will be taken and the Wildland Fire Situation Analysis gives specific direction for any particular major fire incident. Emergency rehabilitation also comes from the operations account. The use of these funds for rehabilitation is limited.

Chapter 09
Preparedness

Preparedness

Preparedness is the result of activities that are planned and implemented prior to wildland fire ignitions. Preparedness is a continuous process that includes developing and maintaining unit, state/regional, and national level firefighting infrastructure, predicting fire activity, hiring, training, equipping, and deploying firefighters, evaluating performance, correcting deficiencies, and improving overall operations. The preparedness process includes routine pre-season actions as well as incremental in-season actions conducted in response to increasing fire danger.

Preparedness actions are based on operational plans such as fire danger operating plans, which use information from decision support tools such as the National Fire Danger Rating System (NFDRS), the Canadian Forest Fire Danger Rating System (CFFDRS, used in interior Alaska), the Palmer Drought Index, live fuel moisture data, and other Predictive Services and National Weather Service products such as Monthly or Seasonal Wildland Fire Outlooks, Seasonal Climate Forecasts, Wildland Risk Analyses, and other established information sources.

Fire Danger Rating Operating Plan

A Fire Danger Rating Operating Plan is a fire danger applications guide for agency users at the local level. A Fire Danger Rating Operating Plan documents the establishment and management of the local unit fire weather station network and describes how fire danger ratings are applied to local unit fire management decisions. Fire danger rating operating plans may be packaged as either stand-alone documents or as part of a larger planning effort such as a fire management plan. Fire danger rating operating plans include, but are not limited to, the following minimum components:

- **Roles and Responsibilities**
  Defined for those responsible for maintenance and daily implementation of the plan, program management related to the plan, and associated training. Training for development of fire danger rating areas is available through NWCG-sponsored NFDRS courses.
- **Operational Procedures**
  This section establishes the procedures used to gather and process data in order to integrate fire danger rating information into decision processes. The network of fire weather stations whose observations are used to determine fire danger ratings is identified. Station maintenance schedules are defined as appropriate.

NFDRS offers several choices of fuel model and output to the user. Distinct selections of fuel model and index/component are appropriate for different management decisions (such as internal readiness or industrial and public restrictions). The choice of NFDRS fuel model and index or component used to determine fire danger ratings to support particular decisions is explained in this section.

NFDRS requires periodic management in order to produce appropriate results that are applied in a timely manner. Some daily observation variables (such as state of the weather, fuels wet flags) are entered manually. This procedure (often called "taking the weather") also initiates the calculation of daily and forecasted outputs in the Weather Information Management System (WIMS) and ensures data storage in the National Interagency Fire Management Integrated Database (NIFMID). These efforts are coordinated with the local National Weather Service fire weather meteorologists and Geographic Area Coordination Center (GACC) predictive services meteorologists to provide timely forecasted NFDRS outputs. Observed (afternoon) and forecasted (tomorrow) NFDRS outputs are communicated daily. Live fuel moisture model inputs (such as herbaceous vegetation stage, season code, greenness factor) are adjusted seasonally in WIMS (http://famweb.nwcg.gov/) at appropriate times. Decision points (such as percentiles discussed below) are determined in FireFamily Plus and reviewed and adjusted annually or more often as appropriate in WIMS and/or other fire danger platforms.

- **Fire Danger Rating Inventory**
  Identifies basic components of the operating plan such as dispatch response areas, protection units, administrative units, fire history, land management planning direction, standards and guidelines, etc; aggregates NFDRS fuel models, slope classes (topography), and weather/climatology into fire danger rating areas; validates the existing weather station network and identifies any additional stations to support fire danger rating needs.
- **Climatic Breakpoints and Fire Business Thresholds**
  Climatic breakpoints and fire business thresholds are used to define fire danger inputs for management decisions in each fire danger rating area or group of areas. Activities, events, and fire operations affected by fire danger are identified, and appropriate NFDRS components or indices are selected as decision guides. Historical analysis of fire weather data is used to identify climatic breakpoints for staffing level and adjective fire danger rating outputs.
  The Staffing Level is used to make daily internal fire operations decisions. A unit can operate with anywhere from 3 to 9 levels of staffing. Most units typically use 5 (1,2,3,4,5) or 6 (1,2,3L,3H,4,5). Staffing Level is a direct output of the danger rating processor and is based on one of the following:
  - NFDRS (Burning Index, Energy Release Component, Spread Component, or Ignition Component)

- Keetch-Byram Drought Index
- Additional Considerations:
  - Palmer Drought Index or other drought index
  - Live Fuel Moisture (calculated or sampled)
  - Canadian Forest Fire Danger Rating System
  - Soil Moisture

Adjective Fire Danger Rating

Adjective Fire Danger Rating (low, moderate, high, very high, extreme) is based on the NFDRS index or component used to compute staffing level and the ignition component. It is a general description of fire danger for the purpose of informing the public. Adjective ratings are computed automatically in the Weather Information Management System (WIMS) based on NFDRS parameters provided by local fire managers.

Climatic Breakpoints and Fire Business Thresholds

Climatic breakpoints and fire business thresholds are established to provide NFDRS-based decision points for all appropriate management responses. Climatological breakpoints are points on the cumulative distribution of one fire weather/fire danger index without regard to associated fire occurrence/ business. For example, the value of the 90th percentile ERC is the climatological breakpoint at which only 10 percent of the ERC values are greater in value. The percentiles for climatological breakpoints are predetermined by agency directive as shown below.

- ***BLM*** *- 80th and 95th percentiles*
- ***FWS*** *- 90th and 97th percentiles*
- ***NPS*** *- 90th and 97th percentiles*
- ***FS*** *- 90th and 97th percentiles*

It is equally important to identify the period or range of data analysis used to determine the agency percentiles, as well as what percentiles are used. The actual calculated percentile values for 12 months of data will be different from the percentile values for the fire season. Year round data should be used for percentiles for severity type decisions, and percentiles based on fire season data for staffing levels and adjective fire danger.

Fire business thresholds are values of one or more fire weather/fire danger indexes that have been statistically related to occurrence of fires (fire business). Generally the threshold is a value or range of values where historical fire activity has significantly increased or decreased.

Climatic breakpoints and fire business thresholds are developed with NFDRS software, such as FIREFAMILY PLUS, and are applied to appropriate NFDRS processors, such as WIMS, to determine daily staffing levels and adjective

ratings. Training for the FIREFAMILY PLUS program is available at local, regional, and national NFDRS courses. Applications for climatic breakpoints and fire business thresholds include:

- Public Information
- Public/Industrial Use Restrictions
- Staffing Levels
- Severity Requests
- Situational Awareness
- Predictive Services
- Fire Planning
- Pre-Positioning
- Dispatch Levels
- Fire Program Analysis (FPA)
- National Preparedness Levels
- Local Preparedness Levels
- Resource Allocation
- Resource Prioritization
- Rx Fire Complexity Analysis

Fire Danger Pocket Card for Firefighter Safety

The Fire Danger Pocket Card is used to communicate information on fire danger to firefighters. The prime objective of fire danger rating is to provide a measure of the seriousness of local burning conditions. The Pocket Card provides a visual reference of those conditions and how they compare to previous fire seasons. Pocket Cards are developed and implemented according to NWCG guidelines posted at http://famweb.nwcg.gov/pocketcards/. Fire Danger Pocket Cards are recommended at each local unit where weather data exists.

- ***BLM -*** *Fire Danger Pocket Cards are developed for and implemented at each local unit.*
- ***FS -*** *Forest Supervisors will develop and distribute Fire Danger Pocket Cards to each fireline supervisor.*

Preparedness Plan

Preparedness plans provide management direction given identified levels of burning conditions, fire activity, and resource commitment, and are required at national, state/regional, and local levels. Preparedness Levels (1-5) are determined by incremental measures of burning conditions, fire activity, and resource commitment. Fire danger rating is a critical measure of burning conditions. Refer to the *National Interagency Mobilization Guide* for more information on preparedness plans.

Preparedness Level/Step-up Plans

Preparedness Level/Step-up Plans are designed to direct incremental preparedness actions in response to increasing fire danger. Those actions are delineated by "staffing levels." Each Step-Up Plan should address the five preparedness levels (1, 2, 3, 4, and 5) and the corresponding planned actions that are intended to mitigate those fire danger conditions. Several assessment tools are available to measure fire danger.

Outputs from the fire danger rating operating plan process, such as staffing levels, are used to support the decisions found in staffing plans, step-up staffing plans, preparedness levels, dispatch response plans, dispatch response levels, etc. Increasing fire danger results in increasing staffing levels, suggesting a corresponding increase in preparedness actions intended to mitigate those fire danger conditions.

The Staffing Plan describes escalating responses that are pre-approved in the fire management plan. Mitigating actions are designed to enhance the unit's fire management capability during short periods (one burning period, Fourth of July or other pre-identified events) where normal staffing cannot meet initial attack, prevention, or detection needs. The difference between preparedness level/step-up and severity is that preparedness level/step-up actions are established in the unit fire management plan, and implemented by the unit when those pre-identified conditions are experienced. Severity is a longer duration condition that cannot be adequately dealt with under normal staffing, such as a killing frost converting live fuel to dead fuel or drought conditions. Severity is discussed later in this chapter.

Mitigating actions identified in the fire management plan should include, but are not limited to, the following items:

- Management direction and considerations
- Fire prevention actions, including closures/restrictions, media messages, signing, and patrolling
- Prepositioning suppression resources
- Cooperator discussion and/or involvement
- Safety considerations: safety message, safety officer
- Augmentation of suppression forces
- Support function: consideration given to expanded dispatch activation, initial attack dispatch staffing, and other support needs (procurement, supply, ground support, and communication)
- Support staff availability outside of fire organization
- Communication of Fire Weather Watch and Red Flag Warning conditions
- Fire danger/behavior assessment
- Briefings for management and fire suppression personnel
- Fire information - internal and external
- Multi-agency coordination groups/area command activation

- Prescribed fire direction and considerations
- Increased detection activities

Seasonal Risk Analysis

A Seasonal Risk Analysis requires fire managers to review current and predicted weather and fuels information, compare this information with historic weather and fuels records, and predict the upcoming fire season's severity and duration for any given area. It is important to incorporate drought indices into this assessment.

Information from a Seasonal Risk Analysis can be used to modify the AOP, step-up and pre-attack plans. It provides the basis for actions such as prepositioning critical resources, requesting additional funding, or modifying Memoranda of Understanding (MOU) to meet anticipated needs.

Each unit selects, and compares to normal, the current value and seasonal trend of one or more of the following indicators which are most useful in predicting fire season severity and duration in its area:

- NFDRS (or CFFDRS) index values (ERC, BI)
- Temperature levels
- Precipitation levels
- Humidity levels
- Palmer Drought or Standardized Precipitation Index
- 1000-hour fuel moisture (timber fuels)
- Vegetation moisture levels
- Live fuel moisture (brush fuels)
- Curing rate (grass fuels)
- Episodic wind events (moisture drying days)
- Unusual weather events (early severe frost)
- Fires to date

The seasonal trend of each selected indicator is graphically compared to normal and all-time worst. This comparison is updated regularly and posted in dispatch and crew areas.

If the Seasonal Risk Analysis suggests that an abnormal fire season might be anticipated, a unit should notify the state/regional office and request additional resources commensurate with the escalated risk.

Seasonal Risk Analyses are prepared, issued, and updated each year by GACC Predictive Service Units. Seasonal Assessment Workshops are conducted to facilitate these seasonal outlook reports. Local risk analyses should be compiled at the state/regional office to determine the predicted fire season severity within the state/region, and then forwarded to the respective national office for use in

determining national fire preparedness needs. Risk analysis is ongoing. It should be reviewed periodically and revised when significant changes in key indicators occur. All reviews of seasonal risk analysis, even if no changes are made, should be documented.

FIRE SEVERITY FUNDING

Definition

Fire severity funding is the authorized use of suppression operations funds (normally used exclusively for suppression operations, and distinct from preparedness funds) for extraordinary preparedness activities that are required due to an abnormal increase in fire potential or danger, or to fire seasons that either start earlier or last longer than planned in the fire management plan. The fire danger rating operating plan or annual operating plan should identify thresholds for identifying the need for severity resources.

Objective

The objective of fire severity funding is to mitigate losses by improving suppression response capability when there is 1) potential for abnormally severe fire behavior, or 2) fire occurrence outside of the normal fire season. When either of these conditions exist, and when suppression resources that were acquired through the approved fire planning process (e.g. NFMAS, IIAA, FPA) are insufficient to meet the extraordinary need, suppression resources may be requested through the severity funding process. Fire severity funding is not intended to raise preparedness funding levels to cover differences that may exist between funds actually appropriated (including rescissions) and those identified in the fire planning process.

Typical Uses

Severity funds are typically used to:

- Increase prevention activities
- Temporarily increase firefighting staffing
- Pay for standby
- Preposition initial attack suppression forces
- Provide additional aerial reconnaissance
- Provide for standby aircraft availability

Authorization

Authorization to use severity funding is provided in writing based on a written request with supporting documentation. Specific information required in the request is outlined below. Authorization is on a project by project basis and comes with a severity cost code. Agencies will follow their administrative procedures for issuing severity cost codes. Authorization is provided for a maximum of thirty days per request; however, regardless of the length of the

authorization, use of severity funding must be terminated when abnormal conditions no longer exist. If the fire severity situation extends beyond the thirty day authorization, the unit must submit a request for extension with supporting documentation or prepare a new severity request.

State/Regional Level Severity Funding

Each fiscal year the national office will provide each state/region with $100,000 and a severity cost code for state/regional short-term severity needs (e.g., wind events, cold dry front passage, lightning events, and unexpected events such as off road rallies that are expected to last less than one week). Expenditure of these funds is authorized by the state/regional directors at the written request of the Agency Administrator. State/regional directors are responsible and accountable for ensuring that these funds are used only to meet severity funding objectives and that amounts are not exceeded. The national office will notify the state/regional director, state/regional budget officer, and the state/regional FMO when the severity cost code is provided.

- ***FWS -*** *Short-term severity or "step-up" cost codes are established yearly (at the Regional level) as PE01, PE02, etc (numeric value indicates the specific region utilizing short-term severity funding).*
- ***NPS -*** *Parks have the authority to approve "Step-up" actions only, as defined in their fire management plan. Regional offices approve severity (long term - up to 30 days) for parks up to $100,000.*
- ***FS -*** *Forest Service severity funding direction is found in FSM 5190.*

National Level Severity Funding

National Agency Fire Directors or their delegates are authorized to allocate fire severity funding under specific conditions stated or referenced in this chapter. Expenditure of these funds is authorized by the appropriate approving official at the written request of the state/regional director. Approved severity funding will be used only for the preparedness activities and timeframes specifically outlined in the authorization, and only for the objectives stated above.

- ***NPS*** *– National office approves all requests over $100,000.*

Appropriate Fire Severity Funding Charges

Labor

Appropriate labor charges include:

- Regular pay for non-fire personnel
- Regular pay for seasonal/temporary fire personnel outside their normal fire funded activation period
- Overtime pay for all fire and non-fire personnel
- Severity funded personnel and resources must be available for immediate initial attack regardless of the daily task assignment

- Severity funded personnel and resources will not use a severity cost code while assigned to wildfires. The wildfire firecode number will be used.
- Overtime pay for severity funded personnel will be paid by severity funds, unless the personnel are assigned to a wildfire.

Vehicles and Equipment

Appropriate vehicle and equipment charges include GSA rental and mileage, agency-owned use rate, and commercial rentals and contracts.

- ***FWS –*** *Repair and maintenance of Fish and Wildlife vehicles and equipment; FWS does not have a Use Rate covering these charges.*

Aviation

This includes:

- Contract extensions
- The daily minimum for call when needed (CWN) aircraft
- Preposition flight time
- Support expenses necessary for severity funded aircraft (facility rentals, utilities, telephones, etc.)

Travel and Per Diem

Severity funded personnel in travel status are fully subsisted by the government in accordance with their agency regulations. Costs covered include:

- Lodging
- Government provided meals (in lieu of per diem)
- Airfare (including returning to their home base)
- Privately owned vehicle mileage (with prior approval)
- Other miscellaneous travel and per diem expenses associated with the assignment

Appropriate Fire Severity Funding Charges - Prevention Activities

These include:

- Funding Prevention Teams (Preventions teams will be mobilized as referred in the *National Mobilization Guide*, Chapter 20)
- Implementing local prevention campaigns, to include community risk assessment, mitigation planning, outreach and education
- Augmenting patrols
- Note: Non-fire funded prevention team members should charge base 8 and overtime to the severity cost code for the length of the prevention activities assignment. Fire funded personnel should charge overtime only to the severity cost code for the length of the prevention activities assignment.

Inappropriate Fire Severity Funding Charges

- To cover differences that may exist between funds actually appropriated (including rescissions) and those identified in the fire planning process
- Administrative surcharges, indirect costs, fringe benefits
- Equipment purchases
- Purchase, maintenance, repair, or upgrade of vehicles
- Purchase of radios
- Purchase of telephones
- Purchase of pumps, saws, and similar suppression equipment
- Aircraft availability during contract period
- Cache supplies which are normally available in fire caches

Emergency Equipment Rental Agreements

Emergency Equipment Rental Agreements (EERAs) are used during emergency incidents under authorities that allow for direct, non-competitive ordering using established procedures in the event of immediate threat to life and property. EERAs will not be used for non-emergency activities, including severity activities, rehabilitation projects, and hazardous fuels projects.

Interagency Requests

Agencies working cooperatively in the same geographic area should work together to generate and submit joint requests, and to utilize severity funded resources in an interagency manner. However, each agency should request funds only for its own agency specific needs. The joint request should be routed simultaneously through each agency's approval system, and the respective approving official will issue an authorization that specifies allocations by agency.

Requesting Fire Severity Funding

Fire severity funding requests should be submitted on the Interagency Severity Funding Request Form (Appendix GG), which includes a Cost Estimation Worksheet. The completed and signed request is submitted from the state/regional director to the appropriate approving official as per the sequence of action outlined below. Authorizations will be returned in writing. Modifications and extensions of existing requests should be made through the same process.

Sequence of Action and Responsible Parties for Severity Funding Requests

Action	Responsible Party
Identify and develop severity funding request.	Unit FMO
Review, modify, and approve (or reject) request. Forward to state/regional office.	Unit Agency Administrator
Review, modify, and approve (or reject) unit request. Add state/regional needs or consolidate with separate state/regional request (up to approved budget limit). Forward to state/regional director for approval within 48 hours.	State/Regional FMO
Review, modify, and approve (or reject) request. Forward to the appropriate National Fire Director/approving official within 48 hours. Notify the fire budget staff.	State/Regional Director
Review, modify, and approve (or reject) the request within 48 hours. Issue written authorization with a severity cost code.	Appropriate National Fire Director/Approving Official
Establish severity cost code in the appropriate finance system within 24 hours.	Applicable National Finance System
Notify unit office(s) and state/regional budget lead upon receipt of authorization.	State/Regional FMO
Execute severity cost code. Ensure that project expenditures are only used for authorized purposes.	Unit Office
Maintain severity files, including requests, authorizations, and summary of expenditures and activities.	Unit/State/Regional/ National Offices

Labor Cost Coding For Severity Funded Personnel

Fire personnel outside their normal activation period, employees whose regular salary is not fire funded by preparedness and Administratively Determined (AD) employees hired under an approved severity request should charge regular time and approved non-fire overtime to the severity suppression operations subactivity and the requesting office's severity cost code.

Fire funded personnel should charge their regular planned salary (base-eight) to preparedness using their home unit's location code. Overtime associated with the severity request should be charged to the severity suppression operations subactivity and the requesting office's severity cost code.

Regular hours worked in suppression operations will require the use of the appropriate fire subactivity with the appropriate firecode number. Overtime in

fire suppression operations will be charged to the suppression operations subactivity with the appropriate firecode number.

Employees from non-federal agencies should charge their time in accordance with the approved severity request and the appropriate local and statewide agreements. A task order for reimbursement will have to be established and is authorized under the Interagency Agreement for Fire Management.

- ***FS -*** *Labor Cost Coding. Forest Service severity funding direction in FSM 5190 provides agency specific direction.*

Documentation

The state/regional and national office will document and file accurate records of severity funding activity. This will include complete severity funding requests, written authorizations, and expenditure records.

Severity Funding Audits

State/regional and national offices should ensure appropriate usage of severity funding and expenditures. This may be done as part of their normal agency fire program review cycle. The severity funding audit checklist may be used as a guide for this process. Interagency Preparedness Review checklists can be found at: http://www.nifc.gov/references/prep_review.html

- ***BLM -*** *Severity funding is not a reviewed item of the BLM national Preparedness Review. BLM Preparedness Review Checklists can be found at: http://www.fire.blm.gov/Standards/FIRE_AVIATION_PREPAREDNESS_REVIEW_GUIDE.htm*

Fire Prevention/Mitigation

Wildland Fire Cause Determination & Fire Trespass

Agency policy requires any wildfire to be investigated to determine cause, origin, and responsibility.

For all human-caused fires where the guilty party has been determined, actions must be taken to recover the cost of suppression activities, land rehabilitation, and damages to the resources and improvements.

Wildland Fire Mitigation and Prevention

Fire programs are required to fund and implement unit level Fire Prevention Plans by completing a wildland mitigation/prevention assessment. The purpose of this is to reduce undesirable human caused ignitions, to reduce damages and losses caused by unwanted wildland fires, and to reduce the suppression costs of wildland fires. Wildland fire mitigation/prevention programs based on the Risk Assessment and Mitigation Strategies (RAMS) process can reduce damages and losses during periods of average weather, fuels, and human activity. As weather

and fuel conditions move from average to above average or severe, and/or human activity increases, mitigation and prevention activities must be strengthened to maintain effectiveness.

Prevention includes education (sign posting plans, school programs, radio and news releases, recreation contacts, local business contacts, exhibits), industrial program monitoring (timber, mining, power line maintenance operations), reconnaissance patrols, and other activities to prevent and mitigate wildfire damage and loss.

- ***NPS -*** *Only units that experience more than an average 26 human caused fires per ten-year period are required to develop a fire prevention plan, based upon a prevention analysis such as RAMS; however, use of this software is not required.*
- ***FS -*** *Forest Service direction for wildland prevention and investigation is found in FSM 5110 and 5300.*

Mobilization Guide

The National Interagency Coordination Center (NICC) at the National Interagency Fire Center (NIFC) is responsible for cost-effective and timely coordination of national emergency response for wildland fire suppression. This is accomplished through planning, situation monitoring, and expediting resource orders between the federal wildland fire agencies and their cooperators.

The *National Interagency Mobilization Guide* contains standard procedures that guide the operations of multi-agency logistical support activity throughout the coordination system. It is designed to accommodate amendments as needed, and will be retained as current material until amended. Local mobilization guides should be used to supplement the *National Interagency Mobilization Guide.*

Geographic areas will provide NICC with two copies of their mobilization guides and will provide amendments as issued. Local mobilization guides should be prepared on an interagency basis. Local units will provide their geographic area coordination center with two copies of their mobilization guide or dispatch plan and amendments as issued.

Chapter 9
FWS Specific Preparedness Information

Link to Redbook Chapter 9

9-1-4 Preparedness - The Program Preparedness component of Wildland Fire Management involves the process of planning and implementing activities prior to wildland fire ignitions. This process includes actions which are completed on a routine basis prior to each fire season as well as incremental actions conducted in response to increasing fire danger.

9-4-33 Preparedness Plan

9-5-1 Preparedness Level/Step-up Plans - Step-up Plans are developed for information in the Fire Danger Rating Operating Plan (See Chapter 9.B.). For Servicewide planning, the burning index (BI) will be the standard for making comparisons, etc. Another fire danger index other than the BI can be used if there is sufficient justification. All proposed indexes must be based on objective historic weather data appropriate for each refuge. The same staffing class percentile levels will be used (90th and 97th percentile breakpoints). Regional approval is needed for making the change.

Sample Step-up Plan - The Step-up Plan should consider the following elements:

- Personnel and personnel qualifications needed for each level. This would include initial attack, detection, and monitoring.
- Provisions for fire prevention and detection at high levels 4 and 5.
- Minimum initial attack response time criteria, numbers and types of equipment and personnel.
- If and when 7-day staffing is instituted.
- Daily tours of duty for personnel involved with suppression activities.
- Provisions for public safety.

Step-up Plan Funding - Subactivity 9141: Emergency Preparedness - Emergency preparedness actions carried out in response to an approved Step-Up Plan. During the wildland fire season there may be short-term weather events and increased human activity that increase the fire danger beyond what is normal. These types of occurrences cannot be planned or budgeted for as part of the normal fire season. Emergency preparedness planning may call for movement of additional firefighting resources into the area or lengthening the duty day to provide extended initial attack coverage. The duration of this type of event may be from one day to a maximum of two weeks, and may occur several times during the fire season. The triggering of emergency preparedness funding is documented in the refuge Step-Up Plan. It should be not be confused with severity funding which is justified by prolonged environmental problems. The decision to use emergency preparedness funds is made at the refuge level with approval of the Regional Fire Management Coordinator. Authorization for use of emergency preparedness funding will be found in an approved refuge Step-Up Plan when staffing classes reach level 4 or 5. If a refuge Step-Up Plan is not complete, the RFMC will establish interim guidance for initiating emergency preparedness. The frequency and use of emergency preparedness funding will be documented through the use of the following Region specific project numbers:

Region	Project Number
1	PE01
2	PE02
3	PE03
4	PE04
5	PE05
6	PE06
7	PE07
8	PE08

Appropriate Expenditures:

- Regular time for other than 9141 personnel, overtime and hazard or environmental premium pay for all personnel engaged in wildland fire management actions or support for these actions, or personnel involved in Step-Up Plan activities.
- Travel and transportation costs associated with Positioning initial attack personnel, organized crews, overhead teams and aircraft in response to an approved Step-Up Plan, and transportation of associated equipment and supplies.
- Emergency equipment leases/contracts to meet Step-Up Plan needs.
- Aircraft costs to meet Step-Up Plan needs.

Prohibited Uses: All other uses of 9141 Emergency Preparedness Funding are considered prohibited unless specific approval is received from the Branch of Fire Management.

9-12-29 Wildland Fire Cause Determination & Fire Trespass

Wildland fire trespass refers to the occurrence of unwanted and unplanned wildland fire on Fish and Wildlife Service (Service) lands where the source of ignition is tied to some type of human activity. Fire trespass is a legal/law enforcement activity and the appropriate Service and local law enforcement authorities should be contacted and standard criminal and/or civil investigative procedures and reports used. See the US Fish and Wildlife Service Fire Trespass Handbook for details.

Cause Determination - All fires must be thoroughly investigated (see Chapter 19.E.) to determine cause and whether negligence and/or criminal intent were factors. Cause determination must begin as soon as possible, since evidence is easily destroyed. Whether a fire is a natural start or human-caused must be determined in order to develop a successful fire investigation. The initial determination of the ignition as being human-caused usually results from an eyewitness report or with the arrival of the Initial Attack Incident Commander at the fire scene. If not, a trained fire investigator may be needed. It is important to protect the ignition site from disturbance to preserve any evidence and document all relevant information discovered.

Trespass Action Determination - Based upon investigation information and staff recommendations, a decision to pursue fire trespass is made and an case file initiated to document the case. If the status of the case changes at a later date, the investigative file

documentation should be amended to document the change(s). Information from the investigation will indicate whether to take criminal or civil action and cost recovery.

Cost Determination - All costs associated with a fire are to be determined by a qualified specialist who can assess damages and complete a damage appraisal report to accompany the fire trespass case.

- Suppression Costs
- Resource Damages
  - Emergency Stabilization (9142)
  - Burned Area Rehabilitation (9262)
  - Fire Suppression Damage Repair (9141)
- Major Facility Damages
- Other fire related costs
- Administrative/indirect costs include centralized data management, general administration, and other support functions performed jointly for which the amounts pertaining to specific fires cannot be determined accurately.

Collection - A Bill for Collection along with a billing document to report the debt as an accounts receivable is prepared by the collections staff at the local unit. The Bill for Collection should be itemized by major categories, such as Suppression, Rehabilitation, Damages, etc. A fire cost summary, which is a breakdown of major categories (personnel, equipment, aviation costs, retardant, etc.), and FMIS reports should be included as backup for the Bill for Collection.

9-12-37 Wildland Fire Mitigation/Prevention

Information on risk assessments and planning.
Risk Assessment and Mitigation Strategies
PMS 451 Wildfire Prevention Marketing Guide (1996)
PMS 452 Wildfire Prevention Event Management Guide (1996)
PMS 454 Wildfire Prevention and the Media (1998)
PMS 456 Wildfire Prevention Patrol Guide (1998)
PMS 457 Recreation Area Fire Prevention (1999)
PMS 458 Fire Communication and Education (1999)
PMS 459 Fire Education Exhibits and Displays (1999)

Information Systems

A significant array of computer applications, which provide analysis and decision support for fire manager/resource manager. Numerous other computer applications exist which have merit and can be used by refuges, but are not supported by the national office.

Fish And Wildlife Service Fire Management Information System - The Fire Management Branch has established a time-sharing computer facility for refuges and Regions access FIREBASE and FIRE OCCURRENCE computer application. A User's Guide for the Fish and Wildlife Service Fire Management Information System and assistance for users of the system can be obtained from the Fire Management Branch.

Weather Information Management System (WIMS) is a comprehensive system that helps you manage weather information. WIMS is the host for the National Fire Danger Rating System (NFDRS). WIMS accesses the National Interagency Fire Management Integrated Database (NIFMID). NIFMID is a relational database that contains historic fire weather and historic fire record information. WIMS and NIFMID run on the IBM mainframe computer at the USDA National Information Technology Center in Kansas City, and are available on a twenty-four hour basis. WIMS allows you to retrieve weather information by providing timely access to many weather information sources, efficient tools for managing data, data manipulation and display functions, and interactive communications environment. System access is user specific and requires a user identification and password. A WIMS user guide is located on the Internet at http://famweb.nwcg.gov. For questions concerning WIMS access please call the WIMS help desk at NIFC (208) 387-5290.

Remote Automated Weather Stations (RAWS) - There are nearly 1,500 interagency Remote Automated Weather Stations (RAWS) strategically located throughout the United States – mostly in the Western states. These stations monitor the weather. Weather data assists land management agencies with a variety of projects – monitoring air quality, rating fire danger, and providing information for research applications. More information on RAWS is located on the Internet at www.fs.fed.us/raws. Most of the stations owned by the wildland fire agencies are placed in locations where they can monitor fire danger. RAWS units collect, store, and forward data to a computer system at the National Interagency Fire Center (NIFC) in Boise, Idaho via the Geo-stationary Operational Environmental Satellite (GOES). The data is automatically forwarded to several other computer systems including the Weather Information Management System (WIMS) and the Western Regional Climate Center in Reno, Nevada. Fire managers use the data to predict fire behavior and monitor fuels; resource managers also use the data to monitor environmental conditions. Locations of RAWS stations can be searched online courtesy of the Western Regional Climate Center at http://www.wrcc.dri.edu.

The Fire Effects Information System (FEIS) is a computerized encyclopedia of scientific information describing the fire ecology of more than 1,000 plan and animal species and plant communities. Access to FEIS is available through the Internet at http://www.fire.org/perl/tools.cgi.

The broad area component of the **Wildland Fire Assessment System** (WFAS-MAPS) is generating National Maps of selected fire weather and fire danger components of the National Fire Danger Rating System (NFDRS). NFDRS computations are based on once-daily, mid-afternoon observations (2 p.m. LST) from the Fire Weather Network that is comprised of some 1,500 weather stations throughout the Conterminous United States and Alaska. Observations are reported to the Weather Information Management System (WIMS) where they are processed by NFDRS algorithms. Many of the stations are seasonal and do not report during the off season. WFAS queries WIMS each afternoon and generates maps from the days weather observations. Each afternoon Fire Weather Forecasters from the National Weather Service also view these local observations and issue trend forecasts for fire weather forecast zones. WIMS processes these forecasts into next-day index forecasts. Additional information is located on the Internet at http://www.fs.fed.us/land/wfas.

The Incident Qualifications and Certification System (IQCS) is the official wildland and prescribed fire system or record and serves as the official repository of incident management positions performance standards and their respective qualifications and certification requirements. The IQCS is used to track personnel information related to an individual's qualification and certification currency and history that includes information such as: positions, position performance, training, physical fitness status, and external warrants. It also includes training management functions such as: course offering descriptions, learning objectives, per-course requirements, class schedules, student registration and class participation information. Workforce analysis may be conducted utilizing IQCS to report the disposition, status, and deficiencies of positions throughout the incident response community. The application provides annual certification of employees for wildland and prescribed fire positions. Each Regional Fire Management Coordinator will have a designated IQCS contact person for the purpose of regional oversight.

Lightning Detection System (LDS) - Fish and Wildlife Service (FWS), National Interagency Fire Center (NIFC) has an Annual licensing contract with the Bureau of Land Management (BLM) for a pre-determined amount of Lightning User licenses. The User Licenses enables identified FWS Users access to the Bureau of Land Management (BLM) Lightning Detection System. FWS User licenses are updated each time this annual contract becomes due. Identified FWS users can access the site via internet at http://www.nifc.blm.gov A Username and Password is required to access the system. Near real time lightning data can be acquired once logged onto BLM Lightning. Users can generate custom maps for their specific purpose.

Preparedness Funding (9131) - In U.S. Fish and Wildlife Service Wildland Fire Business Management Handbook (underdevelopment)

Program Preparedness/Readiness Reviews - Pre-season fire preparedness/readiness reviews provide comprehensive operational evaluations on fire programs. These reviews are to be conducted annually prior to fire season. Involvement of line management and cooperators, where applicable, is critical. Reviews are designed to assist the local agency administrator in preparing for and operating during fire season. It also serves as a mechanism to identify deficiencies, recommend corrective actions and establish the need for follow up to corrective actions. Standards for preparedness reviews are documented in the **"Interagency Fire Preparedness Review Guide."** The guide is currently available on the Internet at :
http://www.fire.blm.gov/Standards/BLM_Preparedness_Checklists.htm

Readiness reviews consist of several major elements of which safety is the most important. These elements include the following:

- Management Direction and Consideration
- Fire Operations and Procedures
- Fire Business Management and Administrative Support
- Equipment
- Dispatch Operations
- Safety

- Facilities
- Training
- Organization and Staffing
- Planning
- Aviation Operations
- Prescribed Fire

Field units should use the readiness review process to make a self evaluation of program readiness.

Review teams may be assembled by the regional or national office to perform readiness reviews. These teams may include line and fire managers, fire and aviation operations specialists, dispatch and logistics specialists, fire business management specialists, and other technical experts as needed (i.e., safety & occupational health specialists, contracting officers). This expertise may be internal, interagency, or contract.

Normal Unit Strength (NUS) - Refuges that have a Fire Management Plan should also have a cache of firefighting tools and personal protective equipment (PPE) adequate to support all refuge initial attack staff. The numbers, types, and distribution of materials in caches will be dictated by the staffing, suppression strategy, fuels and fire history of the refuge. Cache equipment, other than capitalized property, is considered to be the station's Normal Unit Strength (NUS). It is the responsibility of the refuge to establish specific refuge and complex initial attack NUS levels. Requirements beyond the initial attack level will be supported through the regional and national fire cache system. Maintenance of NUS is the responsibility of the refuge. NUS is a maximum level of all items for initial attack fire suppression efforts, not for support of fires exceeding initial attack or prescribed fire activities. NUS will include personal protective equipment and safety items required by personnel for prescribed fire assignments. Personnel ordered for extended attack activities are not to be equipped from the refuge's NUS, but will either come equipped or equipped by a ground support facility. All refuges will develop a NUS list and have it approved by the RFMC. The list will become an attachment to the refuge's Fire Management Plan. Only those approved items may be replaced. The initial stocking of the cache with NUS items is a one-time expenditure of preparedness funds. If additional items are needed, they must be approved through the RFMC. All NUS items are to be maintained in such a way that they are not used for routine refuge operations. This may be accomplished by storing equipment in designated areas protected by a seal or in an individual locked enclosure. The inventory and location of these items should be included in the pre-attack plan. Excess and unneeded supplies and equipment should be transferred to other refuges or interagency caches.

Once a NUS level of equipment and PPE is established, routine replacement of lost, broken or worn out equipment should be through the normal GSA supply channel. Items can be ordered by using the National Stock Number found in the NWCG National Fire Equipment System Catalog, Part 1: Fire Supplies and Equipment, or through the GSA Wildfire Protection Equipment and Supplies catalog. GSA should be considered the first source of supply, but other sources can also be used.

Supporting Ongoing Fires - Ordering - During wildland and prescribed fire operations, support in the form of NUS supplies, other fire suppression equipment, crews and overhead can be ordered through the local interagency zone dispatch/coordination center. In most areas of the country, your order for supplies and/or equipment will not come directly from NIFC, but from the nearest fire cache operated by another Federal agency. Crews and overhead are brought in using the closest forces concept. Resource Order Forms are available that simplify tracking orders from initiation to receipt. These forms are color coded for overhead, crews, supplies and equipment. Fire Management Officers or Regional Fire Management Coordinators can assist in preparing requests.

Item	NUS Formula
Rations, Shelters, Hard Hats, Head Lamps, Goggles, Packs, Line Gear, First Aid Kits, Sleeping Bags, Water Bottles	1 per red-carded individual plus 20%
Tents	1 per red-carded individual
Aramid Pants, Aramid Shirts, Gloves	2 per red-carded individual plus 20% for each size issued
Shovels, Pulaskis, McLeods, Flaps, Fire Rakes (Hand Tools)	2 per red-carded individual plus 10% for each type of tool. Mix of tools is determined by station based on local needs.
Flight Helmets	6 per helicopter contract plus 2 spares. Stations w/o contract aircraft that frequently use helicopters for fire activities should obtain 4.
Back Pack Pumps	1 per 2 red-carded individual
Chain Saws, Portable Pumps, Fold-A-Tank	As approved by the RFMC depending on firefighting tactics.
Foam	15 gallons per engine
Hose - Portable Pump used for hose lays or any size engine	1.5 inch -900 feet 1 inch - 900 feet

Nozzles (1" and 1.5" - total)	2 - Portable Pump 4 - Light Engine 5 - Medium or Heavy Engine Plus 20% for total number of nozzles on engines, water and foam combined
Wyes, Tees, Wrenches, Relief Valves, Hose Clamps, etc.	2 - Portable Pump 2 - Light Engine 3 - Medium Engine 4 - Heavy Engine Plus 10% for each item listed as required in the inventory
Adapters and Reducers (Based on local and anticipated needs)	2 - Portable Pump 2 - Light Engine 4 - Medium Engine 5 - Heavy Engine Plus 10% for each item listed as required in the inventory.

Chapter 10
Developing a Response to Wildland Fires

Policy

Fire, as a natural process, will be integrated into land and resource management plans and activities on a landscape scale, and across agency boundaries. Response to wildland fires is based on ecological, social and legal consequences of the fire. The circumstances under which a fire occurs, the likely consequences on firefighter and public safety and welfare, natural and cultural resources, and values to be protected, dictate the appropriate response to fire.

Annual Operating Plan

Developing an Annual Operating Plan

Units with dispatching responsibility, in conjunction with their cooperators, will ensure that Annual Operating Plans (AOPs) are developed, updated, and approved annually. The procedures outlined in the plans must be implemented and adhered to during dispatching operations.

There are variations in the required elements for AOPs due to many factors (activity level/complexities, interagency coordination, all-risk incidents, and HazMat). Additional guidance can be obtained by reviewing local unit fire management reference guides. The elements found in Appendix DD Annual Operating Plan Elements shall be identified in each dispatch center's AOPs.

Appropriate Management Response to Wildland Fires

Definition

The Appropriate Management Response (AMR) is any specific action suitable to meet Fire Management Unit (FMU) objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by using FMU strategies and objectives identified in the Fire Management Plan.

Developing Appropriate Management Response Evaluation Criteria

- Risks to firefighters and public health and safety
- Land and Resource Management Objectives
- Weather
- Fuel conditions
- Threats and values to be protected
- Cost efficiencies

Appropriate Management Response Options

Monitoring from a distance

Fire situations where inactive fire behavior and low threats require only periodic monitoring from a nearby location or aircraft.

Monitoring on-site

Fire situations that require the physical placement of monitors on the fire site to track the fire's spread, intensity, and/or characteristics.

Confinement

Actions taken when fires are not likely to have resource benefit and an analysis of strategic alternatives indicates that threats from the fire do not require costly deployment of large numbers of suppression resources for mitigation or suppression. Typically these fires will have little to no on-the-ground activity and fire movement remains confined within a pre-determined area bound by natural barriers or fuel changes.

Monitoring plus contingency actions

Monitoring is carried out on fires managed for resource benefits but circumstances necessitate preparation of contingency actions to satisfy external influences and ensure adequate preparation for possible undesirable developments.

Monitoring plus mitigation actions

Actions on fires managed for resource benefits that either pose real, but not necessarily immediate, threats or do not have a totally naturally defensible boundary. These fires are monitored but operational actions are developed and implemented to delay, direct, or check fire spread, or to contain the fire to a defined area, and/or to ensure public safety (through signing, information, and trail/area closures).

Initial Attack

A planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the spread of the fire and put it out at least cost. This is an action where an initial response is taken to suppress wildfires consistent with firefighter and public safety and values to be protected.

Wildfire suppression with multiple strategies

This action categorizes wildfires where a combination of tactics such as direct attack, indirect attack, and confinement by natural barriers are utilized to accomplish protection objectives as directed in a Wildland Fire Situation Analysis (WFSA).

Control and extinguishment
These actions are taken on a wildfire when the selected WFSA alternative indicates a control strategy. Sufficient resources are assigned to achieve control of the fire with a minimum of acres burned.

Responding to Wildland Fires

Report of Wildland Fire
When a wildland fire is reported it is evaluated according to the procedures outlined in the Annual Operating Plan.

If no approved Fire Management Plan (FMP) exists or the fire is in an area designated for suppression action, initial response forces are dispatched.

If the fire is in an area where an approved FMP exists, the fires may be managed to benefit resource values in accordance with the preplanned conditions and objectives outlined in a Wildland Fire Implementation Plan (WFIP).

A Wildland Fire Implementation Plan (WFIP) will be initiated for all wildland fire use events. For an estimated 90+% of all wildland fires, information needed for WFIP Stage I decision analysis is contained in the FMP. Only the most complex fires being managed for resource benefits (Fire Use Fires) will require completion of all parts of a WFIP. The full WFIP consists of three distinct stages (Stage I, Stage II and Stage III). When wildland fires occur, pre-planned descriptions in the FMP (in combination with the Fire Situation) assist Stage I decisions.

Progressive development of these stages will occur for wildland fires managed for resource benefits or where initial attack is not the selected response. Objectives, fire location, cause, conditions of fuel continuity, current fire activity, fire location, predicted weather and fire behavior conditions, and risk assessment results will indicate when various WFIP Stages must be completed. Resource benefits become more important as strategic decision factors, additional planning and documentation requirements (additional WFIP Stages) are involved.

Initial Actions
The actions taken by the first resources to arrive at a wildland fires. The objective is to safely and efficiently manage fires in conformance with existing policy and procedures consistent with an approved Fire Management Plan (FMP).

The information in this section is documented in the *"NWCG - Incident Response Pocket Guide" (IRPG) (NFES#1077)*, and *"NWCG Fireline Handbook (NFES #0065)"*.

Organization and Qualifications
Resources taking initial attack action on a fire must be qualified and have a designated qualified Initial Attack Incident Commander.

Fire Size-up
At the earliest opportunity after arrival on an incident, the initial attack incident commander will relay the information from Appendix I to the agency dispatch, and continue to keep the dispatcher informed of any significant changes and progress on the fire. For Wildland Fire Use, a Stage I- *Wildland Fire Implementation Plan* (WFIP) must be completed.

- ***FS -*** *A complexity analysis must be completed and documented on all fires. This can be found in Appendix M.*

Fire Cause Determination
The Incident Commander is responsible for assisting in the determination of the cause of the fire. It is recommended that all initial attack incident commanders complete basic training in wildland fire cause determination.

- ***BLM -*** *All initial attack incident commanders must have completed basic training in wildland fire cause determination.*

A checklist for Fire Cause Determination can be found in the *IRPG*.

Operational Briefings
All personnel arriving at an incident must receive a briefing from the Incident Commander (IC), or delegate, prior to initiating any actions on the incident. Incoming ICs must place a priority on providing briefings to resources already on the scene. The principles of LCES must be implemented prior to the initiation of any actions.

If firefighters cannot be briefed prior to departure from base, the receiving dispatch office will provide a briefing to the supervisor by radio. In all cases, firefighters will be briefed prior to starting work. The IC or their delegate will document all Operational Briefings.

The Briefing Checklist found in Appendix F and in the *IRPG*, contains the minimum items required to brief all incoming crews, personnel, or resources. Units are encouraged to expand the minimum briefing, as appropriate, to ensure that safety and efficiency are addressed.

Spot Weather Forecast
Spot weather forecasts must be requested for fires that exhibit extreme fire behavior, exceed initial attack, or are located in areas where Fire Weather Watch and Red Flag Warnings have been issued.

Spot weather forecasts may be requested at any time by using Appendix K.

Strategy & Tactics

Determining Strategy and Tactics

Determining appropriate initial attack strategies and tactics must be based on appropriate management response while providing for firefighter and public safety. Other factors to consider are: suppression objectives, values at risk, current and predicated fire behavior, weather conditions, available resources and their condition.

Application of Risk Management

Identification and mitigation of risk must be considered in all strategic and tactical planning. Use of the Risk Management Process is mandatory. Tactical assignments for all resources will not be initiated or continued without strict adherence to the Risk Management Process, incorporating the 10 Standard Fire Orders, 18 Watch Out Situations, and principles of LCES. Reevaluation of the Risk Management/LCES process is essential.

Fire Suppression Interpretations from Flame Length	
Flame Length	Interpretations
Less than 4’	Fires can generally be attacked at the head or flanks by firefighters using hand tools. Handline should hold fire.
4’ to 8’	Fires are too intense for direct attack on the head with hand tools. Handline cannot be relied on to hold the fire. Bulldozers, engines, and retardant drops can be effective.
8’ to 11’	Fires may present serious control problems: torching, crowning, and spotting. Control efforts at the head will probably be ineffective.
Over 11’	Crowning, spotting, and major fire runs are probable. Control efforts at the head of the fire are ineffective.

For additional information on strategic and tactical guidelines and principles, see the *NWCG Fireline Handbook 3 (PMS 410-1, NFES 0065), Chapter 1, Firefighter Safety and Chapter 2, Initial Attack, and the Incident Response Pocket Guide (PMS-461, NFES 1077).*

Escaped Initial Attack

A fire has escaped initial attack when:

- The fire has not been contained by the initial attack resources dispatched to the fire and there is no estimate of containment or control and;
- The fire will not have been contained within the initial attack management objectives established for that zone or area.

Organization

When complexity levels exceed initial attack capabilities, the appropriate Incident Command System (ICS) positions should be added commensurate with the complexity of the incident. The Incident Complexity Analysis and the Wildland Fire Situation Analysis (WFSA) assist the manager in determining the appropriate management structure to provide for safe and efficient fire suppression operations.

A unified command structure will be a consideration in all multi-jurisdiction incidents.

Incident Complexity Analysis

An Incident Complexity Analysis will be used as a guide for ICs, fire managers, and Agency Administrators to evaluate emerging fires in order to determine the level of management organization required to meet agency objectives. This will assist in identifying resource, safety, and strategic issues that will require mitigation. There are two types of Incident Complexity Analysis available:

- For Type 1and 2 incidents use Appendix L.
- For Type 3, 4 and 5 Incidents use Appendix M.

Assumptions for Developing a Complexity Analysis

- As an incident becomes more complex, the need for an incident management team or organization increases.
- To facilitate assembling an efficient and effective organization, key managers should be involved during the early stages of complexity analysis.
- The analysis is not a cure-all for the decision process; local fire history, current fire conditions, and management requirements must be considered.

Wildland Fire Situation Analysis (WFSA)

The Wildland Fire Situation Analysis process is used to determine and document the suppression strategy from the full range of responses available for suppression operations. Suppression strategies are designed to meet the policy objectives of suppression.

The WFSA is a decision making process in which the Agency Administrator or representative describes the situation, compares multiple strategic wildland fire management alternatives, evaluates the expected effects of the alternatives, establishes objectives and constraints for the management of the fire, selects the preferred alternative, and documents the decision. The format and level of detail required depends on the specific incident and its complexity. The key is to document the decision made. A WFSA and Delegation of Authority will be completed whenever a wildfire escapes initial attack.

The Agency Administrator or their representative, along with the Fire Management Officer (FMO) or Incident Commander will prepare the WFSA. The format and level of detail required depends on the specific incident and its complexity. For signatory authority and cost limits see the chart below. An electronic copy of the WFSA can be found at http://www.fs.fed.us/fire/wfsa/. A description of the WFSA Elements with guidance for the completion can be found in Appendix EE.

Funding approval levels for multiple jurisdictional incidents are determined based on each agency's funding commitment and not upon the total funding.

Signature authorities for WFSA are as follows:

	BIA	BLM	FWS	NPS	FS
Local Approval Level	$2,000,000 Agency Supervisor	$2,000,000 Field/District Manager	$2,000,000 Refuge Manager/ Project Leader	$2,000,000 Park Superintendent	$2,000,000 District Ranger $2,000,000-10,000,000 Forest Supervisor
Regional/ State Certification Level	$2,000,000 - $5,000,000 Regional Director	$2,000,000 - $5,000,000 State Director	$2,000,000 - $5,000,000 Regional Director	$2,000,000- $5,000,000 Regional Director	$10,000,000- $50,000,000 Regional Forester
National Certification Level	>$5,000,000 Director	>$5,000,000 Director	>$5,000,000 Director	>$5,000,000 Director	>$50,000,000 Chief

Wildland/Urban Interface Firefighting

Introduction

A wildland/urban interface exists where community-defined values, structures, watersheds, roads and highways, power and gas lines, or other community resources intermingle with wildland fuels, and may be threatened by wildland fires. Wildland fires in these areas are often multi-jurisdictional and multi-agency. This complexity combined with wildland fire, public safety, increased media attention, political pressures, and other factors, may combine to overwhelm a normal size-up and decision-making process. The potential exists in areas of wildland/urban interface for extremely dangerous and complex fire situations.

Policy

The operational roles of the agencies in the wildland/urban interface are wildland firefighting, hazardous fuels reduction, cooperative prevention and education, and technical assistance. Structural fire suppression is the responsibility of tribal, state, or local governments. Federal agencies may assist with exterior structural protection activities under formal Fire Protection

Agreements that specify the mutual responsibilities of the partners, including funding.

Protection Agreements and Planning

Managers must incorporate wildland/urban interface considerations into all agreements, operating plans, and land and fire management plans, to ensure that all interface areas are covered, and state and local responsibilities are apportioned appropriately.

Emergency Non-Wildland Fire Response

Authorized funding under the wildland fire preparedness and suppression activities includes funding for wildland fire related activities. Funding is not provided to prepare for, or respond, to emergency non-wildland fire response activities such as structure fires, vehicle fires, dump fires, hazardous materials releases, and emergency medical responses.

Management Controls to Mitigate Exposure

Agency policy states that PPE devices will be used only when equipment guards, engineering controls, or management control does not adequately protect employees. To meet this requirement:

- Managers and supervisors will not knowingly place wildland firefighters in positions where exposure to toxic gases or chemicals would require the use of self-contained breathing apparatus.
- Managers will not sign cooperative fire protection agreements that would commit wildland firefighters to situations where exposure to toxic gases or chemicals would require the use of self-contained breathing apparatus.
- Managers will avoid giving the appearance that their wildland fire suppression resources are trained and equipped to perform structure, vehicle, and dump fire suppression, to respond to hazardous materials releases, or to perform emergency medical response.

Structure Fires, Vehicle Fires, and Landfill Fires

Structure, vehicle, and dump fire suppression is not a functional responsibility of wildland fire suppression resources. These fires have the potential to emit high levels of toxic gases. Firefighters will not be dispatched to structure, vehicle, or dump fires unless there is a significant threat to lands and resources that are under agency protection, including by protection agreement. Firefighters will not take direct suppression action on structure, vehicle, or dump fires. This policy will be reflected in suppression response plans.

Should firefighters encounter structure, vehicle, or dump fires during the performance of their normal wildland fire suppression duties, firefighting efforts will be limited to areas where the fire has spread onto agency protected lands. Structure protection will be limited to exterior efforts, and only when such

actions can be accomplished safely and in accordance with established wildland fire operations standards.

- ***FS - FSM-5137 - Structure Fires***
  Structure fire protection activities include suppression of wildfires that are threatening improvements. Exterior structure protection measures include actions such as foam or water application to exterior surfaces of buildings and surrounding fuels, fuel removal, and burning out around buildings.
- ***FS - FSM-5137.02 – Objective for Structure Fire Protection.*** *The Forest Service's primary responsibility is to suppress wildfire before it reaches structures. The Forest Service may assist state and local fire departments in exterior structure fire protection when requested under terms of an approved cooperative agreement.*
- ***FS - FSM-5137.03 – Policy for Structure Fire Suppression.*** *Structure fire suppression, which includes exterior and interior actions on burning structures, is the responsibility of state, tribal, or local fire departments.*
- ***FS -*** *Forest Service officials shall avoid giving the appearance that the agency is prepared to serve as a structure fire suppression organization.*
- ***FS -*** *Forest Service employees shall limit fire suppression actions to exterior structure protection measures as described in Section 5137.*
- ***FS - FSM-5137.03,2 - Structure Fire Protection and Suppression for Forest Service Facilities.*** *At those Forest Service administrative sites, outside the jurisdiction of state and local fire departments, limit fire protection measures to prevention, use of fire extinguishers on incipient stage fires (FSH 6709.11, Sec. 6-4c), safe evacuation of personnel, containment by exterior attack, and protection of exposed improvements.*
- ***FS -*** *At Forest Service administrative sites located within the jurisdiction of state and local structural fire departments, structure fire suppression responsibility must be coordinated with state and local fire departments.*
- ***FS - FSM-5137.03,3 - Vehicle and Dump Fires***
  FS - *Do not undertake direct attack on vehicle or dump fires on National Forest System lands unless such action is absolutely necessary to protect life or prevent the spread of fire to the wildlands.*
  FS - *For additional fire service and homeowner information regarding wildland/urban fire refer to http://firewise.org on the Internet.*
- ***NPS - Structural Fire (including Vehicle Fires) Response Requirements.*** *Structural fire suppression is a functional responsibility in many NPS units. Any structural fire response shall only be by personnel who have received the required training and are properly equipped. Vehicle fires contain a high level of toxic emissions and must be treated with the same care that structural fires are treated. Firefighters must be in full structural fire personal protective clothing including self-contained breathing apparatus. Situations exist during the incipient phase of a vehicle fire where the fire can be quickly suppressed with the discharge of a handheld fire extinguisher. Discharging a handheld fire extinguisher during this*

phase of the fire will normally be considered an appropriate action. If the fire has gone beyond the incipient stage, employees are to protect the scene and request the appropriate suppression resources. In order to protect the health and safety of National Park Service personnel, no employee shall be directed, dispatched, (including self-dispatching) to the suppression of structural fires, including vehicle fires, unless they are provided with the required personal protective equipment, firefighting equipment and training. All employees must meet or exceed the standards and regulations identified in Director's Order and Reference Manual #58, Structural Fire.

- ***NPS - Training Requirements for Firefighters Responding to Structural Fires (including Vehicle Fires).*** *All wildland firefighters who respond to structural fires will meet the training requirements identified in Director's Order and Reference Manual #58, Structural Fire and will be qualified at least at the Structural Firefighter level.*
- ***NPS - Medical Examination Requirements for Firefighters Responding to Structure Fires (including Vehicle Fires).*** *All wildland firefighters who respond to structural fires will meet the medical requirements identified in Director's Order and Reference Manual #58, Structural Fire. Medical requirements include respiratory testing and some other components not included in the wildland fire medical examination.*
- ***NPS - Physical Fitness for Wildland Firefighters Responding to Structure Fires (including Vehicle Fires).*** *The physical fitness requirements as the same as for wildland fire arduous duty.*

Hazardous Materials

Wildland firefighters have the potential to be exposed to hazardous materials releases while performing their jobs. Hazardous materials or waste may be found on public lands in a variety of forms (e.g. clandestine drug lab waste, mining waste, illegal dumping, and transportation accidents).

In order to meet 29 CFR 1910.120, and to ensure familiarity with hazardous materials releases, all wildland firefighters will complete a one-time, two-hour First Responder Awareness training course and an annual refresher course thereafter (First Responders are individuals who are likely to witness or discover a hazardous substance release, and who have been trained to initiate an emergency response sequence by notifying proper authorities of the release). Awareness Class module 1703-07/11 is available from the National Training Center and may be taught in the field office by the Hazardous Materials Coordinator.

Firefighters who discover any unauthorized waste dump or spill site that contains indicators of potential hazardous substances should take the following precautions:

- Follow the procedures in the *Incident Response Pocket Guide*.
- Treat each site as if it contains harmful materials.
- Do not handle, move, or open any container, breathe vapors, or make contact with the material.
- Move a safe distance upwind from the site.
- Contact appropriate personnel. Generally, this is the Hazardous Materials Coordinator for the local office.
- ***FS - FSM-5135.2 - Hazardous Materials***
  Limit actions of Forest Service personnel on incidents involving hazardous material to those emergency measures necessary for the immediate protection of themselves and the public. If the material is a health and safety hazard requiring special measures for control and abatement, promptly notify the appropriate public safety agencies. Provide training in hazardous materials recognition and avoidance to employees whose exposure to such materials is likely (FSM 2160).

Emergency Medical Response

Medical emergency response is not a functional responsibility of wildland fire suppression resources. Wildland firefighters are not trained and equipped to perform emergency medical response duties, and should not be part of a preplanned response that requires these duties. When wildland firefighters encounter emergency medical response situations, their efforts should be limited to immediate care (e.g. first aid, first responder) actions that they are trained and qualified to perform.

- ***NPS - Emergency Medical Response Requirements.*** *NPS employees who provide emergency medical services will adhere to the requirements contained in Director's Order and Reference Manual #51, Emergency Medical Services, once these directives receive final approval.*

Wildland/Urban Interface Watch Outs

Checklists are provided in the *Incident Response Pocket Guide* for safe and efficient responses and operations. The primary considerations are firefighter safety and public safety. The Appendices that address interface situations can be found in the back of this book.

- Structure Triage: Appendix O.
- Structure Go/No-Go Reference: Appendix P.

Roadside Response

Positioning of vehicles and employee awareness is paramount when responding to incidents in close proximity to roadways. Refer to Appendix J which highlights tactical considerations for roadway responses.

Chapter 10
FWS Specific Developing a Response to Wildland Fire Information

Link to Redbook Chapter 10

10-6-30 Wildland Fire Situation Analysis

- WFSA web site for latest WFSA information and program download
- A downloadable Wildland Fire Situation Analysis form (Wordperfect format)
- Sample WFSA

Air Quality and Smoke Management

Clean air is a primary natural resource value in all Fish and Wildlife Service units. Fire management activities which result in the discharge of air pollutants (e.g., particulates, carbon monoxide, and other pollutants from fires) are subject to, and must comply with, all applicable Federal, state, interstate, and local air pollution control requirements, as specified by Section 118 of the Clean Air Act, as amended (42 USO 7418). These requirements are the same substantive, procedural, and administrative requirements (See 561 FW 2) that apply to a private person or other non-governmental entity. The protection of these resources must be given full consideration in fire management planning and operations.

Coordination with a state or states air regulatory office is required during the development of resource and fire management plans in order to determine procedures for compliance with state air quality regulations. The FWS Air Quality Branch (AQB) should be contacted on the proper procedures for obtaining coordination with the state or states in which the refuge is located, or when notified by the state that an air pollution violation has occurred.

At the time the draft Fire Management Plan is sent to the regional office for review, the regional office will determine if the smoke management portions of the plan will be sent to the AQB for review and comment. A copy of the comments from the AQB will be returned to the region and will be forwarded to the refuge with the regional comments. When the draft Fire Management Plan is in the region for review, the Regional Fire Management Coordinator will ensure that the air quality coordinator reviews the smoke management portion of the plan and the comments from AQB before they are returned to the refuge. A copy of the air quality section(s) of the approved Fire Management Plan will be sent to the AQB.

The Smoke Management Guide for Prescribed and Wildland Fire 2001 Edition (NFES 1279) is the FWS primary technical reference and should be referenced when developing and implementing wildland fire management plans. Other useful geographical and activity specific publications are:

- Southern Forestry Smoke Management Guidebook. Mobley et.al.., USDA Forest Service GTR SE-10, December, 1976. A very detailed and comprehensive book but

written specifically for the Southern States. It is an excellent reference for principles of smoke management. The abbreviated principles listed below are from this publication.

- Principles of Smoke Dispersion from Prescribed Fires in Northern Rocky Mountain Forests. W.R. Beaufait and O.P. Cramer, USDA Forest Service, Division of Fire Control, Northern Region, Missoula, Montana, August 5, 1969 (revised January 15, 1972). This publication covers the subject well but is confined to the Northern Rocky Mountains.
- Slash Smoke Management Guidelines. Office of the State Forester, Salem, Oregon, September 11, 1969. An excellent publication, though limited to slash burning and to the State of Oregon.

Chapter 11
Incident Management

National Interagency Incident Management System (NIIMS)

The National Interagency Incident Management System (NIIMS) is sponsored by the National Wildfire Coordinating Group (NWCG). It provides a universal set of structures, procedures, and standards for agencies to respond to all types of emergencies. NIIMS is compliant with the National Incident Management System (NIMS). NIIMS will be used to complete tasks assigned to the interagency wildland fire community under the National Response Plan.

Incident Command System (ICS)

The Incident Command System is the on-site management system used in NIIMS/NIMS. The ICS is a standardized emergency management construct specifically designed to provide for an integrated organizational structure that reflects the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries. ICS is the combination of facilities, equipment, personnel, communications, and procedures operating within a common organizational structure to manage incidents. ICS will be used by the agencies to manage wildland fire operations.

Wildland Fire Complexity Analysis

Wildland fires are typed by complexity, from Type 5 (least complex) to Type 1 (most complex). The ICS organizational structure develops in a modular fashion based on the complexity of the incident. Complexity is determined by performing an Incident Complexity Analysis - (Refer to samples in Appendix L & M). Units may develop their own Complexity Analysis format to replace Appendix M. It is the Incident Commander's responsibility to continually reassess the complexity level of the incident. When the complexity analysis indicates a higher complexity level, the IC must ensure that suppression operations remain within the scope and capability of the existing organization. Incident Commanders must continually reassess incident complexity to ensure the appropriate command organization is either in place or on order.

Fire Management Organization Assessment

The Fire Management Organization Assessment is a short checklist that Agency Administrators may use to identify conditions associated with heavy fire activity that may overload the local fire staff, reducing its effectiveness to manage the situation. Identifying these conditions may help the Agency Administrator determine whether increasing staffing levels might be an appropriate action to take. See Appendix V.

Incident Management and Coordination Components of NIIMS

Effective incident management requires:

- Command Organizations to manage on-site incident operations.
- Coordination and Support Organizations to provide direction and supply resources to the on-site organization.

On site Command Organizations	Off site Coordination and Support
Type 5 Incident Command	Initial Attack Dispatch
Type 4 Incident Command	Expanded Dispatch
Type 3 Incident Command	Buying /Payment Teams
Type 2 Incident Command	Local, Geographic, or National
Type 1 Incident Command	Geographic and National
Fire Use Management Teams	Coordination Centers
Unified Command	Multi-Agency Coordinating Groups
Area Command	

Command Organization

Incident Command

All fires, regardless of complexity, will have an Incident Commander (IC). The IC is a single individual responsible to the Agency Administrator(s) for all incident activities; including the development of strategies and tactics, and the ordering, deployment, and release of resources. The IC develops the organizational structure necessary to manage the incident. ICS Command Staff (Safety Officer and Information Officer) and General Staff (Operations Section Chief, Planning Section Chief, Logistics Section Chief, and Finance Section Chief) are established as required to perform key functional responsibilities for the IC.

- ***FS -*** *Agency Administrator will meet annually with Type 3, 4, 5 ICs to communicate expectations for IC performance in critical phases in wildland fire suppression.*
- ***FS -*** *Ensure that ICs on Type 1, 2 and 3 wildland fires have no concurrent incident management positions as a collateral duty.*

Type 4 and 5 Incident Command

Type 4 and 5 Incident Commanders (ICs) are qualified according to the *NWCG Wildland and Prescribed Fire Qualifications System Guide (National Fire Equipment System publication 310-1).* The Type 4 or 5 IC may assign personnel to any combination of ICS functional area duties in order to operate safely and effectively. ICS functional area duties should be assigned to the most qualified or competent individuals available.

Type 5 Incident Characteristics

- Ad hoc organization managed by a Type 5 Incident Commander.
- Primarily local resources used.
- ICS command and general staff positions are not activated.
- Resources vary from two to six firefighters.
- Incident is generally contained within the first burning period and often within a few hours after resources arrive on scene.
- Additional firefighting resources or logistical support are not usually required.

Type 4 Incident Characteristics

- Ad hoc organization managed by a Type 4 Incident Commander.
- Primarily local resources used.
- ICS command and general staff positions are not activated.
- Resources vary from a single resource to multiple resource task forces or strike teams.
- Incident is usually limited to one operational period in the control phase. Mopup may extend into multiple operational periods.
- Written incident action plan (IAP) is not required. A documented operational briefing will be completed for all incoming resources. Refer to the *Incident Response Pocket Guide* or Appendix F for Briefing Checklist.

Type 3 Incident Command

Type 3 Incident Commanders (ICT3s) are qualified according to the *310-1*. ICT3s are required to manage the incident. They must not have concurrent responsibilities that are not associated with the incident, and they must not concurrently perform single resource boss duties. It is important to note that not all Type 3 complexity incidents require a full complement of individuals at the command and general staff positions. A Type 3 Incident Commander (ICT3) is expected to exercise their authority and establish the appropriate organizational structure for each incident as based on complexity, and span of control.

As an incident escalates, a continuing assessment of the complexity level should be completed to validate the continued ICT3 effort or the need for a higher level of incident management.

The following chart illustrates the minimum qualifications required for individuals performing Type 3 complexity functions:

Type 3 Functional Responsibility	Specific 310-1 or equivalent qualification standards required to perform ICS functions at Type 3 level
Incident Command	Incident Commander Type 3
Safety	Safety Officer
Information	Information Officer
Operations	Strike Team Leader or Task Force Leader
Division	Single Resource Boss
Logistics	Local entities can establish level of skill to perform function.
Plans	Local entities can establish level of skill to perform function.
Finance	Local entities can establish level of skill to perform function.

- ***FS -*** *Refer to FSM 5109.17 for Additional standards for Incident Commander, Safety Officer, and Information Officer. All other Type 3 position qualifications are identical to 310-1 qualifications listed above.*

Type 3 experience that is input into the Incident Qualification and Certification System (IQCS) will not exceed an individual's current Red Card qualifications.

Type 3 Incident Characteristics

- Ad hoc or pre-established Type 3 organization managed by a Type 3 Incident Commander.
- The IC develops the organizational structure necessary to manage the incident. Some or all of ICS functional areas are activated, usually at the division/group supervisor and/or unit leader level.
- The Incident Complexity Analysis process is formalized and certified daily with the jurisdictional agency. It is the Incident Commander's responsibility to continually reassess the complexity level of the incident. When the complexity analysis indicates a higher complexity level the IC must ensure that suppression operations remain within the scope and capability of the existing organization.
- Local and non-local resources used.
- Resources vary from several resources to several task forces/strike teams.
- May be divided into divisions.
- May require staging areas and incident base.
- May involve low complexity aviation operations.
- May involve multiple operational periods prior to control, which may require a written Incident Action Plan (IAP).
- Documented operational briefings will occur for all incoming resources and before each operational period. Refer to the *Incident Response Pocket Guide* or Appendix F for Briefing Checklist.

- Type 3 IC will not serve concurrently as a single resource boss or have any non incident related responsibilities.

Type 1 and 2 Incident Command

Type 1 and 2 Incident Commanders are qualified according to the *310-1*. These ICs command pre-established Incident Management Teams that are configured with ICS Command Staff, General Staff, and other leadership and support positions. Personnel performing specific Type 1 or Type 2 command and general staff duties must be qualified at the Type 1 or Type 2 level according to the 310-1 standards.

Type 2 Incident Characteristics

Type 2 teams are managed by Geographic Area Multi-Agency Coordinating Groups, and are coordinated by the Geographic Area Coordination Centers.

- Pre-established incident management team managed by Type 2 Incident Commander.
- ICS command and general staff positions activated.
- Many ICS functional units required and staffed.
- Geographic and functional area divisions established.
- Complex aviation operations involving multiple aircraft.
- Incident command post, base, camps, staging areas established.
- Incident extends into multiple operational periods.
- Written incident action plan required for each operational period.
- Operations personnel often exceed 200 per operational period and total personnel may exceed 500.
- Requires a Wildand Fire Situation Analysis (WFSA).
- Requires a written Delegation of Authority to the Incident Commander.

Type 1 Incident Characteristics

Type 1 teams are managed by Geographic Area Multi-Agency Coordinating Groups, and are coordinated by the Geographic Area Coordination Centers. At national preparedness levels 4 and 5 these teams are coordinated by the National Interagency Coordination Center.

- Pre-established incident management team managed by Type 1 Incident Commander.
- ICS command and general staff positions activated.
- Most ICS functional units required and staffed.
- Geographic and functional area divisions established.
- May require branching to maintain adequate span of control.
- Complex aviation operations involving multiple aircraft.
- Incident command post, incident camps, staging areas established.
- Incident extends into multiple operational periods.
- Written incident action plan required for each operational period.
- Operations personnel often exceed 500 per operational period and total personnel may exceed 1000.

- Requires a Wildland Fire Situation Analysis. (WFSA)
- Requires a written Delegation of Authority to the Incident Commander.

Fire Use Management Teams (FUMT)

Fire Use Management Teams provide land managers with skilled and mobile personnel to assist with the management of Wildland Fire Use (WFU) fires and with prescribed fires. Fire Use Management Teams are available as an interagency resource for assignment to all agencies and units. FUMTs consist of the following positions:

- Incident Commander Type 2 (ICT2)
- Safety Officer 2 (SOF2)
- Information Officer 2 (IOF2)
- Operations Sections Chief Type 2 (OSC2)
- Planning Section Chief Type 2 (PSC2)
- Long Term Fire Behavior Analyst (LTAN)
- Logistics Section Chief Type 2 (LSC2)
- Three additional positions

Area Command

Area Command is an Incident Command System organization established to oversee the management of multiple incidents that are each being managed by an ICS organization or to oversee the management of large or multiple incidents to which several Incident Management teams have been assigned.

Area Command may become Unified Area Command when incidents are multi-jurisdictional. The determining factor for establishing area command is the span of control of the Agency Administrator.

Area Command Functions

- Establish overall strategy, objectives, and priorities for the incident(s) under its command.
- Allocate critical resources according to priorities.
- Ensure that incidents are properly managed.
- Coordinate demobilization.
- Supervise, manage, and evaluate Incident Management Teams under its command.
- Minimize duplication of effort and optimize effectiveness by combining multiple agency efforts under a single Area Action Plan.

Area Command Teams

National Area Command teams are managed by National Multi-Agency Coordinating (NMAC) and are comprised of the following:

- Area Commander (ACDR)
- Assistant Area Commander, Planning (AAPC)
- Assistant Area Commander, Logistics (AALC)
- Area Command Aviation Coordinator (ACAC)

- Area Command Trainees (2, as identified by the Area Commander)

Depending on the complexity of the interface between the incidents, specialists in other areas such as aviation safety or information may also be assigned.

Unified Command

Unified Command is an application of the Incident Command System used when there is more than one agency with incident jurisdiction or when incidents cross political jurisdictions. Under Unified Command, agencies work together through their designated incident commanders at a single incident command post to establish common objectives and issue a single Incident Action Plan. Unified Command may be established at any level of incident management or area command. Under Unified Command all agencies with jurisdictional responsibility at the incident contribute to the process of:

- Determining overall strategies.
- Selecting alternatives.
- Ensuring that joint planning for tactical activities is accomplished.
- Maximizing use of all assigned resources.

Advantages of Unified Command are:

- A single set of objectives is developed for the entire incident.
- A collective approach is used to develop strategies to achieve incident objectives.
- Information flow and coordination is improved between all jurisdictions and agencies involved in the incident.
- All involved agencies have an understanding of joint priorities and restrictions.
- No agency's legal authorities will be compromised or neglected.

Coordination and Support Organizations

Initial Attack Dispatch

Initial Attack is the planned response to a wildfire, given the wildfire's potential fire behavior. The command decision to move suppression resources is made by an authorized person at a local Initial Attack Dispatch Center.

Expanded Dispatch

Expanded Dispatch is the organization needed to support an incident which expands along with the Incident Command System. Expanded dispatch is established when a high volume of activity indicates that increased dispatch and coordination capability is required.

Expanded Dispatch Organization

An Expanded Dispatch operations center may be established. The Expanded Dispatch coordinator facilitates accomplishment of goals and direction of the Agency Administrator and, when activated, the Multi Agency Coordinating

Group. The position may be filled by the person normally managing the day-to-day operations of the center or an individual from a higher level of management. The Expanded Dispatch center coordinator is responsible for:

- Filling and supervising necessary positions, if they are necessary, in accordance with coordination complexity.
- Implementing decisions made by the Multi-Agency Coordination (MAC) group.

Expanded Dispatch Facilities and Equipment

Expanded Dispatch facilities and equipment should be pre-identified, procured, and available for immediate setup. The following key items should be provided for:

- Work space separate from, but accessible to, the initial attack organization.
- Adequate office space (lighting, heating, cooling, security).
- Communications equipment (telephone, fax, computer hardware with adequate data storage space, priority use, and support personnel).
- Area suitable for briefings (Agency Administrators, media).
- Timetable/schedule should be implemented and adhered to (operational period changes, briefings, strategy meetings).
- A completed and authorized Continuation of Operations Plan (COOP).
- Qualified personnel on site to staff operations for the entire operational period.

Buying/Payment Teams

Buying/Payment Teams support incidents by procuring services and supplies and renting land and equipment. These teams may be ordered when incident support requirements exceed local unit capacity. These teams report to the agency administrator or the local unit administrative officer. See the *Interagency Incident Business Management Handbook* for more information.

Multi-Agency Coordination (MAC) Group

Multi-Agency Coordination Groups are part of the National Interagency Incident Management System (NIIMS) and are an expansion of the off-site coordination and support system. MAC Groups are activated by the Agency Administrator(s) when the character and intensity of the emergency situation significantly impacts or involves other agencies. A MAC Group may be activated to provide support when only one agency has incident(s). The MAC group is made up of agency representatives who are delegated authority by their respective Agency Administrators to make agency decisions and to commit agency resources and funds. The MAC Group relieves the incident support organization (dispatch, expanded dispatch) of the responsibility for making key decisions regarding prioritization of objectives and allocation of critical resources. The MAC Group makes coordinated Agency Administrator level decisions on issues that affect multiple agencies. The MAC Group is supported

by situation, resource status, and intelligence units who collect and assemble data through normal coordination channels.

MAC Group Direction

MAC Group direction is carried out through dispatch and coordination center organizations. When Expanded Dispatch is activated, MAC group direction is carried out through the expanded dispatch organization. The MAC Group organization does not operate directly with Incident Management Teams or with Area Command teams, which are responsible for on-site management of the incident.

MAC Group Activation Levels

MAC groups may be activated at the local, state, regional, or national level. National level and Geographic Area level MAC Groups should be activated in accordance with the preparedness levels criteria established in the National and Geographic Area Mobilization Guides.

MAC Group Coordinator

The MAC Group coordinator facilitates organizing and accomplishing the mission, goals, and direction of the MAC group. The MAC Group coordinator:

- Provides expertise on the functions of the MAC Group and on the proper relationships with dispatch centers and incident managers.
- Fills and supervises necessary unit and support positions as needed, in accordance with coordination complexity.
- Arranges for and manages facilities and equipment necessary to carry out the MAC group functions.
- Facilitates the MAC group decision process. Implements decisions made by MAC group.

MAC Group Functions

Activation of a MAC Group improves interagency coordination and provides for allocation and timely commitment of multi-agency emergency resources. Participation by multiple agencies in the MAC effort will improve:

- Overall situation status information.
- Incident priority determination.
- Resource acquisition and allocation.
- State and Federal disaster coordination.
- Political interfaces.
- Consistency and quality of information provided to the media and involved agencies.
- Anticipation of future conditions and resource needs.

Managing the Incident

Agency Administrator Responsibilities

The Agency Administrator (AA) manages the land and resources on their organizational unit according to the established land management plan. Fire management is part of that responsibility. The AA establishes specific performance objectives for the Incident Commander (IC), and delegates the authority to the IC to take specific actions to meet those objectives.

AA responsibilities to a Type 1 or 2 Incident Management Team (IMT) or Fire Use Management Team (FUMT) include:

- Conduct an initial briefing to the Incident Management (Appendix D).
- Provide an approved and certified Wildland Fire Situation Analysis (WFSA) or Wildland Fire Implementation Plan (WFIP). The WFSA is validated daily and the WFIP is validated as required.
- Complete an Incident Complexity Analysis (Appendix L or M) to accompany the WFSA.
- Issue a written Delegation of Authority (Appendix R) to the Incident Commander and to other appropriate officials (Agency Administrator Representative, Resource Advisor, and Incident Business Advisor). For Type 3, 4, or 5 Incidents, delegations may be written or oral. The delegation should:
    - State specific and measurable objectives, priorities, expectations, constraints, and other required direction.
    - Establish the specific time for transfer of command.
    - Assign clear responsibilities for initial attack.
    - Define your role in the management of the incident.
    - Assign a resource advisor(s) to the IMT.
    - Define public information responsibilities.
    - If necessary, assign a local government liaison to the IMT.
    - Assign an Incident Business Advisor (IBA) to provide incident business management oversight commensurate with complexity.
    - Direct IMT to address rehabilitation of areas affected by suppression activities.
- Coordinate Mobilization with the Incident Commander:
    - Negotiate filling of mobilization order with the IC.
    - Establish time and location of Agency Administrator briefing.
    - Consider approving support staff additional to the IMT as requested by the IC.
    - Consider authorizing transportation needs as requested by the IC.

A website for agency administrators managing a large fire incident in which a team will be assigned is located at:
http://www.fs.fed.us/r3/fire/swamgmt/admin/aa_guidelines/swa_aa_guidelines.htm.

Agency Administrator Representative Responsibilities

The Agency Administrator Representative (the on-scene Agency Administrator) is responsible for representing the political, social, and economic issues of the Agency Administrator to the Incident Commander. This is accomplished by participating in the Agency Administrator briefing, in the IMT planning and strategy meetings, and in the operational briefings. Responsibilities include representing the Agency Administrator to the IMT regarding:

- Compliance with the Delegation of Authority and the WFSA.
- Public Concerns (air quality, road or trail closures, smoke management, threats)
- Public Safety (evacuations, access/use restrictions, temporary closures)
- Public Information (fire size, resources assigned, threats, concerns, appeals for assistance)
- Socioeconomic, Political, or Tribal Concerns
- Land and Property Ownership Concerns
- Interagency and Inter-governmental Issues
- Wildland Urban Interface Impacts
- Media Contacts

Resource Advisor Responsibilities

The Resource Advisor is responsible for anticipating the impacts of fire operations on natural and cultural resources and for communicating protection requirements for those resources to the Incident Commander. The Resource Advisor should ensure IMT compliance with the Land Management Plan and Fire Management Plan direction, and provide the Incident Commander with information, analysis, and advice on these areas:

- Rehabilitation requirements and standards
- Land Ownership
- Hazardous Materials
- Fuel Breaks (locations and specifications)
- Water Sources and Ownership
- Critical Watersheds
- Critical Wildlife Habitat
- Noxious Weeds
- Special Status Species (threatened, endangered, proposed, sensitive)
- Fisheries
- Poisonous Plants, Insects, and Snakes
- Mineral Resources (oil, gas, mining activities)
- Archeological Site, Historic Trails, Paleontological Sites
- Riparian Areas
- Military Issues
- Utility Rights-of-way (power, communication sites)
- Native Allotments
- Grazing Allotments

- Recreational Areas
- Special Management Areas (Wilderness Areas, Wilderness Study Areas, Recommended Wilderness, National Monuments, National Conservation Areas, National Historic Landmarks, Areas Of Critical Environmental Concern, Research Natural Areas, Wild And Scenic Rivers)

The Resource Advisor and Agency Administrator Representative positions are generally filled by local unit personnel. These positions may be combined and performed by one individual. Duties are stated in the *Resource Advisor's Guide for Wildland Fire* (NWCG PMS 313, NFES 1831, Jan 2004).

Transfer of Command

The following guidelines will assist in the transfer of incident command responsibilities from the local unit to incoming Type 1 or 2 Incident Management Team, and back to the local unit.

- The local team or organization already in place remains in charge until the local representative briefs their counterparts on the incoming team, a delegation of authority has been signed, and a mutually agreed time for transfer of command has been established.
- The ordering unit will specify times of arrival and transfer of command, and discuss these timeframes with both the incoming and outgoing command structures.
- Clear lines of authority must be maintained in order to minimize confusion and maintain operational control.
- Transfers of command should occur at the beginning of an operational period, whenever possible.
- All operational personnel will be notified on incident command frequencies when transfer of command occurs.

Release of Teams

The release of a Type 1 or 2 IMT should follow an approved transfer of command process. The agency administrator must approve the date and time of the transfer of command. The transition plan should include the following elements:

- Remaining organizational needs and structure
- Tasks or work to be accomplished
- Communication systems and radio frequencies
- Local safety hazards and considerations
- Incident Action Plan, including remaining resources and weather forecast
- Facilities, equipment, and supply status
- Arrangement for feeding remaining personnel
- Financial and payment processes needing follow-up
- Complexity Analysis

Team Evaluation

At completion of assignment, Incident Commanders will receive a written performance evaluation from the Agency Administrators prior to the teams release from the incident. Certain elements of this evaluation may not be able to be completed at the closeout review. These include; accountability and property control; completeness of claims investigation/documentation; and completeness of financial and payment documentation. The final evaluation incorporating all of the above elements should be sent to the Incident Commander within 60 days. See Appendix U for the IMT evaluation form.

The Delegation of Authority, the WFSA, and Agency Administrator's direction will serve as the primary standards against which the IMT is evaluated.

The Agency Administrator will provide a copy of the evaluation to the IC, the state/regional FMO, and retain a copy for the final fire package.

The state/regional FMO will review all evaluations and will be responsible for providing a copy of evaluations documenting performance to the geographic area board managing the IMT.

Financial Records

The ordering host unit will be responsible for retaining the incident documentation package and financial records.

Post Fire Activities

Each wildland fire management agency is responsible for taking prompt action to determine the need for and to prescribe and implement emergency treatments to minimize threats to life or property or to stabilize and prevent unacceptable degradation to natural and cultural resources resulting from the effects of a fire on the lands they manage.

Damages resulting from wildland fires are addressed through four activities:

- **Fire Suppression Activity Damage Repair -** Planned actions taken to repair the damages to resources, lands, and facilities resulting from wildfire suppression actions and documented in the Incident Action Plan. These actions are usually implemented immediately after containment of the fire by the Incident Management Team before demobilization.
- **Emergency Stabilization -** Planned actions to stabilize and prevent unacceptable degradation to natural and cultural resources, to minimize threats to life or property resulting from the effects of a fire, or to repair/replace/construct physical improvement necessary to prevent degradation of land or resources. Emergency stabilization actions must be taken within one year following containment of a wildland fire and documented in a Burned Area Emergency Stabilization Plan.
- **Rehabilitation -** Efforts taken within three years of containment of a wildland fire to repair or improve fire-damaged lands unlikely to recover

naturally to management approved conditions, or to repair or replace minor facilities damaged by fire. These efforts are documented in a separate Rehabilitation Plan.

- **Restoration -** The continuation of rehabilitation beyond the initial three years or the repair or replacement of major facilities damaged by the fire.

Burned Area Emergency Response (BAER) Teams

BAER Teams are a standing or ad hoc group of technical specialists (e.g., hydrologists, biologists, soil scientists, etc.) that develop and may implement portions of the Burned Area Emergency Stabilization Plans. They will meet the requirements for unescorted personnel found in Chapter 06 under "Visitors to the Fireline" when working within the perimeter of an uncontrolled fire. The team's skills and size should be commensurate with the size and complexity of the fire.

- It is the Agency Administrator's (not the Incident Commander's) responsibility to designate an interdisciplinary BAER team. However, BAER teams must coordinate closely with IC and Incident Management teams to work safely and efficiently. Initial requests for funding for BAER should be submitted to the appropriate Agency Administrator for approval within 7 calendar days after the total containment of the fire. If additional time is needed, extensions may be negotiated with those having approval authority.
- ***DOI -*** *The Department of the Interior maintains one standing National BAER Team with pre-identified positions listed in the National Interagency Mobilization Guide and are comprised of personnel from the Bureau of Indian Affairs, Bureau of Land Management, National Park Service, Fish and Wildlife Service, and Forest Service. The DOI-BAER Team is dispatched by the National Interagency BAER Team Dispatch Prioritization Criteria Evaluation. The DOI-BAER Teams should be requested at least 10 days prior to expected date of fire containment.*
- ***FS -*** *The Forest Service utilizes BAER Teams through a pool of resources with the skills identified by the receiving unit. When needed, BAER personnel from other units can either be contacted directly or through dispatch. Placing a general fire resource order for BAER team members via dispatch is not appropriate for ad hoc Forest Service teams. See FSM 2523 and FSH 2509.13 for agency specific policy and direction for BAER team.*

Cost Containment

The primary criteria for choosing suppression strategies are to minimize costs without compromising safety. Planned and actual suppression costs must be commensurate with the values to be protected. They must be included and displayed in the Wildland Fire Situation Analysis. Even though resource benefits may result in some areas of a fire, it is inappropriate to expend suppression dollars with the explicit objective of achieving resource benefit. Indirect containment strategies are appropriate only if they are the safest or least

cost option. Selection of these strategies must be carefully scrutinized when fire danger trends are rising. Long duration wildfires need to be closely evaluated by cost containment teams to ensure that operations are not occurring beyond the point of diminishing returns.

An Incident Business Advisor (IBA1) must be assigned to any fire with suppression costs of more than $5 million. An IBA2 is advised for fires with suppression costs of $1-5 million. If a certified IBA is not available, the approving official will appoint a financial advisor to monitor expenditures.

A National Cost Oversight Team will be assigned to a fire with suppression costs of more than $5 million. This team will include a Line Officer (team lead), Incident Business Specialist, Incident Management Team Specialist, and a Financial Specialist. The team lead and the receiving Agency Administrator can agree to add team members as needed to address issues specific to the incident, i.e., aviation, personnel, or contracting specialists.

Incident suppression cost objectives will be included as a performance measure in Incident Management Team evaluations.

Wildland Fire Use

Agencies may apply this strategy in managing wildland fires for resource benefit. An approved Fire Management Plan (FMP) is required. This plan identifies specific resource and fire management objectives, a predefined geographic area, and prescriptive criteria that must be met.

A Wildland Fire Implementation Plan (WFIP) will be completed for all wildland fires that are managed for resource benefit. This is an operational plan for assessing, analyzing, and selecting strategies for wildland fire use. It is progressively developed and documents appropriate management responses for any wildland fire managed for resource benefits. The plan will be completed in compliance with the guidance found in the *Wildland Fire Use, Implementation Procedures Reference Guide, May 2005*.

A WFIP consists of three distinct stages:

- **Stage I -** The initial fire assessment, or size-up, is the preliminary information gathering stage. It compares current information to established prescription criteria found in the FMP. This is an initial decision making tool which assists managers in classifying fires for resource benefit or suppression actions. Components include: Strategic Fire Size-Up, Decision Criteria Checklist, Management Actions, and Periodic Fire Assessment.
- **Stage II -** Defines management actions required in response to a changing fire situation as indicated by monitoring information and the periodic fire assessment from Stage I. This stage is used to manage larger, more active fires with greater potential for geographic extent than Stage I. Components

include: Objectives, Fire Situation, Management Actions, Estimated Costs, and Periodic Fire Assessment.

- **Stage III -** Defines management actions required in response to an escalating fire situation, potential long duration, and increased need for management activity, as indicated by the periodic assessment completed in Stage II. Components include: Objectives and Risk Assessment Considerations, Maximum Manageable Area Definition and Maps, Weather Conditions and Drought Prognosis, Long-term Risk Assessment, Threats, Monitoring Actions, Mitigation Actions, Resources Needed to Manage the Fire, Contingency Actions, Information Plan, Estimated Costs, Post-burn Evaluation, Signatures and Date, and Periodic Fire Assessment.

WFIP Completion Timeframes	
WFIP Stage	Maximum Completion Timeframe
Stage I	8 hours after confirmed fire detection and Strategic Fire Size-Up.
Stage II	48 hours after need indicated by Planning Needs Assessment.
Stage III	7 days after need indicated by Planning Needs Assessment
Periodic Fire Assessment	As part of all stages and on assigned frequency thereafter.

- ***NPS -*** *Wildland Fire Use Program Oversight. Regional office fire management officers are responsible for appraising and surveying all wildland fire use activities within their region. The regional office fire staff will review implementation plans for fires with a Complex Rating. Direct contact with parks may be necessary in order to stay apprised of complex situations. On rare occasions, circumstances or situations may exist which require the regional director to intervene in the wildland fire use decision process.*
- ***NPS -*** *Review by the regional fire management officer or acting is mandatory for Wildland Fire Implementation Plans with a projected cost of greater than $500,000. Review by the NPS National Fire Management Officer at NIFC, or Acting, is mandatory for Wildland Fire Implementation Plans with a projected cost of greater than $1,000,000.*

Incident Status Reporting

The Incident Status Summary (ICS-209), submitted to the GACC, is used to report large wildland fires, WFU events, and any other significant events on lands under federal protection or federal ownership. Lands administered by states and other federal cooperators may also report in this manner.

Large fires are classified as 100 acres or larger in timber fuel types, 300 acres or larger in grass fuel types, or when a Type 1 or 2 Incident Management Team is assigned. A report should be submitted daily until the incident is contained. The Agency Administrator may require additional reporting times. Refer to local, zone, and/or GACC guidance for additional reporting requirements.

Chapter 11
FWS Specific Incident Management Information

Link to Redbook Chapter 11

11-13-25 Post Fire Activities

Roles, Responsibilities and Accountability - Plan preparation, review, approval, and implementation require immediate action and span multiple program responsibilities and disciplines are summarized below:

- Plan preparation - Refuge Manager
- Plan review
  - Compatibility and compliance review - Refuge Manager
  - Fiscal and policy review – Regional Fire Management Coordinator / National Burned Area Emergency Rehabilitation Coordinator
- Plan approval
  - < $500,000 - Regional Director
  - > $500,000 - Chief, Branch of Fire Management
- Plan implementation - Refuge Manager
  - Plan implementation oversight - Refuge Supervisor
  - Budget tracking and accountability- Chief, Branch of Fire Management

Planning - Emergency stabilization and rehabilitation treatments will be described in separate plans. The Burned Area Emergency Response (emergency stabilization) Plan will specify only emergency activities and treatments carried out within one year of wildfire containment and must be completed within 7 calendar days after total wildfire containment and approved within 6 business days of receipt by the approving office (extensions can be granted by the approving office). The Burned Area Rehabilitation Plan will specify non-emergency activities and treatments which are compatible with approved unit management plans and can be accomplished within 3 years of wildfire containment. A plan amendment is required to document and support any additional funding requests and can be made at any time. Burned Area Emergency Response (emergency stabilization) and Burned Area Rehabilitation Plan templates are provided.

- Burned Area Emergency Response (emergency stabilization) Plan template and examples
- Burned Area Rehabilitation Plan template and examples

Plan Review and Approval - Project leaders submit electronic copies of completed plans to the Regional Fire Management Coordinator (RFMC) and National Burned Area Emergency Response Coordinator (NBAERC) for concurrent and coordinated technical, fiscal and policy review. The RFMC presents the plan and RFMC/NBAERC approval recommendations to the Regional Director for approval. Following Regional Director approval, the NBAERC presents plans with estimated costs > $500,000 to the Chief, Fire Management Branch for final approval.

Funding - Emergency Stabilization (subactivity 9142) and Burned Area Rehabilitation (subactivity 9262) funding guidance should be referenced when developing and implementing a Burned Area Emergency Response (emergency stabilization) and/or Burned Area Rehabilitation Plan. The FireCode fire number will be used to establish the cost structure for all 9142 and 9262 projects. The appropriate cost structure will be activated only after plan approval. Panned data entries into the NFPORS Rehabilitation and Restoration module are the responsibility the National Burned Area Emergency Response Coordinator while accomplishment data entries are the responsibility of the field unit or Regional office. Consideration of additional Emergency Stabilization or Burned Area Rehabilitation funding beyond the first year requires monitoring documentation and an Annual Accomplishment Report (see Reporting Requirements below).

- **Subactivity 9142 -** Emergency Stabilization funding is provided for no more than one year following total containment of the wildfire, except that emergency stabilization funding can be used for up to three years following total containment of the wildfire for treatment effectiveness monitoring and to repair or replace emergency stabilization structures or treatments where failure to do so would imperil watershed functionality or result in serious loss of downstream values. However, emergency stabilization funding cannot be used to continue seeding, plantings, and invasive plant treatments beyond one year. Continued treatment funding beyond the first year requires an approved plan amendment including monitoring documentation justifying the additional funding request and data entry into NFPORS R&R module. Emergency stabilization plans and expenditures will conform to established interagency emergency stabilization program standards.
- **Subactivity 9262** – Funding for rehabilitation treatments is provided in one-year increments for no more than three years following containment of a wildland fire. All rehabilitation projects or treatments are funded on a priority basis as established by the NBAER Coordinators in consultation with the Office of Wildland Fire Coordination. If necessary, the priority selection for treatments on prior-year fires will occur shortly after the start of each fiscal year. Funding will be distributed upon passage of the Interior Appropriation bill. Rehabilitation plans will conform to established interagency burned area rehabilitation program standards.

Budget Allocation - The Branch of Fire Management will timely budget allocate available Emergency Stabilization (subactivity 9142) or Burned Area Rehabilitation (subactivity 9262) funds based on information in the approved plan by:

- Establishing a FireCode compatible cost structure for the approved plan (either 9142 or 9262).
- Initiating the budget allocation process based on fiscal year funding needs identified in the approved plan.
- Notifying (via e-mail) the organization and regional fire management and budget offices of the established cost structure and funding allocated.

Reporting Requirements - A Burned Area Emergency Response (emergency stabilization) and/or Burned Area Rehabilitation Plan Annual Accomplishment Report is required to receive continued funding in years two and three, and will document

treatment and activity accomplishments, actual implementation costs, and treatment effectiveness. Accomplishment reports may require more detail information for local management and less detail information for national office or Departmental use. Summarized accomplishment information will be collected and archived at the appropriate field, regional and national office levels for use in program planning, review, and oversight as necessary.

Detailed Annual Accomplishment Reports are completed by the end of each fiscal year and will document actual accomplishments, costs and monitoring results and kept in field unit project files. For national office use, annual accomplishments are summarized and reported on the NFPORS treatment/activity form in the *Actual FY 20XX accomplishment* field. In addition actual fiscal year expenditures and monitoring results summaries (what was found as the result of the planned monitoring) are summarized in the *Notes* field on the treatment/activity form. The NFPORS *Notes* field has a maximum capacity of 1500 characters (approximately 200 words) - report total fiscal year treatment/activity implementation expenditures and summarize monitoring results.

The Burned Area Emergency Response (emergency stabilization) and/or Rehabilitation Plan Final Accomplishment Report will report plan activities in sufficient detail to document all accomplishments, implementation costs and monitoring results. The Final Accomplishment Report is completed no later than 3 years and 60 days following wildfire containment. An electronic copy of all Final Accomplishment Reports is provided to the Branch of Fire Management in Boise, Idaho, and is posted on the Service's Emergency Stabilization and Burned Area Rehabilitation web site.

11-15-21 Wildland Fire Use

Implementation guidance is found in the interagency Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide.

The determination of whether a FUM2 may be used to manage a wildland fire use incident must be documented in the Wildland Fire Implementation Plan (WFIP) using the Wildland and Prescribed Fire Complexity Rating Worksheet. A FUM2 may only be used to manage wildland fire use incidents having a ***Low*** or ***Moderate*** overall complexity rating with **NO** individual complexity values of 5 (using the 1, 3, 5 scale) for the following Complexity Elements: Safety; Threats to Boundaries; Fuels and Fire Behavior; Objectives; Management Improvement; or Natural, Cultural, Social values. A National Wildfire Coordinating Group (NWCG) qualified Fire Use Manager (FUMA) can be used to manage all other wildland fire used to accomplish resource benefits. This does not preclude the agency administrator (or delegated individual) from requiring a FUMA to manage any wildland fire use incident regardless of complexity.

Final Wildland Fire Record

The final wildland fire project record may include the following:

- Fire Management Information System (FMIS) data entry

- Narrative
- Wildland Fire Situation Analysis(s)
- Incident Action Plan(s)
- Daily weather forecasts and spot weather forecasts
- Cumulative fire map showing acreage increase by day
- Total cost summary
- Monitoring data (Wildland Fire Observation Records)
- Critique of fire projections on Incident Action Plan

Chapter 12
Suppression Chemicals & Delivery Systems

Policy for Use of Fire Chemicals

Use only products qualified and approved for intended use. Follow safe handling procedures and use personal protective equipment recommended on the product label and *Material Safety Data Sheet* (MSDS).

A current list of qualified products and approved uses can be found on the Wildland Fire Chemical Systems website:

- www.fs.fed.us/rm/fire
- Click on Wildland Fire Chemicals
- Click on Qualified Products List

Refer to local jurisdictional policy and guidance related to use of wildland fire chemicals for protection of historic structures.

Retardant Policy

Using approved long-term retardants in wildland fire suppression efforts is standard in fire management and planning. The retardants are most often delivered in fixed or rotor-wing aircraft. Some products are formulated specifically for delivery from ground sources.

Wildland firefighting agencies will not accept retardants containing sodium Ferrocyanide (YPS) for contracts awarded in the year 2005 and beyond, and will only accept gum-thickened retardants in contracts awarded in the year 2005 and beyond.

Foam Policy

Standard operating procedures for fire management and suppression activities involving water as the suppression or protection agent delivered by engines and portable pumps, shall include the use of Class A fire suppressant to improve the efficiency of water. The exception is near watercourses where accidental spillage or over spray of the chemical could be harmful to the aquatic ecosystem (see Environmental Guidelines page 12-03). Helicopters and Single Engine Airtankers (SEATs) can also deliver foam. Some agencies also allow application of foam from fixed-wing water scoopers.

Types of Fire Chemicals

Long-Term Retardant

Long-term retardants contain fertilizer salts that change the way fuels burn. They are effective even after the water has evaporated.

Principles of application and coverage levels are outlined in *Recommended Retardant Coverage Levels NFES 2048, PMS 440-2*. Retardant mixing,

blending, testing, and sampling requirements can be found in *Lot Acceptance, Quality Assurance and Field Quality Control for Fire Retardant Chemicals, NFES 1245, PMS 444-1*.

Fire Suppressant Foam

Fire suppressant foams are combinations of wetting and foaming agents added to water to improve the effectiveness of the water. They are not effective once the water has evaporated.

Technical guidelines for equipment operations and general principles of foam application are discussed in *Foam vs. Fire, Class A Foam for Wildland Fires, NWCG, PMS 446-1, NFES 2246, 2nd ed., October 1993, and Foam vs. Fire, Aerial Applications, NWCG, PMS 446-3, NFES 1845, October 1995.*

Water Enhancers for Wildland Fire Suppression

Water enhancers, such as fire fighting gels, are products added to water to improve one or more of the physical characteristics of water. They are not effective once the water has evaporated. Water enhancers are typically applied from ground equipment and especially suited to exposure protection for vertical surfaces. Use caution when using water enhancers as they can be extremely slippery.

General Safety Criteria

All wildland fire chemicals must meet minimum requirements with regard to aquatic and mammalian toxicity, which includes acute oral toxicity, acute dermal toxicity, primary skin irritation, and primary eye irritation *(International Specification for Fire Suppressant Foam for Wildland Fires, Aircraft or Ground Application, July 2000.)*

Personnel involved in handling, mixing, and applying fire chemicals or solutions will be trained in proper procedures to protect their health and safety, as well as that of the environment.

Personnel must follow the manufacturer's recommendations, including use of PPE (i.e. goggles, gloves, eyewash kits on site) as found on the product label and product *Material Safety Data Sheet* (MSDS). Approved fire chemicals are mildly to severely irritating to the eyes. Anyone involved with or working in the vicinity of fire chemical concentrates should use protective splash goggles.

Human health risk from accidental drench with retardant can be mitigated by removing any residue from exposed skin by washing with water.

Containers of any fire chemical, including backpack pumps and engine tanks, should be labeled to alert personnel that they do not contain plain water, and that the contents must not be used for drinking purposes. Slickness is a hazard at storage areas and unloading and mixing sites. Because all fire chemical

concentrates and solutions contribute to slippery conditions, all spills must be cleaned up immediately, preferably with a dry absorbent pad or granules.

Personnel applying foam should stand in untreated areas. A foam blanket can be dangerous to walk through because it conceals ground hazards. Foam readily penetrates and deteriorates leather boots, resulting in wet feet and potentially ruined leather.

All safety precautions associated with ground crews near retardant drops also apply to aerial foam drops.

Aerial Application Safety

Persons downrange, but in the flight path of intended retardant drops, should move to a location that will decrease the possibility of being hit with a drop.

Persons near retardant drops should be alert for objects (tree limbs, rocks, etc.) that the drop could dislodge.

During training or briefings, inform field personnel of environmental guidelines and requirements for fire chemicals application and eliminate contact with natural bodies of water.

Notify incident or host authorities promptly of any accidental foam or retardant drop within 300 feet of, or spill into, a water body. The incident or host authorities must immediately contact appropriate regulatory agencies and specialists within the local jurisdiction. Also spills will be immediately reported to Wildland Fire Chemicals Systems in Missoula, Montana at phone 406-329-3900 or to individuals listed in website referenced above.

Avoid dipping from river or lakes with a helicopter bucket containing residual foam or retardant. Set up an adjacent reload site and manage the foam and retardant in portable tanks, or terminate the use of chemicals for that application.

Quality control maintenance and safety requirements dictate that mixing or blending of retardants be accomplished by standard approved methods. Powdered or liquid retardants must be blended or mixed at the proper ratio prior to being loaded into the aircraft.

Environmental Guidelines for Delivery of Retardant or Foam Near Waterways

Definition

Waterway - Any body of water including lakes, rivers, seeps, intermittent streams and ponds whether or not they contain aquatic life.

Aerial Application Guidelines

Avoid aerial or ground application of retardant or foam within 300 feet of waterways.

These guidelines do not require the pilot-in-command to fly in such a way as to endanger his or her aircraft, other aircraft, structures, or compromise ground personnel safety. Guidance to pilots can be found in Aviation Chapter 17.

Exceptions

When alternative line construction tactics are not available due to terrain constraints, congested area, life and property concerns, or lack of ground personnel, it is acceptable to anchor the foam or retardant application to the waterway. When anchoring a retardant or foam line to a waterway, use the most accurate method of delivery in order to minimize placement of retardant or foam in the waterway.

Deviations from these guidelines are acceptable when life or property is threatened, and the use of retardant or foam can be reasonably expected to alleviate the threat. When potential damage to natural resources outweighs possible loss of aquatic life, the Agency Administrator may approve a deviation from these guidelines.

Environmental Procedures for Application of Fire Chemicals

Threatened and Endangered (T&E) Species

The following provisions are guidance for complying with the emergency Section 7 consultation procedures of the Endangered Species Act (ESA) with respect to aquatic species. These provisions do not alter or diminish an agency's responsibilities under (ESA).

Where aquatic T&E species or their habitats are potentially affected by aerial application of retardant or foam, the following additional procedures apply:

- As soon as practical after the aerial application of retardant or foam near waterways, determine whether the aerial application has caused any adverse effect on T&E species or their habitat using the following criteria:
  - Aerial application of retardant or foam outside 300 feet of a waterway is presumed to avoid adverse effects to aquatic species and no further consultation for aquatic species is necessary.
  - Aerial application of retardant or foam within 300 feet of a waterway requires that the unit administrator determine whether there have been any adverse effects to T&E species within the waterway.
  - If the action agency determines that there were adverse effects on T&E species or their habitats, then the agency must consult with Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) as required by 50 CFR 402.05 (Emergencies). Procedures for emergency consultation are described in the *Interagency*

Consultation Handbook, Chapter 8 (March 1998). In the case of a long duration incident, emergency consultation should be initiated as soon as practical during the event. Otherwise, post-event consultation is appropriate. The initiation of the consultation is the responsibility of the unit administrator. These procedures shall be documented in a Biological Assessment (BA). All occurrences of adverse effects will be immediately reported to Wildland Fire Chemicals Systems in Missoula, Montana at phone 406-329-3900 or to individuals listed in website referenced above.

- Each agency is responsible for ensuring that their appropriate agency specific guides and training manuals reflect these standards.

Ground Application of Fire Suppressant Foams

Proportioners

Proportioners are designed to provide an appropriate mix of foam concentrate and water during pumping operations, rather than relying on batch mixing to prepare foam solutions. Both manual and automatic proportioner systems are available. Specific agency standards may require the use of a specific type of system. Proportioners should be flushed after every operational period of use.

Agency standards for foam proportioners on engines are an automatically regulated proportioners, such as Robwen Flowmix 500, or FoamPro 1600. These devices are available as a foam kit for use with portable pumps. Automatic proportioners are required for compressed air foam systems to prevent slug flow.

- ***FS*** *- Manually regulated proportioners, such as around-the-pump proportioners, in-line and by-pass eductors, and suction-side regulators, are acceptable for remote portable pump use when the operator understands the device limitations.*

Wet Water

Using foam concentrates at a mix ratio of 0.1 percent will produce a wet water solution.

Conventional Nozzles and Backpack Pumps

Mix ratio is 0.1 - 0.3%. Hydraulic considerations are the same as water.

Aspirating Nozzles

Mix ratio is 0.2 - 1.0%. But generally 0.5%, depending on nozzle, “foaminess” of concentrate used, and type of application. Adjust the ratio to best meet needs and objectives. Foam production and delivery should occur as readily as water delivery.

Compressed Air Foam Systems (CAFS) Operating Standards

- Keep static air and water pressures equal.

- Start with a 0.3% mix ratio; adjust if necessary.
- Typical operation with 1 cfm of air for every gpm of water; adjust if necessary.
- Employ a motionless mixer or 100 feet of hose to develop foam in the hose.
- Foam production and delivery should occur as readily as water delivery.
- Recommended minimum hose diameter is 1.5 inches when using foam on wildland/urban interface and vehicle fires.
- CAFS Safety - Mandatory training for personnel operating a CAFS includes: operating the nozzle, working around charged hoselays, and how to prevent slug flow.

Chapter 13
Training & Qualifications

Introduction

Agency standards for training and qualifications which may exceed the minimum standards established by NWCG, are coordinated through the National Fire and Aviation Executive Board. Such additional standards will be approved by the Fire Directors, and implemented through the Incident Qualifications and Certification System (IQCS).

Policy

It is agency policy that only qualified personnel will be assigned duties in wildland fire suppression or prescribed fire. All employees assigned dedicated fire program management responsibilities at the local, geographic area, or national level shall meet established interagency and agency competencies (knowledge, skills, and abilities) and associated qualifications. The National Wildfire Coordinating Group (NWCG), *Wildland and Prescribed Fire Qualifications Systems Guide* PMS 310-1 is the policy.

Requirements for fire management positions are outlined in the *Interagency Fire Program Management Qualifications Standards and Guide*, referred to as the IFPM Standard. The supplemental Qualification Standard for professional GS-0401 Fire Management Specialist positions, approved by the Office of Personnel Management, is also included in the IFPM Standard. *The Interagency Fire Program Management Qualification Standards and Guide* can be found in it's entirety on the IFPM website: http://www.ifpm.nifc.gov

- ***FS -*** *Standards which may exceed the minimum standards established by NWCG are identified in FSH 5109.17. AD hires will meet FSH 5109.17 qualification standards.*

Incident Qualifications and Certification System (IQCS)

The Incident Qualifications and Certification System (IQCS) is the fire qualifications and certification record keeping system. The Responder Master Record report provided by the IQCS meets the agency requirement for maintaining fire qualification records. The system is designed to provide managers at the local, state/regional, and national levels with detailed qualification, experience, and training information needed to certify employees in wildland fire positions. The IQCS is a tool to assist managers in certification decisions, however, it does not replace the manager's responsibility to validate that employees meet all requirements for position performance based on standards.

A hard copy file folder will be kept for each employee. The contents will include, but are not limited to: training records for all agency required courses, evaluations from assignments, position Task Book verification, yearly updated IQCS forms, and Responder Master Record (RPTC028) from IQCS.

All records will be stored and/or destroyed in accordance with agency policies.

- ***BLM -*** *These policies can be found at: http://www.blm.gov/nhp/records/blmgrs/toc.html*

Certification of Non-Agency Personnel

Non-agency firefighters will be certified by state or local fire departments, or private training providers with approved Memorandum of Understanding (MOU) through their local GACCs. Agencies will not assist in the administration, or sponsor the Work Capacity Test (WCT), as the certifying agency.

Incident Qualifications Card (Red Card)

The Agency Administrator (or delegate) is responsible for annual certification of all agency and Administrative Determined (AD) personnel serving in wildland and prescribed fire positions. Agency certification is issued annually in the form of an Incident Qualification Card (Red Card), which certifies that the individual is qualified to perform in a specified position. The Red Card must be reviewed for accuracy and signed by the Agency Administrator or delegated official. The Agency Administrator, fire manager, and individual are responsible for monitoring medical status, fitness, training, performance, and for taking appropriate action to ensure the employee meets all position performance requirements.

Training, medical screening, and successful completion of the appropriate WCT must be properly accomplished. All Red Cards issued to agency employees, with the exception of Emergency Firefighter (EFF)-paid or temporary employees at the FFT2 level, will be printed using the IQCS. Red Cards issued to EFF or temporary employees at the FFT2 level may be printed at the local level without use of the IQCS.

Each agency will designate employees at the national, regional/state, and local levels as Fire Qualifications Administrators, who ensure all incident experience, incident training, and position Task Books for employees within the agency are accurately recorded in the IQCS. All records must be updated annually or modified as changes occur.

The Incident Qualifications Card Expiration Dates

- Red Card positions requiring Work Capacity Tests (WCT) are valid through the fitness expiration date listed on the card.
- Red Card positions not requiring WCT for issuance are valid for 12 months from the date the card was signed by a certifying official.

Qualification System

Minimum Training Requirements

All personnel filling ICS positions on the fireline must have completed a minimum of 32 hours of basic wildland fire training, including the modules on basic firefighting, basic fire behavior, and standards for survival.

- ***NPS -*** *It is NPS policy that two or more assignments be accomplished after completing a Position Task Book, and receiving certification, before an individual begins movement to the next higher level. It is also NPS policy to require two or more qualified assignments be accomplished in a position before an individual may become a position performance evaluator. Exceptions to this should be rare and well founded. The only exceptions to this policy are unit leader positions leading to Planning Section Chief, Logistics Section Chief, or Finance Section Chief. Subordinate unit leader positions require a minimum of one assignment after the PTB completion and position certification.*

Annual Fireline Safety Refresher Training

Annual Fireline Safety Refresher Training is required for all personnel participating in wildland fire who may be subject to assignments on the fireline. Any unescorted visitors must meet the requirements specified in Chapter 06 of this volume. Annual Fireline Safety Refresher Training must include the following core topics:

- **Entrapments -** Use training and reference materials to study the risk management process as identified in the *Incident Response Pocket Guide* and rules of engagement as appropriate to the participants, e.g., LCES, Standard Firefighting Orders, Eighteen Watch Out Situations, Wildland Fire Situation Analysis (WFSA) direction, Fire Management Plan priorities, etc.
- **Current Issues -** Review and discuss identified “hot topics” as found on the current *Wildland Fire Safety Training Annual Refresher* (WFSTAR) website. Review forecasts and assessments for the upcoming fire season and discuss implications for firefighter safety.
- **Fire Shelter -** Review and discuss last resort survival. Conduct “hands-on” fire shelter inspections. Practice shelter deployments in applicable crew/module configurations. No “live fire” exercises for the purpose of fire shelter deployment training will be conducted.
- **Other Hazards and Safety Issues -** Choose additional hazard and safety subjects, which could include SAFENET, current safety alerts, site/unit specific safety issues and hazards.

These core topics must be sufficiently covered to ensure that personnel are aware of safety concerns and procedures and can demonstrate proficiency in fire shelter deployment. The minimum refresher training hour requirements for each agency is identified below. Training time may be extended in order to effectively complete this curriculum or to meet local training requirements.

- ***BLM*** *- 4 hours*
- ***FWS*** *- 8 hours*
- ***NPS*** *- 8 hours*
- ***FS*** *- 8 hours*

Annual Fireline Safety Refresher Training will have a 12-month currency. A web site, http://www.nifc.gov/wfstar/index.htm, titled *Wildland Fire Safety Training Annual Refresher* (WFSTAR)" is available to assist in this training.

- ***BLM*** *- The "Do What's Right" video is required pre-season training in addition to Annual Fireline Safety Refresher Training.*
- ***FS*** *- The Incident Complexity Analysis found in Appendix M will be shared with all Type 3, 4, & 5 Incident Commanders. Review of this guide should be a part of your annual refresher training.*

Entrapment avoidance and deployment protocols are identified in the *Incident Response Pocket Guide* (PMS No. 461/NFES No.1077). The guide contains a specific "Risk Management Process", and "Last Resort Survival Checklist".

An *Incident Pocket Response Guide* will be issued to every fireline supervisor.

Non-NWCG Agencies' Qualifications

Personnel from other agencies who do not subscribe to the NWCG qualification standards may be used on agency managed fires. However, agency fire managers must ensure these individuals are only assigned to duties commensurate with their abilities, agency qualifications, and equipment capabilities.

- ***BLM/NPS*** *- Other agencies personnel, meeting NWCG 310-1, prerequisites, can participate in and receive certificates for successful completion of BLM/NPS taught courses. BLM/NPS employees can complete the Task Blocks, Evaluation Record and Verification/ Certification sections of a cooperating organizations employee Position Task Book. BLM/NPS employees will not initiate or complete the Agency Certification sections of Position Task Book for non-agency employees.*

Qualification and Certification Process

Each unit with fire management responsibilities will establish a Red Card qualification and certification process. In areas cooperating with other federal, state, or local agencies, an interagency qualification and certification committee should include representatives from each unit. These qualification and certification committees provide management oversight and review of the wildland and prescribed fire positions under their jurisdiction. The committee also:

- Ensures that qualifications generated by IQCS or other agency systems for employees are valid by reviewing the training and experience of each employee.

- Evaluates if each employee possesses the personal characteristics necessary to perform the wildland and prescribed fire positions in a safe and efficient manner.
- Makes recommendations to the appropriate Agency Administrator or designee who is responsible for final certification signature.
- Develops interagency training needs and sponsors courses that can be offered locally.
- Ensures training nominees meet minimum requirements for attending courses.

Physical Fitness

Physical Fitness and Conditioning

Agency Administrators are responsible for ensuring the overall physical fitness of firefighters. The Agency Administrator may authorize employees who are available and/or serving in wildland fire positions that require a physical fitness rating of arduous, one hour each day for fitness condition. Non fire personnel who hold arduous ratings on their red card may be authorized up to three hours per week of duty time for fitness conditioning. All other wildland firefighting personnel may be authorized up to three hours per week of duty time for fitness conditioning. Individuals who have a position with an arduous physical requirement may be periodically tested during the fire season to ensure they are retaining the required level of fitness and conditioning.

Fitness conditioning periods may be identified and structured to include aerobic and muscular exercises. Team sports are not authorized for fitness conditioning. Chapters 7, 8, and 9 of *Fitness and Work Capacity, 2nd ed. (1997)*, provide excellent guidance concerning training specifically for the pack test, aerobic fitness programs, and muscular fitness training.

- ***FS -*** *Forest Service direction is found in FSH 5109.17.*

Medical Examinations

Agency Administrators and supervisors are responsible for the occupational health and safety of their employees performing wildland fire activities, and may require employees to take a medical examination at any time.

Established medical qualification programs, as stated in 5 CFR 339, provide consistent medical standards in order to safeguard the health of employees whose work may subject them or others to significant health and safety risks due to occupational or environmental exposure or demand.

Information on any medical records is considered confidential and must be kept in the employee's medical file.

Federal Interagency Wildland Firefighter Medical Qualification Standards

The Federal Interagency Wildland Firefighter Medical Qualification Standards continue to be implemented throughout the DOI and FS organizations. Those units who have not yet implemented the new standards must continue to comply with the current agency standards as stated under Agency Specific Medical Examinations section below until implementation of the new standards is accomplished. Additional information regarding the Federal Interagency Wildland Firefighter Medical Qualification Standards program can be obtained at www.nifc.gov/medical_standards.

All permanent, career-seasonal, temporary, Student Career Experience Program (SCEP) employees, and AD/EFF who participate in wildland fire activities requiring a fitness level of arduous must participate in the Federal Interagency Wildland Firefighter Medical Qualification Standards program at the appropriate level (see Medical Examination Requirements Appendix FF) and must be medically cleared prior to attempting the WCT.

Under the Federal Interagency Wildland Firefighter Medical Qualification Standards, the *Health Screen Questionnaire* (HSQ) will only be required for arduous duty AD/EFF hires less than 45 years of age. The HSQ is not required prior to taking the WCT for all other employment categories.

No employee or applicant who fails to meet the Federal Interagency Wildland Firefighter Medical Qualification Standards as a seasonal/temporary or permanent employee may be hired as an AD/EFF.

Agency Specific Medical Examinations

This section applies only to those units who have not yet implemented the Federal Interagency Wildland Firefighter Medical Qualification Standards for arduous duty and for all employees and AD/EFF who participate in wildland fire activities requiring a fitness level of moderate or light.

The *Health Screen Questionnaire* (HSQ) will be utilized as a means to identify individuals who may be at risk in taking the Work Capacity Test (WCT) and recommend an exercise program and/or medical examination prior to taking the WCT.

If any “Yes” answer is indicated on the HSQ, a medical examination is required prior to the employee taking the WCT. If there is a known pre-existing medical condition that is already being monitored under medical care (e.g., high blood pressure), a medical clearance statement will be provided by the physician in lieu of a medical examination prior to taking WCT.

Medical examinations will be performed utilizing the U.S. Civil Service *Commission Certificate of Medical Examination Form*, SF-78. Stress EKGs are not required as part of the medical examination and will only be approved if

recommended and administered by the medical examining physician. Cost for exams will be borne by the home unit. If medical findings during exam require further evaluation, then the cost of any further evaluation or treatment is borne by the employee/applicant.

The examining physician will submit the completed SF-78 (and applicable supplements) to the employee's servicing human resources office, where it will be reviewed and retained in the employee's medical file.

- ***BLM/FWS -*** *In addition to the SF-78, the Physical Requirements for Firefighting and Smokejumper Positions, Supplemental to SF-78, BLM Form 1400-108 is required for firefighter and smokejumper positions.*
- ***BLM/FWS -*** *All new employees being hired as a wildland firefighter will receive a medical exam utilizing the SF-78 and Supplemental to SF-78 forms.*
- ***BLM -*** *Employees 40 years of age and older must have a physical exam every three years or as indicated by the HSQ.*
- ***FWS -*** *All permanent employees over 45 years of age who take the pack or field test to qualify for a wildland or prescribed fire position are required to take an annual physical examination before taking the WCT.*
- ***NPS -*** *"Wildland Firefighter" Defined: Those employees who perform duties of a hazardous and/or strenuous nature are targeted. Therefore, within this section, "wildland firefighter" hereinafter refers to an employee whose wildland fire position(s) qualifications require an "Arduous" fitness level, as defined in the current PMS 310-1 "Wildland and Prescribed Fire Qualifications System Guide" and in RM-18, Chapter 6.*
- ***NPS -*** *For health and fitness purposes, those who are fire-qualified at less than the Arduous fitness level are not required to meet the mandatory fitness program requirements of DO-57 for wildland fire management. However, they are strongly encouraged to participate in the voluntary fitness program, and must still meet physical fitness/work capacity requirements as outlined in 310-1 "Wildland and Prescribed Fire Qualification System Guide" for positions with Moderate and Light fitness requirements.*
- ***NPS -*** *Health Screening: Arduous duty medical exams must be taken once every 3 years by wildland firefighters. They do not include stress EKGs, except for those 41 years or older if required by the examining physician. Those cases would be considered exceptional. FIREPRO funding will not be used to pay for stress EKGs, except in exceptional cases, which require prior approval by the regional fire management officer.*
- ***NPS -*** *FIREPRO funding may be used to pay for medical exams for mandatory fitness program participants within the following limits:*
  - ***NPS -*** *Those who meet the definition of "wildland firefighter" will have costs of all required medical examinations paid for by FIREPRO, not to exceed $350. Anything in excess of $350 requires*

prior approval of the regional fire management officer. This includes recent requirements for blood screenings.

- ***NPS -*** *In the event an employee-selected physician indicates that an EKG or other advanced test is needed, the government may require a second opinion from an appointed physician.*

- ***NPS -*** *The law enforcement medical exam for NPS rangers, who are collateral duty wildland firefighters, will suffice for wildland fire health screening purposes.*
- ***NPS -*** *Employees requiring medical exams on the 3-year cycle will have exams conducted prior to taking the Arduous fitness WCT (Pack Test).*

Health Screen Questionnaire HSQ

Title 5 CFR Part 339 - Medical Qualification Determinations, which provides a determination of an individual's fitness-for-duty, authorizes solicitation of this information.

The HSQ can be found in Appendix W.

The information on the HSQ is considered confidential and once reviewed by the test administrator to determine if the WCT can be administered, it must be kept in the employee's medical file (EMF). This file may only be viewed by Human Resource Management (HRM) or Safety personnel.

- ***FS -*** *Servicing Personnel Office will notify the test administrator once the employee is cleared to complete the WCT.*

Work Capacity Tests (WCTs) Administration

The Work Capacity Tests (WCT) is the official method of assessing wildland firefighter fitness levels. See *"Work Capacity Tests for Wildland Firefighters, Test Administrator's Guide"* PMS 307, NFES 1109.

WCT Administrators must ensure that WCT participants have been medically cleared, either through *Wildland Firefighter Medical Qualification Standards* or agency specific medical examination.

WCTs are administered annually to all employees, including AD/EFF who will be serving in wildland fire positions that require a fitness level. The currency for the WCT is 12 months.

The WCT Record (see Appendix Y) captures information that is covered under the Privacy Act and should be maintained in accordance with agency Freedom of Information Act (FOIA) guidelines.

Administration of the WCT of non-federal firefighters is prohibited for liability reasons. Potential emergency firefighters who would be hired under Emergency Hire authority by the agency must be in AD pay status or sign an agency-specific volunteer services agreement when given the WCT.

A Job Hazard Analysis (JHA) shall be developed and approved for each field office prior to administrating the WCT. See the sample JHA found in Appendix X. Administer the test using the JHA as a briefing guide.
Document using the WCT Record (see Appendix Y). This document must be retained until the next testing. Units may also be requested to provide data from these records to assist in the evaluation of the WCT process.

Personnel taking the WCT will only complete the level of testing (Pack, Field, Walk) required by the highest fitness level identified for a position on their red card.

Test results must also be entered in the IQCS annually to update the fitness level and date that will appear on the Red Card. Physical fitness dates entered in IQCS will reflect the date the employee passed the fitness test.

- ***NPS -*** *For those parks that experience severe winter conditions and must test personnel during those conditions, work capacity testing may be conducted using industrial grade treadmills. This least-preferred option should only be considered when all other indoor facilities are unavailable (gyms, indoor tracks, mall,s etc.), and requires Regional Fire Management Officer approval. For safety reasons, these treadmills must have suitable handrails and kill-switches, preferably switches physically attached to the user via a cord. The Job Hazard Analysis must address all possible balance/fall mitigations. Specific questions are answered in the "Work Capacity Administrators Guide" (PMS 307,NFES 1109).*

WCT Retesting

Those who do not pass the WCT will be provided another opportunity to retest. Employees will have to wait at least 48 hours before retaking the WCT. If an employee sustains an injury (verified by a licensed medical provider) during a test, the test will not count as an attempt. Once an injured employee has been released for full duty, the employee will be given time to prepare for the test (not to exceed 4 weeks). The numbers of retesting opportunities that will be allowed include:

- Three opportunities for permanent employees required to pass a test for duties in the fire program.
- One opportunity for temporary employees required to pass a test (a second chance maybe provided at the discretion of fire management).
- ***FS -*** *The Forest Service also uses the WCT as the official method of assessing wildland firefighter fitness levels. The specific direction, Implementation Guide, Health Screen Questionnaire, and required processes can be found at the following web site: http://www.fs.fed.us/fire/*

WCT Categories

The *NWCG Wildland Fire Qualification System Guide, 310-1* identifies fitness levels for specific positions. There are three fitness levels - Arduous, Moderate, and Light - which require an individual to demonstrate their ability to perform

the fitness requirements of the position. Duties in the "None" category are normally performed in a controlled environment, such as an incident base.

- ***BLM/FWS -*** *Law Enforcement physical fitness standard is accepted as equivalent to a "light" WCT work category.*

Work Capacity Test

Work Category	Test	Distance	Weight	Time
Arduous	Pack Test	3 miles	45 lb.	45 min.
Moderate	Field Test	2 miles	25 lb.	30 min.
Light	Walk Test	1 mile	None	16 min.

Arduous - Duties involve field work requiring physical performance with above average endurance and superior conditioning. These duties may include an occasional demand for extraordinarily strenuous activities in emergencies under adverse environmental conditions and over extended periods of time. Requirements include running, walking, climbing, jumping, twisting, bending, and lifting more than 50 pounds; the pace of the work typically is set by the emergency conditions.

Moderate - Duties involve field work requiring complete control of all physical faculties and may include considerable walking over irregular ground, standing for long periods of time, lifting 25 to 50 pounds, climbing, bending, stooping, twisting, and reaching. Occasional demands may be required for moderately strenuous activities in emergencies over long periods of time. Individuals usually set their own work pace.

Light - Duties mainly involve office type work with occasional field activity characterized by light physical exertion requiring basic good health. Activities may include climbing stairs, standing, operating a vehicle, and long hours of work, as well as some bending, stooping, or light lifting. Individuals can usually govern the extent and pace of their physical activity.

Chapter 13
FWS Specific Training & Qualifications Information

Link to Redbook Chapter 13

13-1-11 Policy

All personnel funded with fire funds who are hired under a position description containing firefighting duties will also meet PMS 310-1 requirements for the appropriate fire position. Individuals will not be assigned to duties for which they lack training and qualification. All personnel hired as primary firefighters must meet the arduous fitness standard to maintain full fire funding and if the position is career status, arduous is required to meet special retirement considerations for fire.

U.S. Fish and Wildlife Service Exceptions – Refuges which do not have dedicated fire personnel, normally have a light wildland fire workload (minimal occurrence and acreage), do not perform initial actions using direct attack with hand tools, and have no cooperators/contractors to perform timely initial actions on refuge wildland fires can request an exception to NWCG fitness requirements for personnel classified as Firefighter Type 2, Firefighter Type 1, or Incident Commander Type 5. The request is to be made to the Regional Office and will involve review by the Regional Fire Management Coordinator and approval at the Regional Office level. Exception approvals are to be documented in the Refuge Fire Management Plan.

Factors that must be addressed within the request include but are not limited to: fuels, terrain, and tactics employed. Exceptions may be granted where wildland fires occur in light fuels over gentle terrain and initial actions using equipment such as dozers, tractor plows, and engines, as opposed to direct attack with hand tools, are performed. Refuges that demonstrate that an arduous physical fitness rating is not necessary to safely perform initial actions on a wildland fire may use **nonfire personnel** who qualify at the "Moderate" level to perform initial actions.

Exceptions will apply only to initial actions. Should a wildland fire become an extended attack incident (Type III) where interagency personnel are requested through the mobilization system, NWCG wildland fire qualified personnel will be used. No exceptions from arduous fitness levels are allowed for personnel hired as primary firefighters.

Service prescribed fire physical fitness standards are determined based on the fitness definitions in the PMS 310-1, fuel type, terrain, and prescribed fire tactics normally used on the Refuge. Prescribed fire fitness standards may differ from wildland fire fitness standards because prescribed fire activities are a management action and the pace of work is normally set by individuals as opposed to an emergency situation in which the pace of work is generally set by the emergency situation.

Nonfire personnel participating in prescribed fire activities on Refuges which have gentle terrain and light to moderate fuel loads are required to attain a "Moderate" physical fitness rating as defined in the PMS 310-1. Physical fitness levels for the RXM1&2,

RXB1&2 and RXI1&2 positions are not established by the NWCG. The agencies have established physical fitness levels for these positions and moderate is the standard fitness level for Service prescribed fire operations.

Exceptions to the standard are necessary when a Refuge analysis of prescribed fire operations reveals that terrain, tactics and fuels present require physical fitness standards more restrictive than a "Moderate" standard for a specific prescribed fire project. Refuge personnel will meet the highest physical fitness category required to safely conduct prescribed fire operations on the Refuge, determined by terrain, tactics and fuels.

The Regional Office, through the Regional Fire Management Coordinator and other personnel as designated, may review individual refuges or use an ecosystem approach to making the determination as to acceptable fitness levels for prescribed fire. Fitness levels should be documented in the Refuge Fire Management Plan.

Fire Management Curriculum - The curriculum supporting fire management qualifications and position certification is explained in detail in the Wildland and Prescribed Fire Qualification System Guide, PMS 310-1. Details relating to course descriptions and trainee/instructor qualifications are provided in the NWCG Field Manager's Course Guide, PMS 901-1 (NFES 2194). Training needs analyses are developed each year at refuge, regional and national levels. A refuge or region is responsible for sponsoring 100 and 200 level courses. The Regional Fire Management Coordinator (RFMC) determines intermediate level (300 and 400) training needs. National level (500 and 600) training needs are determined by the Fire Management Branch. Their respective Regional Fire Management Coordinator will nominate employees identified for national level training. Regional nominations should be consistent with regional or geographic board direction. Nominations for intermediate level courses should be routed to Regional Fire Management Coordinators for prioritization. Each course lead instructor provides successful trainees with certificates of completion upon conclusion of the course. All NWCG-approved training packages and course materials are readily available through the Publications Management System at the National Interagency Fire Center. NWCG National Fire Equipment System Catalog Part 2: Publications, PMS 449-2 (NFES 3362), identifies all materials and ordering procedures and is updated each spring.

Fire Management Instructors - Each Region is responsible for the selection, training, and certification of an adequate number of Fish and Wildlife Service instructors for fire management training. The funding for fire training instructors for local and geographic area level courses is a local or Regional fire management responsibility. The funding for fire training instructors for national level courses is a responsibility of the Fire Management Branch.

Incident Qualifications and Certification System - The Refuge Fire Management Officer is responsible for input and maintenance of all pertinent refuge employee data and for ensuring that employees are trained, qualified, and certified at levels which meet preplanned needs for appropriate management response, initial attack and prescribed fire, and for ensuring the accuracy of annual Incident Qualification Cards. The Certifying Official (i.e. Refuge Manager or Project Leader) confirms through the issuance of an incident qualification card that an individual is qualified to perform in a specified

position. The Incident Qualification Card has a currency of 12 months.

Chapter 14
Firefighting Personnel

Introduction
Firefighting personnel from all federal agencies, state organizations, and the private sector are used in the suppression and management of wildland fires. These resources fill all positions in the Incident Management System.

Leadership
The most essential element of successful wildland firefighting is competent and confident leadership. Leadership means providing purpose, direction, and motivation for wildland firefighters working to accomplish difficult tasks under dangerous, stressful circumstances. This concept can be applied to all individuals and not just those in a leadership role.

Policy
Requirements for fire management positions are outlined in the *Interagency Fire Program Management Qualifications Standards and Guide*, referred to as the IFPM Standard. The supplemental Qualification Standard for professional GS-0401 Fire Management Specialist positions, approved by the Office of Personnel Management, is also included in the IFPM Standard. The *Interagency Fire Program Management Qualification Standards and Guide* can be found in it's entirety on the IFPM website: http://www.ifpm.nifc.gov

All individuals filling positions with in a fire management organization must be qualified according to agency direction found in *PMS 310-1 National Interagency Incident Management System Wildland and Prescribed Fire Qualifications Guide.*

- ***FS*** *- FS5109.17 - Fire and Aviation Management Qualifications Handbook.*

Minimum Age Requirements for Hazardous Duty Assignments on Federal Incidents
Persons under 18 years old will not perform hazardous duties during wildland fire management operations on federal jurisdictions.

Engine Modules
Staffing levels and specific requirements for engine personnel may be found in Chapter 15, Fire Fighting Equipment.

Helicopter Modules
Staffing levels and specific requirements for helicopter personnel may be found in Chapter 17, Aviation.

Smokejumpers

Smokejumpers provide professional and effective fire suppression, fuels reduction, and fire management services to help land managers meet objectives.

Policy

Smokejumper operations are guided by direction in the *Interagency Smokejumper Operations Guide*.

Each base will comply with smokejumper operations standards. The arduous duties, specialized assignments, and operations in a variety of geographic areas require smokejumpers to have uniform training, equipment, communications, organization, and operating procedures.

- ***BLM -*** *Smokejumper operations use the ram air (square) parachute exclusively.*
- ***FS -*** *FS smokejumper operations are guided by direction in FSH 5709.14, and the Interagency Smokejumper Operations Guide. Smokejumpers use the round FS14 parachute system exclusively.*

Smokejumper Organization

The operational unit for smokejumpers is "one load."

- ***BLM -*** *A load is typically one plane with pilot(s), one or two spotters, and eight smokejumpers.*
- ***FS -*** *A load is typically 8-20 smokejumpers and varies as per aircraft type.*

Concurrence with National Interagency Coordination Center (NICC) must be obtained prior to configuring smokejumpers as a Type 2 IA crew.

Coordination & Dispatch

Smokejumpers are a national resource and are ordered according to geographic area or national mobilization guides.

- ***BLM -*** *Specific information on the coordination, dispatch, ordering, and use of BLM smokejumpers in the contiguous 48 states can be found in the BLM Boise Smokejumpers User Guide, and in the Alaska Fire Service operational procedures, policies, and guidelines. Contact the BLM smokejumpers in Boise at (208) 387-5426 or the Alaska smokejumpers in Ft. Wainwright at (907) 356-5670 for these publications.*
- ***FS -*** *FS bases have operations plans pertinent to each base.*

Communications

All smokejumpers carry programmable radios and are proficient in their use and programming procedures.

Transportation
Smokejumper retrieval is accomplished by coordinating with the requesting dispatch center. More detailed information can be found in the guides mentioned above.

Safety
All aviation and parachute operations will be accomplished in accordance with standard operating procedures and regulations.

Training
To ensure proficiency and safety, smokejumpers complete annual training that covers aspects of aviation, parachuting, fire suppression tactics, administrative procedures, and safety, related to the smokejumper mission and fire operations. The training program for first-year smokejumpers is four weeks long. Candidates are evaluated to determine:

- Level of physical fitness
- Ability to learn and perform smokejumper skills
- Ability to work as a team member
- Attitude
- Ability to think clearly and remain productive in a stressful environment

Qualifications

Smokejumper Position	Target ICS Qualification
Overhead Cadre	T2 &T1 Command & General Staff
Spotter	ICT3, DIVS
Squad Leader	STCR, ICT4
GS-6 Smokejumper	CRWB
GS-5 Smokejumper	FFT1, FFT2

Physical Fitness Standards
The national minimum standards for smokejumpers are:

- 1.5 mile run in 11:00 minutes or less
- 45 sit-ups in 60 seconds
- 25 pushups in 60 seconds
- 7 pull-ups
- 110 lb. packout over 3 miles/level terrain/90 minutes
- Successful completion of the WCT at the arduous level.

Interagency Hotshot Crews
Interagency Hotshot Crews (IHCs) provide an organized, mobile, and skilled hand crew for all phases of wildfire suppression.

Policy
IHC standards provide consistent planning, funding, organization, and management of the agency IHCs. The sponsoring unit will ensure compliance

with the established standards. The arduous duties, specialized assignments, and operations in a variety of geographic areas required of IHCs dictate that training, equipment, communications, transportation, organization, and operating procedures are consistent for all agency IHCs.

As per agency policy all IHCs will be managed under the *National Interagency Hotshot Crew Operations Guide* (NIHCOG).

- ***BLM/NPS -*** *BLM Preparedness Review Checklist #12 (Hotshot Crew) supercedes the checklist found in the NIHCOG.*

Certification

Annual certification of IHC's is required prior to being made available for assignment as an IHC. For certification the crew superintendent will:

- Submit a completed NIHCOG Appendix C to the local unit Fire Management Officer for approval.
- Upon approval, the local unit Fire Management Officer will submit the signed Appendix C to the State/Regional Fire Management Officer.
- Upon approval, the State/Regional Fire Management Officer will notify the Geographical Coordinating Committee and NICC of the crews status.

IHC Organization

Individual crew structure will be based on local needs using the following standard positions: Superintendent, Assistant Superintendent, Squad Leader, Skilled Firefighter, and Crewmember.

Availability Periods

All IHCs must be certified annually prior to initial assignment. Submit a completed "Appendix C" from the *NIHCOG* prior to the crew being made available for any incident assignment as an IHC. Any IHC not meeting all of the requirements in "Appendix C" before, or during, the crew's availability period will be available as an IHC(t). The Crew Superintendent is responsible to inform local supervisor and the local GACC of any required changes in the crew's typing. IHCs will be available to meet or exceed availability periods specified in *NIHCOG* 2001 (Revised 2004).

- ***BLM -*** *IHC crewmembers will receive 40 hours of basic or refresher training before their first fire assignment in a fire season. Refresher training will include, but is not limited to, crew safety, risk management, firefighter safety, fire behavior, communications, and organization. The final responsibility for crew availability will rest with the Superintendent's certification to local unit management that all training is complete.*
  The minimum tour of availability excluding required training periods for BLM IHCs will be 130 calendar days for crews in the lower 48 states and 90 calendar days for crews in Alaska.

- ***NPS/FS -*** *IHCs follow the NIHCOG, including minimum tours. In some regions, tours may exceed the minimum based on preparedness and fuels funding levels, or non-fire funding for these resources.*

Communications
IHCs will provide a minimum of five programmable multi-channel radios per crew as stated in the *NIHCOG*.

Transportation
Crews will be provided adequate transportation. The number of vehicles used to transport a crew should not exceed five. All vehicles must adhere to the certified maximum Gross Vehicle Weight (GVW) limitations.

Other Hand Crews

Policy
All crews must meet minimum crew standards as defined in Appendix Z as well as any additional agency, state, or contractual requirements. Typing will be identified at the local level with notification made to the local GACC.

Crew Types
- **Agency Crews**
  Agency hand crews consist of qualified agency personnel and are organized on a local basis. These crews are designated as Type 2 or Type 2 IA.
- **State Crews**
  State crews are organized under the auspices of individual states. These crews may be designated as Type 1, Type 2, or Type 2 IA. These crews include organized state inmate crews.
- **Emergency Firefighter Crews (EFF)**
  These crews are usually Type 2 crews consisting of agency sponsored on call personnel who meet the requirements for Type 2 IA or Type 2 as defined in Appendix Z.
- **Contract Crews**
  These organized crews consist of personnel trained, equipped, and certified by a private contractor and must meet the contractual specifications as stated in their state or national crew contracts.
- ***FS -*** *The FS endorses the National Minimum Standards for crews and applies FSH 5109.17 for training requirements.*

Fire Use Modules
- ***NPS -*** *The National Park Service has Fire Use Modules. The primary mission and priority of the modules is to provide skilled and mobile personnel to assist with Wildland Fire Use (WFU) in the areas of planning, fire behavior monitoring, ignition, and holding. Secondary priorities follow in the order below:*

- *Support burn unit preparation.*
- *Assist with fire effect plot work.*
- *Support mechanical hazardous fuel reduction projects.*

- ***NPS -*** *As an interagency resource, the modules are available nationally throughout the fire season. Each module is comprised of a module leader, assistant leader and three to eight module members. See the Fire Use Module Operation Guide for specifics. Modules are mobilized and demobilized through established ordering channels through the GACCs.*

Agency Certified Positions

As a supplement to the qualifications system, certain agencies have identified the additional positions of Prescribed Fire Burn Boss 3 (RXB3) – see Chapter 18; Engine Operator (ENOP) - see Chapter 15; and Chainsaw Operators and Fallers listed below.

Chainsaw Operators and Fallers

The agencies have established the following minimum qualification and certification process for Chainsaw Operators (Red Card certified as Faller A):

- Successful completion of S-212, including the field exercise, or those portions of S-212 appropriate for Faller A duties.
- Agency Administrator (or delegate) certification of qualifications after verification that training is successfully completed.
- Documentation must be maintained for individuals.
- The individual tasks required for completion of the "A" Task Book and the final evaluation for the "A" level saw operators must be verified or signed by a qualified "B or C" level saw operator.
- The individual tasks required for completion of the "B" Task Book must be evaluated by a qualified "B" or "C" level operator. The Final Evaluator Verification for "B" level operators must be signed by a "C" level saw operator.
- The individual tasks required for completion of the "C" Task Book must be evaluated by a qualified "C" level operator. The Final Evaluator Verification for "C" level operators must be signed by a state approved "C" level certifier.
- Each of the states/regions will certify and maintain a list of their current "C" class saw operators who they approve to be "C" class certifiers.
- The certification of "C" class certifiers will remain the responsibility of the Agency Administrator or delegate.
- All fire related (red carded) saw operation qualifications are maintained through the IQCS system and will have a currency of five years.
- ***FS -*** *FS direction can be found in FSH 5109.17 and FSH 6709.11.*
- ***FWS -*** *Reference the BLM/FWS position task book.*
- ***FWS -*** *Exceptions to the above policy are:*

- *The individual tasks required for completion of the "B" Task Book and the final evaluation for the Class "B" saw operations must be verified by a qualified Class "B" or "C" saw operator.*
- *The individual tasks required for completion of the "C" Task Book and the final evaluation for the Class "C" saw operators must be verified by a region approved Class "C" Final Evaluator.*
- *Each of the regions will certify and maintain a list of current, qualified Class "B" and "C" saw operators, approved as Class "B" or "C" Final Evaluators.*
- *The certification of "C" class evaluators will remain the responsibility of the regional agency administrator or delegate.*

Chapter 14
FWS Specific Firefighter Personnel Information

Link to Redbook Chapter 14

U.S. Fish and Wildlife Service Specific Position Standards and Criteria

Engine Operator (ENOP)
EXPERIENCE: Firefighter (FFT1), Experience on engine crew and associated taskbook.
REQUIRED TRAINING: Intermediate Fire Behavior S-290
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS: Portable Pumps and Water Use, S-211, Driving for the Fire Service S-216, Fire Operation in the Urban Interface, S-215.
PHYSICAL REQUIREMENTS: Arduous
OTHER POSITIONS MEETING CURRENCY REQUIREMENTS: None

Prescribed Fire Burn Boss Type 3 (RXB3)
EXPERIENCE: Crewmember (FFT2), Experience in the NFFL fuel model in which the RXB3 will be working.
REQUIRED TRAINING: Intermediate Fire Behavior S-290, Basic Wildland Fire Behavior Calculations S-390, XS-390 (1981) will substitute for S-290 and S-390, Prescribed Fire Planning and Implementation or equivalent, i.e., RX-300.
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS: Field Observer, S-244
PHYSICAL REQUIREMENTS: Moderate. Exceptions to the standard are necessary when a refuge analysis of prescribed fire operations reveals that terrain, tactics and fuels present require physical fitness standards may be more restrictive than a "Moderate" standard for a specific prescribed fire project. Refuge personnel will meet the highest physical fitness category required to safely conduct prescribed fire operations on the Refuge, determined by terrain, tactics and fuels.
OTHER POSITIONS THAT MEET CURRENCY REQUIREMENTS: None
SUCCESSFUL COMPLETION OF THE RXB3 TASK BOOK.
LIMITATIONS: Position limited to prescribed fires having low risk of escape, no negative impacts if minor escapes occur, require low to moderate burning conditions, do not involve aerial ignition or aerial operations, do not involve multiple fuel complexes or fuels which exhibit extreme fire behavior characteristics (such as California chaparral), have simple burn objectives, and usually conducted by a crew of 2-6 personnel with someone in charge.

Incident Commander Type 5 (ICT5)
EXPERIENCE: Advanced Firefighter/Squad Boss (FFT1) Operator
REQUIRED TRAINING: Intermediate Fire Behavior S-290 or Fire Behavior XS-390 (1981 version), Fire Operations in the Urban Interface S-215 (required if wildland urban interface situations exist adjacent to or on the refuge).
ADDITIONAL TRAINING WHICH SUPPORTS DEVELOPMENT OF KNOWLEDGE AND SKILLS: Initial Attack Incident Commander S-200, Ignition Operations S-234, Supervisory Concepts & Techniques S-201PHYSICAL REQUIREMENTS: Arduous.
OTHER POSITIONS THAT MEET CURRENCY REQUIREMENTS: FFT1
SUCCESSFUL COMPLETION OF THE ICT5 TASK BOOK.

Chapter 15
Firefighting Equipment

Introduction
The agency wildland fire program equipment resources include engines, dozers, water tenders, and other motorized equipment for fire operations.

Policy
Each state/region will comply with established standards for training, equipment, communications, organization, and operating procedures required to effectively perform arduous duties in multi-agency environments and various geographic areas. Approved foam concentrate may be used to improve the efficiency of water, except near waterways where accidental spillage or over spray of the chemical could be harmful to the aquatic ecosystem, or other identified resource concerns.

Driving Standard
Refer to the current driving standards for each individual agency in Chapter 06.

Firefighting Engines

Operational Procedures
All engines will be equipped, operated, and maintained within guidelines established by the Department of Transportation (DOT), regional/state/local operating plans, and procedures outlined in *BLM Manual H-9216, Fire Equipment and Supply Management*, or agency equivalent. All personnel assigned to agency fire engine modules will meet all gear weight, cube, and manifest requirements specified in the *National Mobilization Guide*.

Fire Engine Module Staffing
An ENGB will be with every engine, and the minimum staffing is two individuals for Type 6 and Type 7 engines.

For Type 3, 4, and 5 engines, minimum staffing is three individuals, including a Single Resource Boss for each engine.

- ***BLM - Staffing levels -*** *Type 6 and 7 engines will have a minimum crew size of two. This crew will consist of one ENGB with ICT5 qualifications and one Engine Module Member.*
  - ***BLM -*** *An engine operating as a single resource will have a minimum of one ENGB who is qualified as an ICT5 and one Crew Member.*
  - ***BLM -*** *If configured with more than one engine module for local assignments, engines may be staffed by one Engine Operator (ENOP) and one Engine Module Member, provided an Engine Module Leader is assigned to the group for operational supervision.*

- ***BLM - Staffing levels -*** *Type 3, 4, and 5 engines will have a minimum crew size of three:*
  - *An engine operating as a single resource will have a minimum of one ENGB/ICT5 with one ENOP, and one or more Engine Module Members.*
- ***NPS - Staffing levels -*** *Engines of any type when responding to off-park assignments, will be staffed by an ENGB and the appropriate number of Module Members. Type 6 or 7 engines may be supervised by an ENOP on in-park fires only. For an engine supervised by an ENOP when used for initial attack (on in-park fires only), the ENOP must also be minimally ICT5 qualified. Type 3, 4, or 5 engines, regardless of assignment location, will be minimally supervised by an ENGB.*
- ***NPS -*** *Type 6 and 7 engines will have a minimum crew of two – an ENGB or ENOP (in-park only), and an Engine Module Member.*
- ***NPS -*** *Type 3, 4, or 5 engines will have a minimum crew size of three, an ENGB, an ENOP and one Engine Module Member; or an ENGB and two Engine Module Members.*
- ***NPS - Working Capitol Fund (WCF)/Non-WCF, Additional requirements***
- ***NPS -*** *WCF engines are identified below.*
- ***NPS -*** *All engines will be typed in accordance with the specifications identified in the 410-1. Minimum engine staffing requirements:*
  - *Approved WCF Type 6 or 7 engines during the defined fire season is 3 personnel effective 7 days per week.*
  - *Approved Working Capitol Fund (WCF) Type 3, 4, or 5 engines during the defined fire season is 5 personnel effective 7 days per week.*
  - *Non-WCF engines (or WCF engines outside defined fire season), Type 6 or 7 engines is a minimum of 2.*
  - *Non-WCF engines (or WCF engines outside defined fire season), Type 3, 4, or 5 engines is a minimum of 3.*
- ***FS -*** *A single Resource Boss may supervise a type 6 or 7 engine.*

Performance Requirements for Engine Modules

The following performance requirements are based on the daily duties of engine module personnel and may exceed the standards listed in the *Wildland Fire Qualifications Subsystem Guide (NWCG 310-1).*

The following standards are in addition to the minimum requirements found in the *Wildland Fire Qualifications Subsystem Guide (NWCG 310-1).*

Engine Module Member (EMM)
Minimum Qualifications
FFT2
Additional Required Training
None
Additional Performance Requirements
Apparatus Inventory
Ability to maintain inventory in a constant state of fire readiness.
Tool and Equipment Standards
Ability to use, check condition of, and identify repair/replacement needs as identified in *Firefighters Guide NFES 1571*. All tools and equipment must meet refurbishment standards specified in *Fire Equipment Storage and Refurbishment NFES 2249.*
Hose Packs
Working knowledge of hose pack types and how to safely and efficiently deliver water to the fire.
Types of Hose
Working knowledge of hose identification and use. See *Wildland Fire Hose Guide NFES 1308.*
Fittings/Nozzles
Ability to identify fittings and nozzles, understand use, capabilities, limitations, and perform maintenance.

- ***FS*** *- The FS recommends the performance requirements for each Engine Module Member.*

Engine Operator (ENOP)
The agencies have established an ENOP position and associated Task Book to meet field needs.
Minimum Qualifications
CDL (where appropriate for the GVW), FFT1
Additional Required Training
L-280- Followership to Leadership
Recommended Training
PMS 419 Engine Operator Course, Geographic Area Engine Academies
Additional Performance Requirements
Same as for the Engine Module Member, plus the following:
Stationary Pumping
Ability to set up stationary pumping operations to safely and efficiently deliver water to a fire through a hoselay.
Mobile Attack
Ability to set up and perform mobile attack safely and efficiently. Understand roles and responsibilities associated with multi-engine mobile attack.
Urban Interface
Understand strategies, tactics, recognize hazards, and know agency policy with regards to urban interface situations.

Interface with Municipal Fire Apparatus
Understand capabilities and limitations and how to effectively interface with equipment. Be aware of the pressures and flow rates used with municipal apparatus and their potential effects on wildland fire equipment.

Engine Protection
Ability to protect engine by positioning in a fire safe area; set up and use engine protection lines.

Pump Theory and Operation
Ability to effectively apply this knowledge to fire situations most commonly encountered. Must be able to troubleshoot pump/valve problems in various fire and drill situations.

Pump Package Maintenance Procedures
Ability to maintain pump package per manufacturer's/agency standards. Pump package must be in a constant state of fire readiness. Ability to troubleshoot equipment problems and develop solutions/repair needs. Ability to perform required pump test to ensure pump/plumbing are operating to specifications, and maintain log.

Hydraulics
Ability to effectively apply calculations and formulas relating to fire hydraulics, including friction loss. Must understand pump capabilities and limitations (GPM, PSI, elevation gain and loss, etc).

Simple Hoselays
Ability to perform initial layout and extend a simple hoselay delivering water to fire safely and efficiently.

Progressive Hoselays
Ability to perform initial layout and extend a progressive hoselay delivering water to fire safely and efficiently.

Hoselay Troubleshooting
Ability to troubleshoot hoselay problems and develop solutions.

Foam Equipment Maintenance
Ability to flush the engine foam proportioner according to the manufacturer's recommended procedures.

Foam
Ability to efficiently produce different types of foam from nozzle(s).

Drafting Theory
Ability to draft from external source and fill engine tank, and draft from external source and deliver water through a hoselay.

Hydrant Use
Understand and apply the safe and effective operation of fire hydrants and be able to set up an engine for hydrant water delivery.

Vehicle Maintenance Procedures
Ability to maintain vehicle per manufacturer's/agency standards, keeping vehicle in a constant state of fire readiness. Ability to troubleshoot equipment problems, develop solutions/repair needs.

Winterization

Ability to properly winterize apparatus and pump package to protect from potential freeze damage.

Radio Use

Understand and apply BLM policy regarding radio use and protocol; be proficient at radio programming.

- ***FS -*** *The FS recommends the performance requirements for each engine ENOP.*

- ***BLM - Engine Module Leader (EML)-Agency Specific Position Minimum Qualifications***
  - *ICT4, ENOP, ENGB.*
  - ***BLM - Additional Required Training***
    I-200, S-200, S-231, S-234, S-260, S-270.
  - ***BLM - Additional Performance Requirements***
  - ***BLM - Same as for ENOP, plus the following:***
  - ***BLM - Supervision***
    The Engine Module Leader is responsible for the overall operation of the module's activities. Directs module personnel during fire preparedness review, suppression activities, fuels management, and project work. Provides direction to the module commensurate with members' qualifications and experience.
  - ***BLM - Equipment Capability***
    Has a thorough knowledge of tactical equipment capabilities and limitations, and their relationship to fuels, topography, and fire behavior.
  - ***BLM - Training***
    Provides and facilitates training of personnel through mentoring, formal and informal instruction. Identifies training needs Individual Development Plan (IDP) and performs Task Book management for module members.
  - ***BLM - Administration***
    Performs administrative duties relating to the operation of the module, including (but not limited) to time and attendance, procurement activities (credit card), personnel management (recruitment and hiring), IDP development, and property management.
  - ***BLM - Coordination***
    Develops and maintains working relationships with BLM counterparts, cooperators, other agencies, general public, and media.
  - ***BLM - Safety***
    Ensures compliance with safety procedures and policies and mitigates potentially hazardous situations.
  - ***BLM - Physical Fitness***
    Train, test, and evaluate Module Members to ensure that required physical fitness standards are met.

- ***BLM - Communication***
  Ensures that Module Members receive situational briefings. Provides briefings during daily work activities, fireline duties, and fireline transitions. Solicits and provides feedback.
- ***BLM - Equipment Development & Evaluation***
  Identifies problems with BLM equipment and suggests possible solutions. Provides feedback to equipment development groups. Tests and evaluates prototype equipment.

- ***NPS/FS -*** *The NPS/FS recommends the performance requirements for the Engine Module Leader as outlined in the Interagency Fire Program Management Qualifications Standard and Guide.*

Engine Standards

Engine Typing

Engine Typing and respective standards are identified in the NWCG *Fireline Handbook*, 410-1.

Engine Water Reserve

Engine Operators will maintain at least 10 percent of the pumpable capacity of the water tank for emergency engine protection and drafting.

Chocks

At least one chock will be carried on each engine and will be properly utilized whenever the engine is parked or left unattended. This includes engine operation in a stationary mode without a driver "in place."

Fire Extinguisher

All engines will have at least one 5 lb. ABC-rated (minimum) fire extinguisher, either in full view or in a clearly marked compartment.

Nonskid surfaces

All surfaces will comply with National Fire Protection Association *(NFPA) 1906 Standards for Wildland Fire Apparatus* (6.4.3.) guidelines.

First Aid Kit

Each engine shall carry, in a clearly marked compartment, a fully equipped 10-person first aid kit.

Gross Vehicle Weight (GVW)

Each engine will have an annually certified weight slip in the vehicle at all times. Operators of engines and water tenders must ensure that the maximum certified GVW is never exceeded, including gear, personnel and fuel. If the proper number of personnel are not available during the weighing. The NFPA 1906 standard of 250 pounds for each person and their personal gear may be used to calculate the loaded weight.

Speed Limits

Posted speed limits will not be exceeded.

Lighting

All new orders for fire engine apparatus will include an overhead lighting package in accordance with statewide standards. It is recommended that the lighting package meet NFPA 1906 standards. Engines currently in service may be equipped with overhead lighting packages.

Colors

Lighting packages containing blue lights are not allowed and must be replaced. Blue lights have been reserved for law enforcement and must not be used on fire vehicles. A red, white, and amber combination is the accepted color scheme for fire.

Light Use

While off-road and/or during suppression, prescribed fire or other emergency activities, headlights and taillights shall remain illuminated at all times while the vehicle is in operation. Overhead lighting (or other appropriate emergency lights) shall be illuminated whenever visibility is reduced to less than 300 feet.

- ***NPS -*** *Vehicle Color and Marking. Vehicles dedicated to wildland fire activities shall be white in color and have a single four-inch wide red reflective stripe placed according to NFPA 1906 (NFPA 1906 7-6.2 1995 edition). The word "FIRE" red with white background color will be centered on the front fenders. "FIRE" may also be placed on the front and rear of the vehicle. The NPS Arrowhead will be placed on the front doors. The size and placement of the arrowhead will be as specified in RM-9. An identifier will be placed on the vehicle according to local zone or GACC directions. Roof numbers will be placed according to local zone procedures.*

On-Board Flammable Liquid Storage

Occupational Safety and Health Administration (OSHA) regulations state, "*only approved metal containers, of not more than 5 gallons capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure, be used for storing or transporting flammable liquids*" (29 CFR 1910.106). To comply with OSHA requirements and agency directives, only OSHA approved, type II metal safety cans should be used. Approved are the 2-in-1 polyethylene containers (Dolmars) used to fill chainsaws and steel Jerry cans that are used as a fuel tank for Mark III pumps. Cans must be clearly marked as to their content (e.g., gasoline, diesel, drip torch fuel). Dolmars must also be marked with the fuel oil ratio and the date of the saw gas mix so its suitability for use can be easily determined.

- ***BLM - Drip Torch Fuel Transportation and Dispensing***
  Reference Instruction Memorandum FA IM. 2005-030. This IM provides direction for drip torch fuel transportation and dispensing to bring BLM equipment and practices into compliance with applicable regulations and nationally recognized standards. It also provides direction on procurement of new equipment.

Fire Engine Maintenance Procedure and Record

Apparatus safety and operational inspections will be accomplished either on a post-fire or daily basis. Offices are required to document these inspections. Periodic maintenance (as required by the manufacturer) shall be performed at the intervals recommended and properly documented. All annual inspections

will include a pump gallons per minute (GPM) test to ensure the pump/plumbing system is operating at desired specifications.

Engine Inventories

An inventory of supplies and equipment carried on each vehicle is required to maintain accountability and to obtain replacement items lost or damaged on incidents. The standard inventory for engines is found in Appendix AA.

Water Tenders

Water Tender Operators Performance Standards

Water Tender Operator (Support)

- **Qualifications:** CDL (tank endorsement).
- **Staffing:** A water tender (Support) may be staffed with a crew of one (a driver/operator) when it is used in a support role as a fire engine refill unit or for dust abatement. These operators do not have to pass the WCT but are required to take annual refresher training.

Water Tender Operator (Tactical)

Tactical use is defined as "direct fire suppression missions such as pumping hoselays, live reel use, running attack, and use of spray bars and monitors to suppress fires."

- **Qualifications:** ENOP, CDL (tank endorsement)
- **Staffing:** Tactical water tenders will carry a minimum crew of two:
  - one ENOP
  - one Engine Module Member

Dozers/Tractor Plows

Policy

Agency personnel assigned as dozer/tractor plow operators will meet the training standards for a Firefighter 2 (FFT2). This includes all safety and annual refresher training. While on fire assignments, all operators and support crew will meet PPE requirements including the use of aramid fiber clothing, hard hats, fire shelters, boots, etc.

- ***FWS*** *- Dozer/tractor plow Operators must complete Intermediate Fire Behavior (S-290) and the FWS Heavy Equipment Safety Training course SAF2002 for dozer and/ or SAF2000 for Agriculture Tractor. Additional training which supports development of knowledge and skills includes S-232 and S-233 respectively, other positions that meet currency requirements is none.*

Physical Fitness Standards

- ***BLM/FWS -*** *All employee* dozer/tractor plow *operators will meet the WCT requirements at the Moderate level before accepting fire assignments.*
- ***FS -*** *FS dozer operators refer to 5134.32.*

Operational Procedures

- Agency owned and operated dozer/tractor plows will be equipped with programmable two-way radios, configured to allow the operator to monitor radio traffic.
- Agency dozer/tractor plows with non-red carded operators and all contract dozer/tractor plows will have agency supplied supervision when assigned to any suppression operations.
- Contract or offer-for-hire dozers must also be provided with radio communications, either through a qualified dozer/tractor plow boss or an agency-supplied radio. Contract dozer/tractor plows will meet the specifications identified in their agreement/contract.
- Operators of dozer/tractor plows and transport equipment will meet DOT certifications and requirements regarding the use and movement of heavy equipment, including driving limitations, CDL requirements, and pilot car use.

All Terrain Vehicles (ATV)/Utility Vehicles (UV)

Policy

The operation of ATV/UV is high risk and should be utilized only when their use is essential to accomplishment of the mission and not as a matter of convenience. Because of the high risk nature, agencies have developed specific operational policy as highlighted below:

- Specific authorization for ATV/UV use is required. Refer to current agency policy.
- All personnel authorized to operate an ATV must first complete agency specific or manufacturer training in safe operating procedures and appropriate PPE.
- Refer to agency specific guidelines on required frequency of ATV refresher training.
- Required PPE includes helmet (DOT, ANSI-90, or SNELL M-95 approved), eye protection (goggles, face shield, or safety glasses), gloves, long sleeves, long pants, and leather boots (minimum 8” height).
- The standard wildland hardhat will not be worn while operating an ATV.
- Except in emergency situations, no passengers will be carried unless vehicle is designed by the manufacturer to carry operator and passengers.
- Operating speed will be appropriate for the conditions and terrain.
- ATV training shall include safe operation while carrying loads.
- Loads shall be mounted and secured as to not affect the vehicle’s center of gravity.
- Load weights shall not exceed manufacturer’s recommendations.

- A risk assessment must be completed and approved by the supervisor prior to vehicle operation.
- ***BLM*** *-Refer to BLM Interim Policy - Utilization of Off-Road Vehicles (ORVs) IM 2005-148.*
- ***BLM -*** *Refresher training is required every 3 years for all off-road vehicles (ORVs). Refresher training consists of a field "check-ride," at minimum. The ATV refresher will be conducted by an ASI Certified Instructor.*
- ***FWS/NPS -*** *Exceptions to the above policy are:*
  - *SPH-4, SPH-5, or other comparable flight helmets meet the DOT requirements for a motorcycle helmet and may be used in lieu of.*
  - *Standard fire hardhats or flight helmets are required for ATV use when on the fireline under low operating speeds. (Motorcycle helmets have not yet been tested and approved for fireline use).*
  - *Chinstraps must be used.*
  - *A motorcycle helmet or flight helmet will be required when operating to and from fire management activities and while loading and unloading the ATV.*
- ***NPS -*** *Refresher training is not required.*
- ***FS -*** *Refer to Health and Safety Code Handbook 6709-11.*
- ***FWS -*** *Refer to Service Manual 243 FW 6 Off Road Utility Vehicle Safety.*

Vehicle Cleaning/Noxious Weed Prevention

To reduce the transport, introduction, and establishment of noxious weeds or other biological contaminants on the landscape due to fire suppression activities, fire suppression and support vehicles should be cleaned at a predestinated area prior to leaving the incident. Onsite fire equipment should be used to thoroughly clean the undercarriage, fender wells, tires, radiator, and exterior of the vehicle. The cleaning area should also be clearly marked to identify the area for post fire control treatments, as needed.

Fire Remote Automated Weather Stations

Fire Remote Automated Weather Stations (FRAWS) are portable weather stations that pack up into a single container and may be utilized in any location to monitor local weather conditions. FRAWS are intended for use on or near the fireline and are rapidly relocated to points desired by Fire Behavior Analysts (FBAs) for real time weather data. Fire Managers and FBAs use RAWS weather data to predict fire behavior, prescription times, fire weather forecasting, canyon, and ridgetop winds.

National resource FRAWS systems are cached at National Interagency Fire Center (NIFC) and may be ordered through standard equipment resource ordering systems. Maintenance and recalibration of these stations must be coordinated with the NIFC Remote Sensing/Fire Weather Support Unit (RSFWSU).

Ignition Devices

Aerial Ignition Devices

Information on types of aerial ignition devices, operational guidelines and personnel qualifications may be found in the *Interagency Aerial Ignition Guide.*

Ground Ignition Devices

BLM - Ground Ignition Devices

- ***BLM -*** *Guidance and direction for use and procurement of approved ground ignition equipment and the transportation and dispensing of drip torch fuel can be found in: Instruction Memorandum No. OF&A 2005-030, 7/20/05, Drip Torch Fuel Transportation and Dispensing Direction.*
- ***NPS -*** *Agency direction may be found in the 04/04/03 Memorandum Y14 (9560) Aerial and Ground Ignition Equipment.*
- ***FWS -*** *specific information on ignition devices may be found in the January 28, 2003 Memorandum: "Direction for Use and Purchase of Aerial and Ground Ignition Equipment."*
- ***FS -*** *direction is found in FSH5109.32a and 6709.11.*

Chapter 16
Communications

Radio Communications

Radio communications provide for the flow of tactical information needed for the command/control of personnel and resources.

Policy

Agency specific policies for radio communications may be found in:

- *Department of Interior, Department Manual, Radio Communications Handbook (377 DM).*
- *USDA Forest Service Handbook (FSH 6609.14 chapters 10-40 and Forest Service Manual (FSM) 6600 Systems Management Chapter 6640 - Telecommunications.*

Radio Contracts

Contracts specifying the requirements for radios have been let and may be found for the:

- Department of Interior Project 25 Digital Radio contract at http://www.blm.gov/natacq/IDIQ/index.html
- USDA Forest Service National Radio Contract at http://www.fs.fed.us/business/2002%20awards/.
- ***BLM -*** *Currently the Thales Racal P25 Handheld, the EF Johnson 5100 P25 Handheld, and the Relm/Bendix King DPHX Handheld have been approved for fire use by the BLM. Approved radios have software version requirements and hardware upgrades that must be completed prior to use on fire assignments.*
- ***FS/FWS/NPS -*** *The Thales Racal, EF Johnson 5100, Motorola XTS5000, Relm/Bendix King DPH, and Datron Guardian handhelds have all been approved for fire use by the National Interagency Incident Communications Division (NIICD).*

For information on software and hardware requirements and approved radios, contact the NWTSU at (208) 672-7880 ext. 103.

Dispatch Recording Devices

- ***BLM -*** *Recording devices will be used by each BLM dispatch office or an interagency office dispatching BLM resources. The purpose is to record radio communications during emergency operations. This will ensure that in the event of an accident, investigators will be provided with an accurate record of events during reviews of those incidents.*

Radio Frequency Management

- FM frequency assignments for normal operations or initial attack ground operations are made on a permanent basis and are requested through the state office ISO frequency manager to the Washington Office frequency manager.
- The NIFC Communications Duty Officer (CDO) coordinates and assigns incident frequencies at the national level. They will also assign Communications Coordinators (COMC) when necessary to support a specific Geographic Area(s). See the National Mobilization Guide for additional information.
- Mutual-aid agreements for frequency sharing can be made at the local level.
- A mutual-aid frequency sharing agreement is valid only in the specific locale it originates in. These agreements do not authorize the use of a shared frequency in any other area. NIFC national fire frequencies are not to be used for these agreements.
- Do not use a frequency unless authorized to do so by communications personnel at the local, state, regional or national level.
- Initial attack AM air operations frequencies will be assigned by the NIFC CDO and FM air operations frequencies will be facilitated/assigned by the NIFC CDO. These assignments will be on an interagency basis and coordinated with the GACC's.
- On Type 1 or 2 incidents, the Communications Unit Leader (COML) will request, assign, and report to the NIFC CDO/COMC, all frequencies used on the incident. This would include the request and assignment of aircraft frequencies. The ICS-205 and ICS-220 are always a part of the Incident Action Plan (IAP) and distributed at every operational period briefing.
- The COML will contact the NIFC CDO, or the COMC if assigned, for additional FM and AM frequencies. Requests for aviation frequencies will be placed through established ordering channels through NICC and will be filled by the NIFC CDO or COMC. COML's will ensure that the host agency Aviation Dispatcher and the NIFC CDO or COMC has the current ICS-220 for their incident.
- Radios being used in wildland firefighting operations must be able to function in both wideband (25.0 Khz) mode and narrowband (12.5 Khz) mode. Remove radios from the system that cannot be programmed to operate in the narrowband mode.
- When incident management teams are pre-positioned in a-geographic area, consideration will be given to pre-positioning a system for immediate deployment by the team(s) when assigned to an incident. Pre-positioning will be based on equipment availability and/or priorities established by NMAC at NIFC.

- Prepositioned in a field unit or geographical area, consideration will be given to also repositioning a radio kit for immediate use by the team when assigned.
- Frequencies for Type 1 and Type 2 incidents are assigned through the National Interagency Incident Communications Division (NIICD) located at NIFC. The CDO is responsible for this function.
- During severe situations and/or when there are significant numbers of large incidents, additional frequencies can be assigned. These are temporary assignments, and are requested by the NIFC CDO from the Washington Office (Spectrum) managers and given by the CDO to the incident. This applies to frequencies for command, ground tactical, and aviation operations.
- Additional frequencies are provided in the following circumstances:
  - The NIICD national frequencies are all committed within a specific geographic area.
  - The requests continue for frequencies to support new incidents within a specific complex.
  - The fire danger rating is extreme and the potential for additional new incidents is high.

Pre-assigned National Frequencies

National Air Guard - 168.625 MHz - A National Interagency Air Guard frequency for government aircraft will be used for emergency aviation communications. Continuous monitoring of this frequency in narrowband mode is mandatory by agency dispatch centers. Transmitters on this frequency must be equipped with an encoder on 110.9 Hz. 168.625 is restricted to the following use:

- Air-to-air emergency contact and coordination.
- Ground-to-air emergency contact.
- Initial call, recall, and re-direction of aircraft when no other contact frequency is available.

National Flight Following - 168.650 MHz

The National Interagency Air Net frequency is used for flight following of official aircraft. The intent is not to use this frequency for incident operations. All dispatch centers/offices will monitor the national fight following frequency at all times. 168.650 is restricted to the following use:

- Flight following, dispatch, and/or re-direction of aircraft.
- Air-to-ground and ground-to-air administrative traffic.
- Not authorized for ground-to-ground traffic.

National Interagency Air Tactics - 166.675 MHz, 167.950 MHz, 169.150 MHz, 169.200 MHz, 170.000 MHz

- Frequencies used to support air-to-air or ground-to-air communications on incidents west of the 95th meridian. These frequencies shall be used for air-to-air and ground-to-air communications only.
  - Exception: Pacific Southwest Geographic Area: 166.675 MHz, 169.150 MHz, and 169.200 MHz will be used for air-to-air only; 170.000 MHz will be used for ground-to-air only.
- Interagency geographic area coordination centers assign these frequencies. Assignment must be coordinated through the NIFC CDO.
- Transmitter power output of radios installed in aircraft operating on these frequencies shall be limited to 10 watts.

Base stations and repeaters are prohibited on these frequencies.

National Interagency Airtanker Initial Call - 123.975 MHz

The national interagency frequency assigned to all airtanker bases for their exclusive use. No other use outside of airtanker bases is authorized.

National Government All-Call Frequencies - 163.100 MHz and 168.350 MHz

For use anywhere, any time. They are good choices as travel frequencies for strike teams moving between assignments. They are available for ground tactical frequencies during initial attack or incident operations. They are not to be used for air-to-ground operations.

- NOTE: When you are traveling between incidents, be sure to monitor for incident radio traffic in area before using these frequencies.

Incident Radio Support

All NIRSC cache communications equipment shall be returned to NIICD at NIFC immediately after the incident is turned over to the jurisdictional agency.

No cache communication equipment shall be moved from one incident to another without being first returned to NIFC for refurbishment. However, equipment unused and red-sealed may be moved, if approval is given by the NIFC CDO or COMC.

Military Communications on an Incident

Military units assigned to an incident already have radios. Each battalion is assigned 80 handheld radios. Sixteen of these radios are used by military crew liaisons. Intercrew communications within a military unit is provided by the military on its radios using its frequencies. All frequency assignments at the incident will be made by the COML in accordance with the ICS-205.

Some active military and guard units have aviation VHF-FM radios compatible with civilian systems. Other units are adapting their aircraft for the civilian radios and can be easily outfitted prior to dispatch to an incident. A limited number of wiring harnesses are available at NIFC for those military aircraft that do not have civilian VHF-FM capability. The wiring harnesses and radios will be resource ordered by the incident. The resource order will include a request for trained personnel from NIICD to perform the installation of the equipment. Equipment will not be sent without trained and qualified personnel to install it.

Cellular Communications/Satellite Phone Communication

Cellular/satellite telephones will not be used to communicate tactical operations, unless they are the only means possible. Cellular/satellite telephones are not to be used for flight following in lieu of normal flight-following protocols.

Phone communication can be used for logistical purposes.

Effective Radio Use

- If personnel do not follow basic guidelines and use the system properly, the best system, even with full coverage, will not meet the requirements of the situation or incident.
- All emergency communications equipment should be kept away from sources of possible interference. Existing radio communications sites are the best example of where not to place this equipment.
- Keep the antenna as high as possible and in a vertical position.
- Canting or tilting the radio 45 degrees lowers the effective transmitting power by half, so that a two-watt radio performs as a one-watt radio. Use of a chest harness reduces the effectiveness of the radio since most harnesses hold the radio at a 45 degree angle. A decrease in transmitting and receiving capability also occurs due to shielding from your body.
- Frequencies are a finite resource. There are a limited number available for initial attack and/or incident communications. Care must be taken how and where they are assigned to minimize the possibility of interference.
- The more channels that are scanned, the busier the radio receiver becomes. In the case of inexperienced radio users, the communication system will appear to be overloaded because the radio is never quiet.
- Use clear text language: use of codes potentially confuses interagency communications.
- Assistance with radio operations, troubleshooting and deficiency reports can be found at http://radios.nifc.gov/.

Chapter 17
Aviation Operations/Resources

Purpose and Scope

Aviation resources are one of a number of tools available to accomplish fire related land management objectives. Their use has value only if that use serves to accomplish the mission.

Aviation use must be prioritized based on management objectives and probability of success.

The effect of aviation resources on a fire is directly proportional to the speed at which the resource(s) can initially engage the fire, and the effective capacity of the aircraft. These factors are magnified by flexibility in prioritization, mobility, positioning, and utilization of the versatility of many types of aircraft.

Risk management is a necessary requirement for the use of any aviation resource. That risk management process must include the risk to ground resources, and the risk of not performing the mission, as well as the risk to the aircrew.

Organizational Responsibilities

National Office

Aviation Management Directorate

The Aviation Management Directorate (AMD), of the National Business Center, is responsible for aviation policy development, aircraft acquisition, financial services, and maintenance management within the agencies of the Department of the Interior (DOI). AMD has no operational responsibility. AMD provides aviation safety program oversight, accident investigation, and aircraft and pilot inspection and approval for DOI use.

- ***BLM -*** *National Aviation Office (NAO) - NAO develops BLM policy, procedures, standards, and maintains functional oversight and facilitates interagency coordination for all aviation activities. The principal goals are safety and cost-effectiveness. The NAO supports BLM activities and missions, including fire suppression, through strategic program guidance, managing aviation programs of national scope, coordination with AMD and interagency partners. National Office of Fire and Aviation Management (OF&A) has the responsibility and authority, after consultation with State FMOs, for funding and acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a national basis, and approving State Office requests to acquire supplemental aircraft resources. Refer to BLM Manual 9400 for aviation policy and guides. (Refer to 112 DM 12 for a list of responsibilities.)*

- ***FS -*** *The US Forest Service has responsibility for all aspects of its aviation program, including aviation policy development, aircraft acquisition, and maintenance management. In addition, the USFS has operational responsibility including development of aviation procedures and standards, as well as functional oversight of aviation assets and facilities, accident investigation, and aircraft and pilot inspection.*
- ***FS -*** *The National Aviation Officer (NAO) is responsible to the Director of Fire and Aviation Management (Aviation) for the management and supervision of the National Headquarters Office in Washington DC, and the detached Boise Aviation Unit. The NAO provides leadership, support and coordination for national and regional aviation programs and operations. (Refer to FSM 5704.22 for list of responsibilities.) The National Aviation Operations Officer (NAOO) reports to the NAO, and oversees the detached Boise Aviation Unit, and is responsible for all operational aspects of the aviation program.*

State/Regional Office

- ***BLM/FWS/NPS -*** *A State/Regional Aviation Manager (S/RAM) is located in each state/regional office. S/RAMs implement aviation program objectives and directives to support the agency mission and state/region objectives. Several states/region's have additional support staff, and/or pilots assigned to support aircraft operations and to provide technical expertise. A state/regional aviation operations and management plan is required to outline the state/region's aviation program objectives and to identify state/region-specific policy and procedures.*
- ***FS -*** *Regional Aviation Officers (RAOs) are responsible for directing and managing Regional aviation programs in accordance with the National and Regional Aviation Management Plans, and applicable agency policy direction. (Refer to FSM 5720.47c for list of responsibilities.). RAOs report to Director of Fire and Aviation for their specific Region. Regional Aviation Safety Managers (RASMs) are responsible for aviation safety in their respective Regions, and work closely with the RAO to ensure aviation safety is an organizational priority. Most Regions have additional aviation technical experts and pilots who help manage and oversee the Regional aviation programs. Most Regions also have Aviation Maintenance Inspectors, Airtanker Program Managers, Helicopter Program Managers, Helicopter Operations Specialists, Inspector Pilots, etc.*
- ***BLM -*** *State FMOs are responsible for providing contract oversight (COR) for aircraft hosted in their state. State FMOs have the authority and responsibility to approve, with National Office concurrence, acquisition of supplemental aircraft resources within their state. State FMOs have the authority to prioritize the allocation, pre-positioning and movement of all aircraft assigned to the BLM within their state. State Offices will coordinate with the National Office on movement of their aircraft outside of their State.*

Local Office

Some areas have interagency aviation programs that utilize an Aviation Manager for multiple units. Duties are similar as other local level managers.

- ***BLM -*** *Unit Aviation Managers (UAMs) serve as the focal point for the Unit Aviation Program by providing technical expertise and management of aviation resources to support Field Office/District programs. Field/District Offices are responsible for hosting, supporting, providing daily management, and dispatching all aircraft assigned to their unit. Field/District Offices have the authority to request additional resources; and to establish priorities, and make assignments for all aircraft assigned to the BLM within their unit or zone.*
- ***NPS -*** *Organizational responsibility refer to DO-60, RM-60.*
- ***FS -*** *Unit Aviation Officers (UAOs)/Forest Aviation Officers (FAOs) have the responsibility for aviation activities at the local level, including aviation mission planning, safety measures, supervision, and evaluation. UAOs/FAOs assist Line Officers with risk assessment/management and cost analysis. (Refer to FSH 5709.16_10.42)*

Aviation Information Resources

Aviation reference guides and aids for agency aviation management are listed for policy, guidance, and specific procedural requirements.

- ***BLM -*** *9400 Manual Appendix 1, BLM Fixed Wing Standard Operations Procedures, National Aviation Plan. State and Unit Aviation Plans (In all cases DOI policy Department Manuals [DMs], Operational Procedural Memoranda [OPMs], and BLM policy will take precedence.)*
- ***FWS -*** *Service Manual 330-339, Aviation Management and IHOG.*
- ***NPS -*** *RM-60 Aviation Management Reference Manual and IHOG.*
- ***FS -*** *FSM 5700,FSM 5709.14, FSH 5709.16 and IHOG.*

Safety alerts, operational alerts, instruction memoranda, information bulletins, incident reports, and other guidance or information are issued as needed.

An up-to-date library with aviation policy and procedural references will be maintained at all permanent aviation bases, dispatch, and aviation management offices.

Aviation Safety

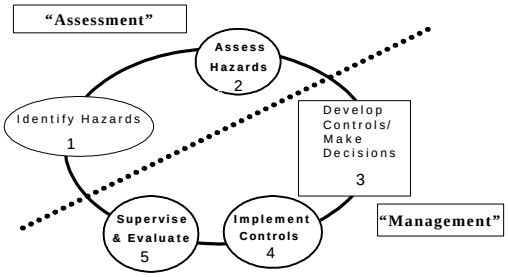
Risk Assessment and Risk Management

The use of Risk Management will help to ensure a safe and successful operation. Risk is the probability that an event will occur. Assessing risk identifies the hazard, the associated risk, and places the hazard in relationship to the mission. A decision to conduct a mission requires weighing the risk against the benefit of the mission and deciding whether the risks are acceptable.

Aviation missions always have some degree of risk. The four sources of hazards are methods, medium, man, and machine. Managing risk is a 5-step process:

- Identify hazards associated with all specified and implied tasks for the mission.
- Assess hazards to determine potential of occurrence and severity of consequences.
- Develop controls to mitigate or remove risk, and make decisions based on accepting the least risk for the best benefit.
- Implement controls - (1) education controls, (2) physical controls, and (3) avoidance controls.
- Supervise and evaluate - enforce standards and continuously re-evaluate their effectiveness in reducing or removing risk. Ensure that controls are communicated, implemented, and enforced.

THE RISK MANAGEMENT PROCESS



Aviation Safety Support

During high levels of aviation activity it is advisable to request an Aviation Safety Assistance Team (ASAT). An ASAT's purpose is to assist and review helicopter and/or fixed wing operations on ongoing wildland fires. They should be requested through the agency chain of command and operate under a Delegation of Authority from the appropriate State/Regional Aviation Manager(s) or Multi Agency Coordinating Group. Formal written reports will be provided to the appropriate manager(s). A team should consist of the following:

- Aviation Safety Manager
- Operations Specialist (helicopter and/or fixed wing)
- Pilot Inspector
- Maintenance Inspector (optional)
- Avionics Inspector (optional)

Military or National Guard Aircraft and Pilots

The *Military Use Handbook (NFES 2175)* will be used when planning or conducting aviation operations involving regular military aircraft. Ordering military resources is done through National Interagency Coordination Center (NICC); National Guard resources are utilized through local or state Memorandum of Understanding (MOU).

Aviation Safety Briefing

Every passenger must receive a briefing prior to each flight. The briefing is the responsibility of the Pilot in Command (PIC) but may be conducted by the pilot, flight manager, helicopter manager, fixed-wing base manager, or an individual with the required training and experience to conduct an aviation safety briefing. Refer to the *Incident Response Pocket Guide (IRPG).*

Aviation Hazard

An aviation hazard is any condition, act, or circumstance that compromises the safety of personnel engaged in aviation operations. All personnel are responsible for hazard identification and mitigation. This includes pilots, flight crew personnel, aviation managers, incident air operations personnel, and passengers. Aviation hazards include the following:

- Deviations from policy, procedures, regulations, and instructions.
- Improper hazardous materials handling and/or transport.
- Airspace conflicts/flight following deviation.
- Deviation from planned operations.
- Failure to utilize PPE or Aviation Life Support Equipment (ALSE).
- Failure to meet qualification standards or training requirements.
- Extreme environmental conditions.
- Improper ground operations.
- Improper pilot procedures.
- Fuel contamination.
- Unsafe actions by pilot, air crew, passengers, or support personnel.

Aviation hazards also exist in the form of wires, low-flying aircraft, and obstacles protruding beyond normal surface features. Each office will post, maintain, and annually update a “known aerial hazard map” for the local geographic area where aircraft are operated, regardless of agency jurisdiction. This map will be posted and used to brief flight crews. Unit Aviation Managers are responsible for ensuring the development and updating of Known Aerial; Hazard Maps (IHOG Ch3.V.J.1.c page 3-20)

SAFECOM

The Department of Interior (DOI) and the US Forest Service (FS) have an incident/hazard reporting form called The Aviation Safety Communiqué (SAFECOM). The database, available at www.safecom.gov, fulfills the Aviation Mishap Information System (AMIS) requirements for aviation mishap reporting

for the DOI agencies and the US Forest Service. Categories of reports include incidents, hazards, maintenance, and airspace. The system uses the SAFECOM Form OAS-34 or FS-5700-14 to report any condition, observation, act, maintenance problem, or circumstance with personnel or aircraft that has the potential to cause an aviation-related mishap. The SAFECOM system is not intended for initiating punitive actions. Submitting a SAFECOM is not a substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to identify, document, track and correct safety related issues. A SAFECOM does not replace the requirement for initiating an accident or incident report.

Any individual (including cooperators) with knowledge of an incident/hazard should complete a SAFECOM. The SAFECOM form should be entered directly on the internet at www.safecom.gov or can be faxed to the Aviation Management Directorate, Aviation Safety (208)433-5069 or FS at (208) 387-5735 ATTN: SAFETY. Electronic cc copies are automatically forwarded to the National, Regional, and State and Unit Aviation Managers.

The agency with operational control of the aircraft at the time of the hazard/incident/accident is responsible for completing the SAFECOM and submitting it through agency channels.

Aircraft Incidents/Accidents

Notify FS or AMD and DOI agency Aviation Safety Managers of any aircraft mishap involving damage or injury. Use the hotline (888) 464-7427 or the most expeditious means possible. Initiate the appropriate unit Aviation Mishap Response Plan.

Aviation Assets

Typical aviation assets that DOI and USFS utilize are: Helitack and Rappel crews, Smokejumpers, Large Airtankers, Single Engine Air Tankers, Helitankers, Air Attack, Aerial Supervision Modules, Lead Planes, Airtanker Bases, SEAT Bases, Helibases, Smokejumper Bases, Air Attack Bases.

- ***BLM -*** *All BLM acquired aircraft, exclusive use and CWN, are available to move to areas of greatest national need, thereby maximizing efficiency and effectiveness. Specific authorities and responsibilities for Field/State and National Offices are outlined earlier in this chapter. Offices are expected to adhere to procedures established in the National Aviation Plan for both acquisition, and use reporting.*

Helitack

Helitack crews perform suppression and support operations to accomplish fire and resource management objectives.

Organization - Crew Size

- ***BLM -*** *The standard BLM exclusive-use helitack crew is a minimum of seven personnel (PFT supervisor, long-term assistant, long-term lead, and six temporaries). As the need arises, each crew must be able to support and manage a call-when-needed (CWN) helicopter in addition to the exclusive-use helicopter.*
- ***NPS -*** *NPS exclusive use modules will consist of a minimum of 8 personnel.*
- ***FS -*** *Regions may establish minimum crew size and standards for their exclusive- use helitack crews. Experience requirements for exclusive-use helicopter positions are listed in FSH 5109.17, Chapter 40.*

Operational Procedures

The *Interagency Helicopter Operations Guide* (IHOG) is policy for helicopter operations whether in support of wildland fire or natural resource missions, and provides guidance for helitack and helicopter operations.

- ***FWS -*** *IHOG does not serve as policy for natural resource missions.*

Communication

The helitack crew standard is one handheld programmable multi-channel FM radio per every 2 crew persons, and one multi-channel VHF-AM programmable radio in the primary helitack crew (chase) truck. Each helitack crew (chase) vehicle will have a programmable VHF-FM mobile radio. Each permanent helibase will have a permanent programmable FM radio base station.

Transportation

Dedicated vehicles with adequate storage and security will be provided for helitack crews. The required Gross Vehicle Weight (GVW) of the vehicle will be dependent upon the volume of equipment carried on the truck and the number of helitack crewmembers assigned to the crew.

Safety

For information on the risk assessment and management, see the *IHOG*, Chapter 3.

Training and Experience Requirements

All Helitack members will meet fire qualifications as prescribed by the National Wildfire Coordinating Group (NWCG) *310-1* and their agency manual requirements. The following chart establishes experience and training requirements for FS, BLM, NPS, and FWS Exclusive Use Fire Helicopter Crew Positions.

POSITION [1]	MINIMUM PREREQUISITE EXPERIENCE [2]	MINIMUM REQUIRED TRAINING [3]	CURRENCY REQUIREMENTS
Fire Helicopter Crew Supervisor	One season [4]as an Assistant Fire Helicopter Crew Supervisor ICT4, HELM, HEB2		RT-372 [5], IAT Modules as required by agency [6]
Assistant Fire Helicopter Crew Supervisor	One season as a Fire Helicopter Squad Leader ICT4 HELB or HELM, HEB2 (T)	I-200, S-200, S-215, S-230, S-234, S-260, S-270, S-290, S-371, S-372	RT-372, IAT Modules as required by agency
Fire Helicopter Squad Leader	One season as a Fire Helicopter Crewmember FFT1, ICT5	S-131, S-133, S-211, S-212, S-281	Annual S-271 Refresher [7]
Fire Helicopter Crewmember	One season as a Firefighter FFT2 HECM Taskbook	I-100, S-130, S-190, S-271	Annual S-271 Refresher

[1] All Exclusive-Use Fire Helicopter positions require an arduous fitness rating.
[2] Minimum experience and qualifications required prior to performing in the Exclusive Use position. Each level must have met the experience requirements of the previous level(s).
[3] Minimum training required to perform in the position. Each level must have met the training requirements of the previous level(s).
[4] A “season” is continuous employment on a full-time wildland fire helicopter crew for a period of 90 days or more.
[5] After completing S-372, must attend Interagency Helicopter Manager Workshop (RT-372) every three years.
[6] Must attend IAT Modules as required by agency for Helicopter Manager.
[7] Must receive S-271 Refresher or serve as S-271 instructor every year.
Note: Exceptions to the above position standards may be granted, on a case-by-case basis, by the BLM National Aviation Office, NPS Regional Office or FWS Regional Office, as appropriate.

Helicopter Rappel & Cargo Let-Down

Any rappel or cargo let-down programs must be approved by the Directors, Fire and Aviation Management.

- ***FS -*** *Approval is required by the Regional Office.*

All rappel and cargo let-down operations will follow the *Interagency Helicopter Rappel Guide* (IHRG), as policy. Any exemption to the guide must be requested by the program through the state/region for approval by the National Aviation Office.

Aerial Ignition

The *Interagency Aerial Ignition Guide (IAIG)* is policy for all aerial ignition activities. Any exemption to the *IAIG* must be requested through the state/region for approval by the National Aviation Office.

Airtankers

Airtankers are a national resource. Geographic areas administering these aircraft will make them available for initial attack and extended attack fires on a priority basis. All airtanker services are obtained through the contracting process (except the MAFFS, which are Military Aviation Assets and used to supplement the contract fleet when needed).

The management of these resources is governed by the requirements of the *DM, BLM Manual 9400*, and the *Interagency Airtanker Base Operations Guide (IATBOG).* Airtankers are operated by commercial vendors in accordance with *FAR Part 137*.

- ***FS*** *- Forest Service operates under FSM 5703 and Grant of Exemption 392 as referenced in FSM 5714.*

Operational Principles

- Use retardant drops before an immediate need is recognized; pretreat according to expected fire behavior.
- Retardant dropped in the morning may still be effective in the afternoon.
- Build progressive retardant line.
- Use retardant drops to cool areas (reduce flame length), as necessary in support of ground forces.
- Be sure the line is clear of personnel prior to dropping retardant.
- Be alert for gaps in retardant lines.
- Expect fixed-wing vortices and rotor-wing down wash.
- Wildland fire can burn around, under, spot over, and with enough intensity, through retardant lines.
- Retardant drops should not be made within 300 feet of a waterway. Refer to *Interagency Leadplane Operations Guide (ILOG).*

Categories

Airtanker types are distinguished by their retardant load:

- Type 1 - 3,000 gallons
- Type 2 - 1,800 to 2,999 gallons
- Type 3 - 800 to 1,799 gallons
- Type 4 - 799 gallons (single engine airtankers)

Airtanker Base Operations

Certain parameters for the operation of airtankers are agency-specific. For dispatch procedures, limitations, and times, refer to geographic area mobilization guides and the *Interagency Airtanker Base Operations Guide (IATBOG).*

Airtanker Base Personnel

There is no identified training for the positions at airtanker bases; the *IATBOG* contains a chart of recommended training for each position. It is critical that reload bases staff up commensurate with the need during periods of moderate or high fire activity at the base. All personnel conducting airtanker base operations should review the *IATBOG* and have it available.

Startup/Cutoff Time for Airtankers

These limitations apply to the time the aircraft arrives over the fire.

- Normally airtankers shall be dispatched to arrive over the fire not earlier than 30 minutes after official sunrise and not later than 30 minutes before official sunset.
- Airtankers may be dispatched to arrive over a fire as early as 30 minutes prior to official sunrise, or 30 minutes after official sunset, provided:
  - A qualified ATGS, ASM1, or ATCO is on the scene; and
  - Has determined visibility and other safety factors are suitable for dropping retardant; and
  - Notifies the appropriate dispatcher of this determination.
- An airtanker, crewed by an initial attack-rated captain, may be dispatched to arrive over a fire without aerial supervision by an ATGS, ASM1, or ATCO provided the airtanker's arrival and drop activities are conducted between 30 minutes after official sunrise and 30 minutes before official sunset in the lower 48 states. In Alaska, an airtanker pilot will not drop retardant during periods outside civil twilight.

Single Engine Airtankers

Single Engine Airtanker (SEAT) Operations

The *Interagency SEAT Operating Guide (ISOG) (NFES #1844)* defines operating standards and is policy for both the DOI and FS.

SEAT Manager Position

In order to ensure adherence to contract regulations, safety requirements, and fiscal accountability, a qualified SEAT Manager (SEMG) will be assigned to each operating location. The SEMG's duties and responsibilities are outlined in the *ISOG*.

Safety
All SEAT operators and users will adhere to AMD/Forest Service safety standards. Flight operations, pilot requirements, flight crew duty and flight limitations, and the use of PPE are addressed in the above referenced standards.

Operational Procedures
Using SEATs in conjunction with other aircraft over an incident is standard practice. Agency or geographical area mobilization guides may specify additional procedures and limitations.

Depending on location, operator, and availability, SEATs are capable of dropping suppressants, water, or approved chemical retardants. Because of the load capacities of the SEATs (400 to 800 gallons), quick turn-around times should be a prime consideration. SEATs are capable of taking off and landing on dirt, gravel, or grass strips (pilot must be involved in selection of the site); a support vehicle reduces turn-around times.

Reloading at established airtanker bases or reload bases is authorized. (SEAT operators carry the required couplings). All base operating plans must include SEAT loading criteria.

Communication
All SEATs must have two VHF-AM and one VHF-FM (programmable) multi-channel radios. (See contract specifications.)

Aerial Supervision
Aerial supervision resources will be dispatched, when available, for initial and extended attack to enhance efficiency and safety of ground and aerial operations. During initial response operations the recommended aerial supervision in priority order with regard to safety and efficiency is as follows:

- ASM1
- ATGS
- ATCO (Leadplane)
- HLCO Helicopter Coordinator
- Smokejumper Spotter
- HELM (Helicopter Manager)

If aerial operations continue beyond initial response, an ASM1, ATGS, or ATCO will be ordered. Aerial supervision response will be commensurate with expected complexity.

Reconnaissance or patrol flights
The purpose of aerial reconnaissance or detection flights is to locate and relay fire information to fire management. Only qualified ATGS (ATS-ASM) and Lead Plane Pilots are authorized to coordinate incident airspace operations. Flights with a “Recon” or “Patrol” designation should communicate with tactical

aircraft only to announce location, altitude and to relay their departure direction and altitude from the incident.

Low-level Flight Operations

The only fixed-wing aircraft missions authorized for low-level fire operations are:

- Para-cargo.
- Aerial Supervision Module-1 (ASM1) and leadplane operations.
- Retardant, water and foam application.

Operational Procedures:

- A high-level recon will be made prior to low-level flight operations.
- All flights below 500 feet will be contained to the area of operation.
- All resource flights below 500 feet must have an approved plan.
- PPE is required for all fixed-wing, low-level flights. Helmets are not required for multi-engine airtanker crews, smokejumper pilots and ASM flight/aircrew members.

Congested Area Flight Operations

Airtankers can drop retardant in congested areas under DOI authority given in FAR Part 137. FS authority is granted under exemption 392, from FAR 91.119 as referenced in FSM 5714. When such operations are necessary, they may be authorized subject to these limitations:

- Airtanker operations in congested areas may be conducted at the request of the city, rural fire department, county, state, or federal fire suppression agency.
- An ASM1/leadplane is ordered to coordinate aerial operations.
- The air traffic control facility responsible for the airspace is notified prior to or as soon as possible after the beginning of the operation.
- A positive communication link must be established between the airtanker coordinator or aerial supervision module (ASM1), airtanker pilot(s), and the responsible fire suppression agency official.
- The Incident Commander (IC) for the responsible fire agency or designee will advise the ASM1/leadplane/airtanker that all non-essential people and movable property have been cleared prior to commencing retardant drops.

Aerial Supervision Module 1 (ASM1)

The Aerial Supervision Module is crewed with both a “Lead” qualified pilot (ATP) and an Air Tactical Supervisor (ATS). These individuals are specifically trained to operate together as a team. The resource is primarily designed for providing both functions (lead and Air Attack) simultaneously from the same aircraft, but can also provide single role service, as well.

The Air Tactical Pilot is primarily responsible for aircraft coordination over the incident. The Air Tactical Supervisor develops strategy in conjunction with the Operations Section Chief.

- ***BLM -*** *The Aerial Supervision Module Operations Guide (ASMOG) and Interagency Leadplane Operations Guide (ILOG) are policy for BLM.*

Operational Considerations

The ASM1 is a shared national resource. Any operation that limits the national resource status must be approved by the agency program manager. Aerial or incident complexity and environmental considerations will dictate when the ASM1 ceases low level operations. The ASM flight crew has the responsibility to determine when the complexity level of the incident exceeds the capability to perform both ATGS and leadplane functions from one aircraft. It will request additional supervision resources, or modify the operation to maintain mission safety and efficiency.

The crew has the responsibility to determine when the complexity level of the incident exceeds the capability to perform both ATGS and leadplane functions from one aircraft. It will request additional supervision resources to maintain operational safety.

Policy

Only those individuals certified and authorized by the BLM - National Aviation Office, or the FS - National Aviation Operations Officer, will function as an Air Tactical Supervisor (ATS) in an ASM mission profile.

Aerial Supervision Module Program Training and Qualifications

Training and qualification requirements for ASM1 crewmembers are defined in the *Interagency Aerial Supervision Module Guide* (IASMOG) ILOG Appendix A.

Air Tactical Group Supervisor (ATGS)

The ATGS is primarily responsible for coordination of aircraft operations and firefighter safety on an incident. Specific duties and responsibilities are outlined in the *Fireline Handbook (PMS 410-1) and the Interagency Air Tactical Group Supervisor's Guide (NFES 1393).* The ATGS reports to the Air Operations Branch Director (AOBD), or in the absence of the AOBD, to the Operations Section Chief (OSC), or in the absence of the OSC, to the IC.

Operational Considerations

A relief ATGS and aircraft or ASM1 should be ordered for sustained operations to ensure continuous coverage over an incident. Personnel who are performing aerial reconnaissance and detection will not perform air tactical duties unless they are fully qualified as an ATGS. Air tactical aircraft must meet the avionics typing requirements listed in the *Air Tactical Group Supervisor's Guide* and the pilot must be carded to perform the air tactical mission.

Leadplane

A leadplane is a national resource. The *Interagency Leadplane Operations Guide (ILOG)* is agency policy. Agency policy requires an ASM1/leadplane to be on order prior to retardant drops over a congested area. Operations may proceed before the SM1/leadplane arrives, if communications are established, authorization is granted from the IC, and the line is cleared prior to commencing retardant operations.

Smokejumper Pilots

The *Interagency Smokejumper Pilot Operations Guide* (ISPOG) serves as policy for smokejumper pilots' qualifications, training and operations.

Airspace Coordination

The Interagency Airspace Program is an aviation safety program designed to enhance aviation safety and reduce the risk of a mid-air collision. Guidance for this program is found in the *Interagency Airspace Coordination Guide (IACG)*, which has been adopted as policy by the DOI and USDA Forest Service. Additional guidance may be found in the *National Interagency Mobilization Guide* and supplemented by local Mobilization Guides.

All firefighting aircraft are required to have operative transponders and will use a setting of 1255 when engaged in, or traveling to, firefighting operations (excluding ferry flights), unless given a discrete code by Air Traffic Control (ATC).

Flight planning and Temporary Flight Restriction (TFR) information on World Aeronautical (WAC) Sectional and Global Navigational Charts (GNC) has been made available at the National Interagency Airspace System website http://airspace.nifc.gov. TFRs are updated every 30 minutes during normal business hours 7 days a week. A tactical chart with TFR specific information with incident names, frequencies and altitudes are available. These charts can be found at http://airspace.nifc.gov/mapping/nifc/index.cfm
Additional references can be found by contacting:

- ***BLM -*** *State Aviation Managers, Regional Airspace Coordinator and the BLM National Aviation Office Airspace Coordinator.*
- ***FS -*** *Regional Aviation Safety Officers, Regional Airspace Coordinators and the FS Airspace Program Manager.*
- ***FWS -*** *National Aviation Safety and Operations*
- ***NPS -*** *Regional Aviation Officers.*

Flight Request and Approval

- ***BLM -*** *The 9400-1a, Aircraft Flight Request/Schedule Form, will be used for approval and flight planning. This form will be completed between the aircraft dispatcher and flight manager for missions not requested on a Fire Resource Order. The fixed-wing or helicopter manager will use this form to brief the pilot on the mission.*

- ***NPS -*** *Reference RM 60, Appendix 3 & 4.*
- ***FS -*** *Refer to FSM 5700 for administrative use, FSM 5705 for point-to-point and mission use for types of Forest Service flights. All non tactical flights require a flight schedule to be completed with a flight following method identified prior to departure; with information passed to all responsible dispatch centers.*

Project Aviation Safety Plans (PASP) requires approval by the immediate supervisor and final approval by the appropriate line manager.

- ***NPS -*** *Approval per unit aviation management plan.*
- ***FWS -*** *National Aviation Safety and Operations Specialist.*
- ***FS -*** *Refer to FSM 5700 for policy special use missions.*

Point-to-point flights typically originate at one developed airport or permanent helibase, with the direct flight to another developed airport or permanent helibase. These flights require approved pilots, aircrew, and aircraft.

- A point-to point flight is conducted higher than 500 feet above ground level (AGL).

Agency policy requires designating a Flight Manager/Chief of Party for point-to-point flights transporting personnel. The Flight Manger/Chief of Party ensures compliance with contract requirements and is responsible for coordinating the given flight. They must have received approved Agency Specified training within the last three years. Duties include:

- Briefs pilots on missions, frequencies, flight routes, hazards, flight following, passenger briefing requirements, and any other related information required.
- Checks the pilots' qualification cards and aircraft data cards for approval and currency.
- Ensures that flights are safely conducted and do not deviate from filed Flight Plans or mission profiles without prior authorization.
- Initials the flight invoices and routes them according to procedures specified in the contract.
- ***BLM -*** *All agency flights shall be approved using an aircraft request/flight schedule, USDI form 9400-1a. This form is used to authorize, plan and brief the pilot on non-fire flights.*
- ***FS -*** *Refer to FSM 5710.5 for administrative use, FSM 5705 for point-to-point and mission use for types of Forest Service flights.*
- ***NPS -*** *Reference RM-60, Appendix 3 for agency specific policy.*

Mission Flights

Mission flights are defined as flights not meeting the definition of point-to-point flight. A mission flight requires work to be performed in the air (retardant or water delivery, fire reconnaissance, smokejumper delivery), or through a combination of ground and aerial work (delivery of personnel and/or cargo from helibases to helispots or unimproved landing sites, rappelling or cargo let-down, horse herding).

- PPE is required for any fixed wing mission flight conducted within 500'AGL.
- The use of PPE is required for all helicopter flight (point to point and mission) and associated ground operations. The specific items to be worn are dependent on the type of flight, the function an individual is performing, or the ground operation being conducted. Refer to the tables in Chapter 9 of the *IHOG* for specific requirements.
- All personnel will meet training and qualification standards required for the mission.
- Mission flights for fixed-wing aircraft include but are not limited to the following:
  - Water or retardant application
  - Parachute delivery of personnel or cargo
  - ATGS operations (leather shoes or boots and full length cotton/nomex trousers or flight suit are required).
  - Airtanker coordinator operations
  - Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions
  - Fire reconnaissance (PPE recommended but not required)
  - Precision reconnaissance

Mission helicopter flights include but are not limited to the following:

- Flights conducted within 500 feet AGL
- Water or retardant application
- Helicopter coordinator and ATGS operations
- Aerial ignition activities
- External load operations
- Rappelling
- Takeoff or landing requiring special techniques due to hazardous terrain, obstacles, pinnacles, or surface conditions
- Free-fall cargo
- Fire reconnaissance
- Precision reconnaissance

Flight-Following All Aircraft

Coordinating and confirming with the pilot the method of flight-following that will be utilized for any flight is the responsibility of the scheduling dispatch office. When agency flight following (radio or automated) is being used, the scheduling dispatch office shall have flight following responsibility until transferred through a documented, positive hand-off. All dispatch centers designated for fire support shall have the capability to transmit and receive "National Flight Following" and Air Guard". Flight-following reports from the aircraft are the responsibility of the pilot-in-command (PIC) in accordance with 14 CFR. Violation of flight-following standards requires submission of a SAFECOM.

For tactical aircraft that cross dispatch area geographic boundaries, the receiving unit is responsible to confirm arrival of the aircraft via landline to the sending Geographic Area Coordination Center.

- ***BLM/FWS/NPS*** *- Refer 351 Departmental Manual - Flight Operations Standards and Procedures, IHOG Chapter 4, and National and Geographic Area Mobilization Guides for specific direction.*
- ***FS*** *- Refer FSM 5700, FSH 5709 handbooks, IHOG Chapter 4, and National and Geographic Area Mobilization Guides for specific direction.*

Flight-Following Point to Point, Non-Mission Flights

Agency radio communication is not mandatory. Flight following for point to point, non-mission flights shall be accomplished using one of the following methods:

- **FAA IFR or VFR flight plan**
  Pilot/chief of party shall notify sending/receiving dispatch office of ETD, ETA and ATA. Radio communication with agency dispatch office is not required.
- **Agency check-in via radio**
  Pilot checks in via radio with agency dispatch office on set intervals during duration of flight (usually every 15 minutes).
- **Automated Flight Following (AFF)**
  AFF shall be conducted according to the provisions outlined in the *National Interagency Mobilization Guide, section 24.3.1*

Flight-Following Mission Flights

Agency FM radio capability is required for all mission flights. Flight following for mission flights shall be accomplished using one of the following methods:

- **Agency check-ins via radio**
  Pilot checks in via radio with agency dispatch office on set intervals during duration of flight (usually every 15 minutes).
- **Automated Flight Following (AFF)**
  AFF shall be conducted according to the provisions outlined in the *National Interagency Mobilization Guide, section 24.3.1*.

Chapter 18
Fuels Management/Prescribed Fire

Introduction

The Fuels Management Programs within the Department of the Interior (DOI) and the Forest Service have the purpose of reducing risks to human communities and improving the health of the land. To ensure these programs are coordinated, common priorities for fuel treatments have been established which follow these guidelines.

- Complement federal land stewardship responsibilities by providing a fuels treatment program that can be realistically implemented.
- Represent a collaborative, efficient, and effective program necessary to reduce the wildland fire risk to both communities and the environment.
- Expand fuels treatment program capabilities and biomass utilization markets.

The DOI and USDA-FS along with other federal, state, tribal, and local partners will work collaboratively to ensure effective fuels treatment efforts are planned and implemented. These efforts will be consistent with the direction provided in:

- *"Restoring Fire -Adapted Ecosystems on Federal Lands- A Cohesive Strategy"* (Federal Cohesive Strategy)
- Western Governors Association *"A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment- 10 Year Comprehensive Strategy"* (10 Year Comprehensive Strategy)

The following chapter outlines the similarities in fuels management between the DOI agencies and the USDA Forest Service. However, there exist some programmatic differences that are identified in the following agency specific documentation and serve as agency specific direction.

- ***BLM -*** *Refer to BLM 9214 Prescribe Fire Handbook and the 9215 BLM Fire Training Handbook.*
- ***FWS -*** *Refer to Fire Management Handbook.*
- ***NPS -*** *Refer to RM 18.*
- ***FS -*** *Refer to FSM 5140.*

Policy

The safety of firefighters and the public is the number one priority when planning and implementing fuels treatment projects.

All prescribed fire projects will have an approved prescribed fire plan prior to ignition.

All prescribed fire plans will contain measurable objectives, a predetermined prescription, and an escaped fire plan to be implemented in the event of an escape.

All prescribed fire plans will contain the required elements as outlined in the agency policy.

All fuels treatment projects will be in compliance with federal, state, and local environmental regulations and requirements.

All fuels management projects will be tracked and progress will be reported within required timeframes. Impediments to the completion of the projects will be identified and actions will be taken to mitigate the impediment.

All fuels treatment projects will be monitored to determine if treatment objectives were met and evaluation reports completed and maintained in the project file. All fuels treatment projects will support resource management objectives as identified in the Land Use Plans. Refer to agency specific direction.

Priorities

The agencies will strategically focus fuels treatment activities as identified in the Fire Management Plan by placing priority on:

- **Wildland/Urban Interface (WUI) Areas -** These areas currently have two accepted definitions:
  - "The wildland/urban interface community exists where humans and their development meet or intermix with wildland fuel." This definition is found in the *Federal Register*/Vol. 66, No. 3/Thursday, January 4, 2001/Notices; and *A Fire in the West, The Wildland/Urban Interface Fire Problem A Report for the Western States Fire Managers*, September 18, 2000.
  - "The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuel." This definition is found in the NWCG Glossary and the *10-Year Comprehensive Strategy Implementation Plan.*
  - These WUI areas should be identified in Community Wildfire Protection Plans (CWPP) that are developed through collaboration between federal agencies, communities, and other interested parties.
- **WUI fuel reduction projects**

  WUI fuel reduction projects mitigate the risks to people, their communities, and adjacent resource values important to the social/ economic stability of those communities from unwanted wildland fire. The National Interagency Fuels Coordination Group has defined valid WUI fuel treatment projects as those projects that meet the following criteria:

- They must focus on communities at risk that are published in the *Federal Register* or as defined by State Foresters, or are priority hazardous fuels treatment projects identified by local collaborative efforts or defined within a CWPP.
- They must be adjacent or in close proximity to federal lands where there is a risk of fire originating on federal lands and threatening life and community property.
- They must have a completed fire risk assessment and mitigation strategy, or be in the process of developing one, through collaborative efforts with interagency partners.
- They must implement the fire mitigation strategy.

- **Natural Resource Areas**
  Natural Resource Areas where actions will improve the resiliency and sustainability of wildland ecosystems to benefit and maintain: water quality, air quality, wildlife and fisheries habitat, and threatened, endangered, or other special status plant and animal species or habitat.
- **Areas where actions will reduce risks and damage from a wildfire.**
  Areas where actions will reduce risks and damage from a wildfire. This includes the reintroduction of fire into fire dependant ecosystems to maintain and enhance those ecosystems and the modification of vegetation to achieve specific land management objectives.

Project Planning, Selection, and Tracking

Planning

Hazardous Fuels Treatment activities are a coordinated interdisciplinary effort supported by Resource and Fire Management. All participating disciplines will coordinate their respective roles for the planning, implementation, monitoring, and evaluation, reporting, and funding of fuels treatment projects. Resource Management is responsible for managing vegetation and soils. Fire Management is responsible for identifying hazardous fuel situations and managing mitigation activities.

All use of fuels treatments and prescribed fire will support land and resource management plans. The agency specific land management plans serve as the document to initiate, analyze, and provide the basis for conducting fuels treatment activities and using prescribed fire to meet resource objectives.

The Fire Management Plan (FMP) serves as the program strategy document for fuels treatments and prescribed fire activities. The FMP captures and quantifies the overall fuels management program needs of the field office. The FMP identifies how fuels treatments and prescribed fire, along with other fire management strategies, will be used to meet the overall land management goals identified in land use plans.

Compliance with the National Environmental Policy Act (NEPA) is required for all fuels treatment projects. As per Public Law 95-95, compliance with federal, state, and local air quality regulations is mandatory and will require coordination with state and local air quality authorities. Personnel developing Fuels Treatment and Prescribed Fire Plans must be aware of state and local regulations and the impacts that a specific project may have on critical areas. Prescribed Fire and Fuels Treatment Plans need to identify sensitive areas and provide operational guidance to mitigate potential impacts from smoke or other particulates. Follow appropriate state and local requirements regarding smoke dispersion modeling.

Fuel Treatment Selection Process

The following table illustrates the process steps, responsible organizational levels, and associated timeframes involved in the fuel treatment program development and collaboration process agreed to by the Forest Service and DOI agencies. This process does not circumvent any agency specific budget processes, which are documented in other memoranda particular to each agency. All agencies have synchronized the critical steps and agree on the criteria to be used in program development.

Refer to agency specific direction and (Interdepartmental Memo dated March 20, 2002 titled Fuels Treatment Development and Collaboration Process)

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
DOI Agencies and Forest Service regional allocations of hazardous fuel reduction funds are determined annually at the national level. Distributions are based on criteria from the Federal Cohesive Strategy and include but may not be limited to: • Fire management workload; • Departure from historical fuel conditions and fire occurrence; • Risk to communities (for wildland/urban interface projects); • Risk to ecosystems; • Benefits that extend beyond treatment areas; • Potential for unwanted wildland fire to cause	Department of the Interior/Office of Wildland Fire Coordination (OWFC) staff, Forest Service Fire and Aviation Management staff, bureau offices in consultation with National Office level - Bureau Directors, FS and DOI Fuel Treatment Coordinators, FS and DOI Budget Coordinators	During the next and all future fiscal year budget development cycles

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
irreversible damage to communities; ecosystems, or historical / cultural resources; • Projects that span multiple agency and ownership boundaries with broad interagency as well as non-governmental organizations and community participation; • Multi-year projects based on current land use and fire management plans, collaboration with federal, state, and tribal interagency partners, and • Prior performance in the hazardous fuels program.		
Adjusts database to reflect current fiscal year allocation and program emphasis.	States/ Regional Offices/	4/1 current year
Field units develop out year fuels program estimates.	Regional Offices/National Forests	5/1 each year
Forest Service and DOI bureaus will develop and maintain a list of fuels treatment cooperators/partners that have engaged in the project selection process in each state. List will be submitted to the DOI OWFC and FS Fire & Aviation Management.	FS and DOI Fuel Treatment Coordinators with support from Regional/State Fuels Coordinators	5/15 each year
DOI bureaus will indicate approximate number of acres of fuels to be treated in the budget out-year (current FY +2 years) for use in developing departmental budget guidance and budget justifications (e.g., 5/30/03 provide # acres to be treated FY05).	Bureau Directors/DOI Fuel Treatment Coordinators submit to OWFC	5/30 each year

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
Forest Service and DOI bureau field units and tribes, in collaboration with local level partners, enter new single-year and new or continuing multi-year fuel treatment projects in NFPORS. The list of projects represents potential treatments for the next fiscal year based on the President's Budget, has been prioritized locally, and will be submitted to Regional/State offices. Priority considerations for local project development and prioritization will be based on the Federal Cohesive Strategy and local issues (refer to priority criteria in Federal Cohesive Strategy).	Local Level cooperators	7/1/current year
Forest Service and DOI Regional/State Offices, in consultation with states, tribes, and local partners, prioritize projects, consolidate lists, and submit a consolidated package for their area of responsibility to national offices. Priority considerations for project development and prioritization will be based on the Federal Cohesive Strategy (refer to priority criteria in Federal Cohesive Strategy).	Regional/State Offices, cooperators	8/1/current year
DOI Bureau Directors submit proposed new project list to Department of the Interior; Forest Service National Office compiles project list for next fiscal year. This proposed project list serves as the initial DOI and Forest Service input to Budget Year Action and Financial Plan.	National Offices – Bureau Directors, Forest Service Chief	9/1/current year

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
DOI National Offices utilize Federal Cohesive Strategy priorities for distributing wildland-urban interface and hazardous fuel treatment funds and establish Bureau regional/state budget caps, dependent upon budget approval and/or Department direction for implementation. Priority considerations for project development and prioritization will be based on the Federal Cohesive Strategy (refer to priority criteria in Federal Cohesive Strategy).	Bureau Directors, National Offices – Fuel Treatment Coordinators	Completed after budget approved.
DOI Bureaus make preliminary budget allocations to the Regions and States.	National Office – Bureau Directors	9/8 current year based on Congressional action to date. Subject to change upon final Congressional appropriations.
DOI Bureau Regional/State offices make fund allocation decisions for new fiscal year projects within their defined budget caps.	Regional/State Offices	9/15/current fiscal year based on Congressional action to date. Subject to change upon final Congressional appropriations.

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
Forest Service and DOI Bureaus issue official budget allocations to regions and states.	National Offices – Bureau Directors, Forest Service Chief	For DOI Bureaus - upon apportionment of appropriation by the OMB. FS and DOI budget offices will give budget policy guidance upon completion of Congressional appropriation. Forest Service – Hazardous fuels budget allocations are transmitted as part of total FS budget program direction.
DOI administrative units/local groups get new funding allocations and Performance Measure Targets.	Local Level cooperators	Upon apportionment of appropriation by OMB.
Initiate priority project implementation.	Local level cooperators	10/1 new fiscal year.
Administrative units adjust planned program in NFPORS to reflect budget allocation.	Local/State/ Regional	30 days after notification from National Office.
National offices compile final Funded Project List (provide as final input to current fiscal year Action and Financial Plans).	National Office – Bureau Directors, Fuel Treatment Coordinators	Upon apportionment of appropriation by OMB. Transmitted 30 days after final budget.
DOI Bureaus develop complete list of carryover projects that could not be implemented from previous fiscal year.	Local level cooperators, Regional/State Offices, National Offices – Bureau Directors, Fuel Treatment Coordinators	10/15

DOI/FS Fuels Treatment Selection Process		
Process Steps	**Responsibility**	**Timeframe (Due Date)**
Forest Service and DOI compile previous fiscal year accomplishments (input to End of Year Report).	Regional/State Offices, National Offices	11/1 current year
If DOI projects cannot be implemented, the local level with cooperators will recommend a substitute project or carrying the existing project until a later date. If funds need to be shifted (within units, between units, between regions, or between bureaus), the Regional/State Offices will be notified and decisions will be made by Bureau Directors at the National level. If FS projects cannot be implemented, changes will made at field level, and database adjusted.	Input and communication from all levels. Decisions regarding fund re-distribution or movement made by Bureau Directors. FS local level	Ongoing
DOI local administrative units, tribes, and other cooperators track project status and report to Regional/State Offices on status monthly.	Local Level cooperators	Ongoing – monthly reports
DOI Regional/State offices monitor accomplishment milestones and support increased implementation when needed, identify need for fund transfers when needed, and keep national offices informed of projects status.	Regional/State Offices	Ongoing – monthly
Units ensure that data in NFPORS is current.	Local/State/ Regional	Ongoing - monthly

Tracking and Reporting

Accountability (for monies spent and results achieved) is expected and closely monitored from within and outside the departments. The Wildland Fire Leadership Council has established National Fire Plan Operations and Reporting System (NFPORS) as the required interagency system to assist field, state, regional, and national personnel in managing and reporting accomplishments for work conducted under the National Fire Plan. State or local air quality agencies may also require additional reporting.

National Fire Plan Operations and Reporting System (NFPORS)

The Hazardous Fuels module of the system has been developed and is the national interagency standard for:

- Submitting proposed projects for funding,
- Tracking and managing the program,
- Reporting performance, measuring accomplishments and accountability.

The following business rules will be used in reporting accomplishments:

- **Wildland Fire Use**
  Acres burned in a wildland fire may only be reported as a fire use treatment if the unit has an approved Fire Management Plan allowing Wildland Fire Use, and the fire was managed as a Wildland Fire Use incident with an approved Wildland Fire Implementation Plan (WFIP). Limited suppression or confinement fire acres may not be counted as fire use accomplishments. WFU is reported in the NFPORS hazardous fuel module.

- **Planned Treatments Burned in a Wildfire**
  Acres burned in a wildfire may only be reported in NFPORS as prescribed fire if all the following conditions are met:
  - The area burned was in a pre-existing NFPORS treatment unit.
  - The formal planning (NEPA, Burn Plan, etc.) had already begun to treat the unit.
  - The planned resource objectives were met.
  - The claim is approved by a Regional Fuels Specialist.
  - Fuels program dollars for the unit accomplished through wildfire should be reallocated to other projects.

Fuels Management Performance Measures

The fuels management targets and accomplishments to be tracked are contributing programs reporting in NFPORS.

- Total number of acres treated both in the WUI and Hazardous Fuels all condition classes.
- Total number of acres treated in the WUI.
- Total number of acres treated in condition classes 2 or 3 in fire regimes 1,2,3 outside the WUI.
- Total number of acres treated /total cost.
- Total number of RX fires conducted that result in violations/total # of RX fire treatments.
- Total number of acres treated in condition class 2 moved to condition class 1.
- Total number of acres treated in condition class 3 moved to condition class 1 or 2.
- Total number of acres moved to a better condition class per million dollars of gross investment.

- Number of acres treated by mechanical methods.
- Number of acres treated mechanically with by-products utilized.
- Number of projects implemented through (local) contractors.
- Number of communities at risk with completed risk assessments and mitigation plans/ total number of communities listed.
- Total number of WUI communities at risk with fire prevention programs in place/total number listed.
- Number of WUI communities at risk that initiated volunteer, community funded, or cost-share efforts to reduce hazardous fuels.
- Refer to agency specific direction.

Prescribed Fire Plans

Plan Contents

The Prescribed Fire Plan is a stand alone document that provides the Prescribed Fire Burn Boss all the information needed to implement the project. Prescribed fire projects must be implemented in compliance with the written plan. At a minimum, a listing of the required elements to develop a burn plan can be found in agency specific documents.

- ***BLM -*** *Refer to BLM 9214 Prescribed Fire Handbook and the 9215 BLM Fire Training Handbook.*

Restrictions

Implementation of Prescribed Fires at National Preparedness Levels 4 and 5 is restricted. (See the *National Mobilization Guide*.)

- **Preparedness Level 4:** WFU and prescribed fire application can be continued or be initiated if the proposed action is approved by an agency at the regional or state office level. This approval must be based on an assessment of risk, impacts of the proposed actions on area resources and activities and include feedback from the Geographic Area MAC Group. The Geographic Area MAC Group provides information or perspective to agencies wishing to proceed with or implement a WFU or prescribed fire application. The final decision to implement resides with the implementing agency.
- **Preparedness Level 5:** WFU and prescribed fire application can be continued or be initiated if the proposed action is approved by an agency at the regional or state office level. The national agency representative will assess risk and impacts of the proposed action and discuss with the National MAC Group. This group will have the opportunity to provide information or perspective to agencies wishing to proceed with or implement a WFU or prescribed fire application. The final decision to implement resides with the implementing agency.

Determination of Complexity

The NWCG *Prescribed Fire Complexity Rating System Guide* is the agency standard for rating prescribed fire complexity. A complexity rating will be completed for each prescribed fire project. The determination of the prescribed fire complexity will be based on an assessment of risk (the probability or likelihood of an unexpected event or situation occurring), and technical difficulty (the level of skills needed to complete the project and deal with expected events).

- ***NPS -*** *Refer to RM 18, chapter 10.*
- ***BLM -*** *Refer to BLM 9214 Prescribed Fire Handbook and the 9215 BLM Fire Training Handbook.*

Safety and Qualifications

Safety Awareness

All personnel will be briefed prior to any prescribed fire assignment. The briefing will ensure that all people involved understand how the project will be implemented and what their assignments are. Briefings must cover safety considerations for both known site specific hazards and potential hazards. A briefing checklist must be developed and attached to the Prescribed Fire Plan. A briefing will be given for each operational period of multi-period projects.

A Job Hazard Analysis (JHA) will be completed for each prescribed fire project and attached to each Prescribed Fire Plan.

Safety Equipment

All personnel on a prescribed fire project will be equipped with required PPE appropriate to their position or as identified in a JHA. For holding and ignition personnel the minimum PPE (unless otherwise identified in the JHA) is the same as that required for wildland fire assignments. (See Chapter 06, Safety.)

Smoke Exposure

Exposure to smoke during prescribed fire operations can be a significant safety concern. Research has shown that exposure to smoke on prescribed fires, especially in the holding and ignition positions, often exceeds that on wildfires.

- **Planning**

  Smoke exposure must be considered when planning prescribed fires. Altering line locations can have a significant impact on smoke exposure. Placing fire lines in areas of lighter fuels, or moving lines to roads or other barriers that will require less holding, patrol, and mop up, will significantly reduce the smoke exposure to personnel. The identification of “Buffer or Allowable Areas” (where fire outside the main control line may not need to be aggressively attacked) is a good method to reduce smoke exposure.

- **Implementation**
  Techniques that can help reduce the exposure of personnel to smoke:
  - Rotating people out of the heaviest smoke area may be the most effective method of limiting smoke exposure.
  - Changing firing patterns and pre-burning (black lining) during less severe conditions can greatly reduce exposure to smoke.
  - The use of retardant, foam, or sprinklers can also significantly reduce the workload and exposure time for holding crews.
- **Qualifications**
  The NWCG *Wildland and Fire Qualification System Guide (PMS 310-1)* establishes minimum prescribed fire qualification and training standards for all agencies and provides a complete review of the qualification system and explains the task book process for documenting performance and certifying personnel. Agency personnel assigned to prescribed fire operations will meet the minimum NWCG qualifications, and any additional agency specific qualifications required, even when assisting other agencies.
  The Incident Qualification & Certification System (IQCS) does not separate prescribed fire qualifications by fuel group. The local units are responsible for ensuring that Prescribed Fire Burn Boss (RXB1 and 2) qualifications and training are appropriate for the fuel groups(s) that they will be working in.
  If the Prescribed Fire Burn Boss is not qualified as an IC, a qualified IC will be identified in the Escaped Fire Plan. The transition from the Prescribed Fire Burn Boss to the IC needs to be explained.
- ***BLM - Prescribed Fire Burn Boss 3 (RXB3):*** *As a supplement to the qualifications system, the BLM has identified this position. These types of operations typically would have few personnel assigned, have a very low threat of escape, and present a minimal risk to the people involved in the operation. Examples include burning piled slash, burning landings, ditch burning, debris burning, and broadcast burns of less than one acre with a minimal chance for escape. This position is supported by the IQCS. The activity area is BL and the position code is RXB3. Managers will need to check the requirements individually, since IQCS will not check them automatically.*
- ***FS -*** *Refer to FSH 5109.17 for RXB3 requirements.*

Physical Fitness

Physical fitness standards are defined in 310-1 *Wildland Fire Qualification System guide*.

- ***FS -*** *Refer to FSH 5109.17.*

Currency Requirements

The *Wildland and Prescribed Fire Qualification System Guide* sets currency requirements at five years, the same as for suppression qualifications.

Prescribed Fire Monitoring

A monitoring plan is required as part of each Prescribed Fire Plan. It describes what data will be collected, when it will be collected, where on the prescribed fire site it will be collected, which methods will be used for each data element, and list the responsible person(s). The requirements for prescribed fire monitoring are found in the agency specific policies. Refer to agency specific direction. Monitoring of air quality impacts should be conducted where needed.

Project Financing/Cooperation & Assistance

Funding for the implementation of prescribed fire projects must be identified and agreed to at the local unit office level. It is the responsibility of each program area (non-fire) to cover its own regular (base-eight) salaries and fixed costs. This applies to items such as preliminary site assessments, writing environmental assessments, developing Prescribed Fire Plans, obtaining clearances, training, and monitoring.

Federal Agencies Assistance

The FY02 Department of the Interior Wildland Fire Management Appropriation funded the five federal agencies Hazardous Fuels Reduction Programs. Funding was provided for the regular Hazardous Fuels Program and for Wildland Urban Interface Fuels. The Congressional intent for the fuels management program is that, "Interior Agencies and Forest Service should not charge each other for personnel and other resources."

All federal agency fire directors concur that the general policy of not cross billing is appropriate and meets the congressional intent. Fuels management projects are considered regular planned land management activities as opposed to emergency activities; therefore, offices have the right to turn down requests from other offices to assist in fuels management activities. Offices should not consider providing personnel and resources at the expense of their own target accomplishments, and no office should be placed in a position of subsidizing another office's fuels management activities. Refer to agency specific direction.

- ***BLM -*** *Refer to BLM Fiscal Fund Coding Handbook for agency specific direction.*

Current policy is that hazard pay will not be paid for any prescribed fire.

Contractors

Agencies can contract to conduct all or part of the prescribed fire operations and/or all or part of mechanical treatments for "Hazard Fuel Reduction" projects.

If a contractor is actively involved in igniting, holding, or mopping up an agency prescribed fire, a Contracting Officer's Authorized Representative (COAR) or Project Inspector (PI) will be on the site (exceptions can be made for late stage mop-up and patrol) to ensure that the burn objectives are being met and that the terms of the contract are adhered to. The agency representative (COAR or PI)

must have prescribed fire and/or wildfire qualifications equal to what the agency would require if an agency Prescribed Fire Burn Boss were conducting the actual operation.

Casual Firefighter Hire Authority

The DOI has been granted the authority to hire personnel under the pay plan for emergency workers for "fire use" work related to hazardous fuel reduction projects. The term of hire is restricted to no greater than 300 hours per year per person for emergency hazardous fuel reduction work.

Complete guidance for the use of this authority can be found in Chapter 20, Administration. Refer to agency specific direction.

- ***FS*** *- Forest Service has no authority for AD hiring plan to be used in Hazardous Fuel projects.*

Conversion to Wildfire

A prescribed fire will be declared a wildfire when the assigned Burn Boss determines that one or more of the following conditions or events has occurred or is likely to occur, and if these conditions cannot be mitigated within the next burning period by implementing the contingency actions in the prescribed fire plan by on-site holding forces and listed contingency resources staged during this operational period:

- The prescribed fire leaves the planned unit boundary.
- The fire behavior exceeds limits described in the prescribed fire plan and/or the fire is threatening to leave the planned unit boundary.
- The fire effects are unacceptable.
- Smoke production must be reduced because of adverse air quality impacts.
- Local and/or geographic area fire activity escalates and resources committed as contingency or holding forces are needed for re-assignment to other incidents.

After wildfire declaration, a prescribed fire project is over. A Wildland Fire Situation Analysis will define appropriate future management action.

Actions

When a prescribed fire is declared a wildland fire, managers still have the full range of suppression options available under the concept of the "Appropriate Management Response." If a prescribed fire is declared a wildfire, an agency specific "Fire Number" will be assigned and all suppression costs will be charged to it.

The following actions will be taken on all prescribed fires that escape and are declared wildland fires:

- Take prompt and reasonable action to control and suppress the fire. This could include the development of a Wildland Fire Situation Analysis (WFSA).

- Notify the agency administrator responsible for the area.
- Notify the other agency administrator(s), and/or other landowners that may be affected, of the escaped fire. Coordinate suppression actions with the other affected parties.
- Document the time and environmental conditions that existed when the escape occurred.
- Document the incident, including all actions prior to and after the escape. Set up a file that includes all pertinent information, i.e., the Prescribed Fire Plan, a chronology of events including the prescribed fire report and unit logs or individual statements, the fire investigation report, weather forecasts including any spot forecasts, Remote Automated Weather Station (RAWS) data and National Fire Danger Rating System (NFDRS) data for the day of the escape for the nearest weather stations, photos, and any appraisal of damages.

Reviews

Escaped Prescribed Fire

Escaped prescribed fires will receive an administrative review. The level and scope of the review will be determined by the injuries, damage, and cost associated with the escape.

A prescribed fire that escapes and requires an expenditure of suppression funds or results in property damage, injuries, or fatalities will be investigated. The following guidelines apply to escaped prescribed fire reviews:
Refer to agency specific direction.

- ***BLM -*** *Refer to BLM 9214 Prescribed Fire Handbook and the 9215 BLM Fire Training Handbook.*
- ***BLM - Fire Management Officer*** *- The FMO is required to make an investigation of escaped prescribed fires either personally or through an appropriate designated investigator.*
- ***BLM - Field Office Manager*** *- The Field Office Manager has the responsibility for ensuring adequate and proper investigation of all escaped prescribed fires that result in personal injuries, burn onto private or other agency land, or requiring expenditures of up to $50,000 for suppression and/or damage to property. The field office manager may appoint an investigation team or request that one be appointed. The Field Office Manager will notify the State Director of escaped prescribed fires meeting the above criteria within 24 hours. Copies of the completed review report will be sent to the State Director, SFMO and to the Director, Office of Fire and Aviation.*
- ***BLM - State Director*** *- State Directors have the responsibility for ensuring adequate proper investigation of all prescribed fire escapes resulting in serious or multiple personal injuries, significant burned area on private or*

other agency lands, or have an estimated expenditure of from $50,000 to $100,000 for suppression and/or property damage.

- ***BLM -*** *The State Director will notify the Director, Office of Fire and Aviation, of escaped prescribed fires meeting the above criteria within 24 hours. Copies of the completed review report will be sent to the Director, Office of Fire and Aviation. The Director is responsible for ensuring adequate and proper investigation of all prescribed fire escapes resulting in fatalities, injuries to people not involved in the prescribed fire smoke significantly impacting a major population center or causing a public health concern, or where suppression expenditures and/or property damage will exceed $100,000.*
- ***BLM -*** *The documentation required for a review are those listed below. A review team will be provided with all of the original documents related to the incident.*
  - *Those items listed under (Actions) above.*
  - *The Prescribed Fire Plan and all attachments.*
  - *Documents pertaining to the qualifications and experience of the Prescribed Fire Burn Boss, Ignition Specialist, Holding Specialist, and other key overhead. This would include Red Cards, training and experience records, and Position Task Book.*
  - *Dispatch logs, radio logs, and any aviation records or logs.*
- ***FS -*** *Refer to FSM 5190 for agency specific direction.*

Prescribe Fire Program Review

Refer to Agency Specific Direction.

- ***BLM - Fuels Management/Community Protection and Assistance Program Review***

  National Fuels Management/Community Protection and Assistance Program Reviews are conducted annually. The purpose of these reviews is to evaluate the states' programs against established standards, identify deficiencies, develop corrective actions, and to make recommendations designed to enhance or improve the program. The reviews consist of several major elements, of which safety is the primary concern. These elements include:
  - *Management Direction and Considerations*
  - *Organization and Staffing*
  - *Community Assistance*
  - *Planning*
  - *NEPA*
  - *Budget*
  - *Business Practices*
  - *Reporting*
  - *Risk Assessment and Mitigation Plans*
  - *Training and Qualifications*
  - *Safety*
  - *Fuels Treatment Procedures and Practices*

- *Record Keeping*

- ***BLM -*** *Review teams will include national fuels/community protection and assistance program lead, agency administrator, fire manager, program analyst, safety, fuels and mitigation technical specialist. (Other technical specialists as required, i.e., contracting, resource specialist, etc.) Expertise should be gathered from diverse backgrounds, and should include cooperators.*

Chapter 18
FWS Specific Fuels Management/Prescribed Fire Information

Link to Redbook Chapter 18

18-11-12 Prescribed Fire Plans

Each prescribed fire must have a complete and approved formal Prescribed Fire Plan before it is funded and can be implemented. A Burn Boss currently qualified at the appropriate level must prepare Prescibed Burn Plans. Prescribed Fire Plans should be prepared and developed in collaboration with an interdisciplinary team in which at a minimum at least one member has successfully completed the FWS Prescribed Fire Planning and Implementation or the NWCG Prescribed Fire Burn Boss training course. The Prescribed Fire Plan must discuss all key issues and concerns identified during refuge strategic and operational planning. The formal Prescribed Fire Plan is made up of many operational elements. Each element addresses a specific aspect of the prescribed fire operation. Certain key elements are listed below. If they do not apply, they should be noted as "N/A", they should not be omitted or not addressed. In some cases, special prescription elements, variables, or other requirements unique to the region or refuge will require additional entries. A standard Prescribed Fire Plan format is found in the Fire Management Preparedness and Planning chapter. Each regional office will determine whether the standard Prescribed Fire Plan format or a customized plan format will be used.

The following are key issues that **will** be addressed in all Prescribed Fire Plans.

- Prescribed burn objectives and how they support the land use objectives for the area.
- Expected fire behavior.
- Buffer and safety zones.
- Fire perimeter length and acreage burned limit.
- Analysis of the cumulative effects of weather and drought on fire behavior. This should include a historical analysis of a drought index (i.e., Palmer, Keetch-Bryan, ERC, etc.).
- Potential risks to and impacts on visitors, users, and local communities, both on and off site.
- Considerations of environmental, economic, and social effects, both on and off site.
- Regional and national fire activity are within planned limits.
- The number of fires burning in the planning area at one time is within planned limits.
- Items to be checked during the burn day go-no-go determination must include:
  - Predicted weather, environment, and fire behavior are within prescribed limits.
  - Availability of implementation personnel, contingency forces, equipment, and supplies are within planned limits.
  - Implementation personnel are briefed.
  - Required notifications are made.

The following are key Prescribed Fire Plan elements which will be in all Prescribed Fire Plans or other supporting documents:

- Signature page: Provide spaces for signatures of those persons who prepared the plan, the prescribed fire burn boss, the reviewers and the final approval authority.
- Burn unit description: Describe the physical and biological features of the burn unit including the location, topography, fuels, vegetation, slopes, and aspect.
- Vicinity map: Include an overall map showing the position of the project in relation to the surrounding geographical area.
- Project map: Provide a detailed map showing the project boundary, its topographic features, fuel types and/or loadings, potential hazards, areas of special concern, type and size of control line locations and ignition patterns.
- Goals and objectives statements: State the goals and objectives for this specific burn. They must include the prescribed burn objectives, which should be measurable treatment objectives (i.e., tons per acre of fuel removed, percentage of plants killed, percentage of mineral soil exposed, etc.) that support the land use objectives.
- NWCG Complexity: Identify the degree of difficulty in executing the planned fire.
- Burn organization: List the essential qualified personnel who will be utilized and the positions that they fill. Specify the number of crew personnel that are needed.
- Costs: Estimate the time and costs for the following categories: planning, pre-burn monitoring, preparation for the burn, including line construction; burning; holding; monitoring; mop up; and evaluation. Estimate the costs of equipment used for the burn, including tools, aircraft, supplies, and vehicles.
- Scheduling: State the general time period in which the burn will take place. Show any periods during this time when the burn cannot take place. Provide space to enter the start date, date declared out, and date the DI-1202 is submitted.
- Pre-burn considerations:
  - Preparations on site: Include line to be built, line standards, snags to be felled or protected, equipment to be pre-positioned, special features to be protected, warning signs to be placed, weather recording and monitoring needs, etc.
  - Preparations off site: Include equipment readiness, supplies to be purchased, signs to be made, personal protective equipment to be issued, etc.
- Fire prescription: Describe in detail the acceptable ranges of fire behavior and parameters of weather and fuel moisture content or other site variables that are used to define the prescription, acceptable smoke duration and patterns of dispersal, seasons when the burns can be done, and other specific parameters. The use of fire behavior and smoke management prediction aids (e.g., BEHAVE, RXWINDOW, nomograms, SASEM, is recommended).
- Firing/holding plan: Describe in detail the methods and procedures to be used during the firing and how the lines are to be held. This should include the number and types of personnel, equipment, and assignments. Include day, night, and weekend shifts. What are acceptable holding actions on this fire? What constitutes an escape? Contingency plan: Define what contingency actions constitute a significant departure from what was planned or expected and where conversion to a wildland fire is appropriate. Include procedures to be followed and actions to be taken if the fire exceeds the abilities of the holding crew to keep it within prescribed parameters and/or unit boundaries. Fuels both inside and outside (near and distant) the burn unit should be considered. Who is to declare the fire a wildland fire? Who is to be the incident commander after the fire is converted to a wildland fire? Define the number and type of contingency forces to be used as initial action. Who is to be notified of the conversion to a wildland fire? What role will the holding crew take? Should they remain on the burn or suppress the escape? Account for every person as either

reassigned or released from the fire and identify who is to supervise those who are reassigned.

- Weather information: Specify the weather information required during all phases of the project and the procedures for acquiring it. How and when will spot weather and smoke dispersal forecasts be requested? How long after the burn will forecasts be required? How is feedback to the Weather Service to be accomplished?
- Protection of sensitive features: Give instructions for the protection of sensitive features within and adjacent to the burn. These include cultural resources, streams, threatened and endangered species, sensitive soils, buildings and improvements, etc. Obtain necessary archaeological and other types of clearances before the area is disturbed.
- Smoke management and air quality: Identify potential smoke sensitive areas and management strategies for avoidance, emission reductions, and/or dilution to minimize environmental impacts including impacts on human health and welfare. Identify what air quality compliance steps must be taken and what permits are required, who is to obtain them, and when they must do so.
- Pre-burn coordination and public involvement: Establish responsibilities for the notification of other agencies, the public, and local landowners, including the notifications and coordination required in the regional preparedness plan. List and identify public information contacts, including local area personnel and press releases. Identify the official local agency public information specialist.
- Pre-burn notification: Formulate a call-up list of individuals and agencies, when they are to be contacted, how they are to be contacted, and assign responsibilities for making specified contacts. Include addresses, phone numbers, radio call signs, and frequencies.
- Public and personnel safety: Describe safety and emergency procedures. Specify that all personnel who are within the active burn area will have the personal protective equipment required for fire management. Identify safety hazards on the burn, measures taken to reduce those hazards, and EMS personnel on the burn. Specify emergency medical procedures, evacuation routes, and emergency facilities to be used.
- Monitoring: Include all monitoring, measurements, and frequency needed to determine if conditions for the burn are within prescription, both before it is started and while it is burning. Include the necessary measurements and observations to determine if the burn objectives were met.
- Reports: Provide for the documentation of the burn. Include a cost assessment and all required reports such as the DI-1202. Include a critique of the burn by the prescribed fire burn boss. Methods that worked or didn't work and the effectiveness of the prescription in achieving burn or smoke objectives should be evaluated, along with recommendations for future projects. Attach all observation and forecast forms, worksheets and data collected during the burn operation.
- Rehabilitation: Describe in detail any rehabilitation that is to be accomplished, who is to do it, and when it is to be completed. These may include waterbars, trash removal, flush cutting of stumps, scattering or burning of line construction debris and other appropriate treatments.
- Briefing guide and NWCG format Agency Administrator's "Go/No-Go Pre-ignition Approval and "Go/No-Go" checklist: A short, concise list of the things to be covered during the crew briefing before the fire is started and at the beginning of each operational period after that. Include a summary of conditions that must be met

before the burn can commence and continue. These may include, but not be limited to, the presence of all personnel needed to implement the contingency plan, the presence of all required equipment in specified locations, that the fire behavior and expected weather meet the prescription, and that the required notifications have been made.

- Persons contacted: Retain a list of persons contacted during the development of the burn plan. Include Fish and Wildlife Service personnel, other agency personnel, concessionaires, inholders, special interest groups, refuge neighbors, concerned public, etc. Where appropriate record the date of contact.
- Prescribed Fire Plan Review - All new or previously developed Prescribed Fire Plans will be subject to the established regional review process during the scheduled year of implementation including a new signature page for previously developed plans. Prescribed Fire Plan review must be based on the prescribed fire complexity analysis. At a minimum:
  - Low or moderate complexity prescribed fires will be reviewed by a NWCG Prescribed Fire Burn Boss Type 2.
  - High complexity prescribed fires will be reviewed by a NWCG Prescribed Fire Burn Boss Type 1.
  - For prescribed fires involving aviation operations, the appropriate NWCG Prescribed Fire Burn Boss reviewing the plan will also have prescribed fire operational aviation experience.

18-12-13 Safety and Qualifications - Prescribed Fire Burn Boss 3 (see Chapter 14) may be utilized to manage prescribed fires meeting all of the following criteria:

- Low complexity as determined by the NWCG complexity analysis process and,
- Low risk of escape and,
- Low potential for negative impacts should an escape occur and,
- Require low to moderate burning conditions and,
- Do not involve multiple fuel complexes or fuels which exhibit extreme fire behavior characteristics (such as California chaparral) and,
- Do not involve aerial ignition or aerial operations and,
- Are conducted by a crew of 2-6 personnel
- A Prescribed Fire Burn Boss 3 is identified as the appropriate Burn Boss type in the approved burn plan.

18-14-1 Prescribed Fire Monitoring - The Prescribed Fire Plan will include a monitoring section describing all monitoring, measurements, and frequency needed to determine if conditions for the burn are within prescription, both before it is started and while it is burning.

Fuel Management Effectiveness Monitoring - It is appropriate to use Hazard Fuel Reduction Operations and Wildland/Urban Interface (subactivity 9263 and 9264) funding to facilitate adaptive management when evaluating fuels management program and project effectiveness, and to ensure that refuge resource management goals and objectives are not compromised by the fuels management projects. The use of 9263 or 9264 funds is limited to monitoring the first and second order effects of fuel management projects (prescribed fires, mechanical or chemical fuel treatments, etc.) on fuel and wildlife

habitat composition and structure, as recognized and well-described as measurable objectives in the approved refuge Fire Management Plan and/or an approved refuge habitat management plan. Monitoring is limited to before and after treatment and at 1, 2, 5, 10, and 20 year after treatment intervals.

Although funding wildlife population inventories or fire effects research or management studies on wildlife is not an appropriate use of 9263 or 9264 funds, evaluating fuel management treatment effects on wildlife habitat composition and structure is intended to complement these inventories, management studies and research projects.

Fuels management effectiveness monitoring requires the preparation and approval of a monitoring plan. This plan can be a separate Fuels Treatment Monitoring Plan or part of a holistic adaptive management program that integrates all refuge resource monitoring activities. Whether separate or integrated the plan should contain:

a. A full description of the fuel and wildlife habitat monitoring attributes, monitoring objectives, approved monitoring protocol description in sufficient detail that a successor can continue the monitoring, and the approved refuge Fire Management Plan and/or habitat management plan reference identifying the monitoring need.
b. Description of management actions to be taken when monitored habitat attributes reach established threshold levels.
c. The refuge's commitment to implementing and completing the monitoring and management actions.

Regional Fire Management Coordinators will assure that before any fuel treatment monitoring (beyond the first order fire effects monitoring in the Prescribed Fire Plan) is approved for funding:

a. The fuel and wildlife habitat monitoring activities are adequately described in the approved refuge Fire Management Plan and/or an approved refuge Comprehensive Conservation Plan or Habitat Management Plan.
b. The monitoring protocols conform with regionally established fuel and wildlife habitat monitoring protocols established under Fulfilling the Promise WH-10(1) action item or the Service's Fuel and Fire Effects Monitoring Guide.
c. The regional fire ecologist and/or wildlife biologist to determine if the proposed protocols are the most cost effective and statistically defensible means of addressing monitoring objectives independently review the plan.
d. All stakeholders are aware of management changes that may result from the monitoring results.

Fuel Program Funding (9263, 9264, 9265) - In U.S. Fish and Wildlife Service Wildland Fire Business Management Handbook (underdevelopment)

Escaped Prescribed Fire Reviews - All escaped prescribed fires will receive an appropriate review (see chapter 19 for review guidance). Reviews will be documented with a formal report that must be signed by the Refuge Manager, and forwarded to the Regional Fire Management Coordinator and the Fire Management Branch within 30 days

of the escape. The purpose of the review is to determine why and under what circumstances a prescribed fire had to be reclassified as a wildland fire. At a minimum, the review will include the following elements:

- An analysis of seasonal severity, weather events, and on-site conditions leading up to the wildfire declaration.
- An analysis of the actions taken leading up to the wildfire declaration for consistency with the prescribed fire burn plan.
- An analysis of the prescribed fire burn plan for consistency with policy.
- An analysis of the prescribed fire prescription and associated environmental parameters.
- A review of the approving line officer's qualifications, experience and involvement.
- A review of the qualifications and experience of key personnel involved.
- A summary of causal agents contributing to the wildfire declaration.

It will identify the circumstances leading to the reclassification of the fire, what actions were taken after reclassification as a wildland fire, and possible future actions that need to be taken to avoid similar situations. Costs of the review will be charged to the account assigned to the fire with the approval of the RFMC.

Chapter 19
Reviews & Investigations

Introduction

Reviews and investigations are two methods used by wildland fire and aviation managers to ensure or improve safety and efficiency, determine if any policy or operational changes should be initiated, and identify any management system failures. Reviews are usually based on improving performance and increasing safety, while investigations are conducted when an accident or incident with potential for injury or fatality occurs.

Depending on the complexity and severity, reviews and investigations may be conducted at the local, state/regional, or national level.

Policy

Agency policy requires investigation or review of all fires where:

- Entrapments and/or fire shelter deployments have occurred.
- Multiple serious injuries or fatalities have occurred.
- Fires have escaped prescribed fire plans.
- Property or equipment damage is more than:
  DOI $2,000,000
  FS $1,500,000
- Fires with projected large expenditures of more than:
  - DOI $5,000,000
  - FS $1,500,000
- ***BLM -*** *Management reserves the right to review any fire deemed appropriate.*

Policy requires each field unit to have on-site a current copy of the *Interagency Standards for Fire and Fire Aviation Operations*, *Investigating Wildland Fire Entrapments* (Missoula Technology and Development Center), *Fireline Handbook*, an agency Safety and Health handbook, and a copy of applicable agency prescribed fire direction.

	Safety	***Prescribed Fire***
BLM	*Manual 1112-2, 1112-1*	*Prescribed Fire Handbook*
FWS	*Service Manual 095*	*Fire Management Handbook*
NPS	*DO/RM-50*	*RM-18, Chapter 10*
FS	*FSH-6709.11*	*FSM-5140*

Reviews

Reviews address all or any aspects of wildland fire and aviation management. Reviews may focus on program oversight, safety, leadership, operations, specific incidents, preparedness, training, staffing, business practices, budget, cost containment, planning, interagency cooperation, and coordination between fire and other agency programs. Review teams will develop findings and recommendations and establish priorities for action.

Reviews may be conducted in the form of Preparedness Reviews, Fire and Aviation Safety Team (FAST) Reviews, Individual Fire Reviews, or program specific reviews.

Types of Reviews

Preparedness Reviews

Wildland fire and aviation preparedness reviews are conducted annually prior to the fire season to help the field unit prepare for the fire season, identify operational, procedural, personnel, or equipment deficiencies, and recommend corrective actions. Standards for preparedness reviews are based on the *Interagency Standards for Fire and Fire Aviation Operations* and conducted according to established agency procedures. *Interagency Preparedness Review Checklists* can be found at: http://www.nifc.gov/references/prep_review.htm

- ***BLM/FS -*** *Preparedness reviews consist of several functional checklists that can be found at: http://www.fire.blm.gov/Standards/FIRE_AVIATION_PREPAREDNESS_REVIEW_GUIDE.htm*

Review teams should include line and fire managers, fire and aviation operations specialists, dispatch and logistics specialists, fire business management specialists, and other technical experts as needed (safety & occupational health specialists, contracting officers). This expertise may be internal, interagency, or contract, and include members from other states/regions, geographic areas. Reviews will benefit greatly if interagency in composition. The Agency Administrator determines local level review team membership; state/regional level review team membership is identified by the State/Regional Director; and national review teams are identified by the National Fire Directors.

Review Frequency/Reviewing Level

	Local	***State/Regional***	***National***
BLM	*Annual/Any Level*	*2 yrs/National*	*4 yrs*
FWS	*Annual/Any Level*	*3-5 yrs/National*	*N/A*
NPS	*Annual*	*3-5 yrs/Regional*	*N/A*
FS	*Annual*	*N/A*	*N/A*

- ***BLM -*** *Copies of preparedness review reports will be distributed to the Director, Office of Fire and Aviation, and to the reviewed field office through the State Director. A copy of the written action plan addressing the executive summary findings will be submitted to the Director, National Office of Fire and Aviation, within (30) calendar days upon receipt of the review.*
- ***BLM -*** *Field office preparedness reviews will be conducted annually. Field Office will be reviewed every other year by the state office. National-level reviews of each state are conducted every four years.*
- ***FS -*** *FS preparedness reviews are guided by FSM 5100 /5190 on frequency of reviews and reporting requirements.*

Fire and Aviation Safety Reviews (FASTs)

Fire and Aviation Safety Teams assist agency administrators during periods of high fire activity by assessing policy, rules, regulations, and management oversight relating to operational issues. They can also do the following:

- Provide guidance to ensure fire and aviation programs are conducted safely.
- Review compliance with OSHA abatement plan(s), reports, reviews and evaluations.
- Review compliance with *Interagency Standards for Fire and Fire Aviation Operations.*

FAST reviews can be requested through geographic area coordination centers to conduct reviews at the state/regional and local level. If a more comprehensive review is required, a national FAST can be ordered through the National Interagency Coordination Center.

FASTs include a team leader, who is either an agency administrator or fire program lead with previous experience as a FAST member, a safety and health manager, and other individuals with a mix of skills from fire and aviation management.

FASTs will be chartered by their respective Geographic Area Coordinating Group (GACG) with a delegation of authority, and report back to the GACG.

The team's report includes an executive summary, purpose, objectives, methods/procedures, findings, recommendations, follow-up actions (immediate, long-term, national issues), and a letter delegating authority for the review. As follow-up, the team will gather and review all reports prior to the end of the calendar year to ensure identified corrective actions have been taken. FAST reports should be submitted to the geographic area with a copy to the Federal Fire and Aviation Safety Team (FFAST) within 30 days. See Appendix BB for sample FAST Delegation of Authority.

Individual Fire Reviews

Fire reviews examine all or part of the operations on an individual fire. The fire may be ongoing or controlled. These evaluations may be a local, state/regional, or national review, a "hotline" review, an incident management team closeout and review, a wildland fire review, or an escaped prescribed fire review.

Local Level Review

Should be conducted by the local manager (or designated representative) to provide the Agency Administrator with recommendations or commendations pertaining to the fire program or operations.

State/Regional Level Review

Convened by the state/regional Fire Management Officer (FMO) (or designated representative). This review is generally conducted for any fire that results in

controversy involving another agency, adverse media attention, or in large expenditures of funds ($2,000,000 or more), or involves serious injury to less than 3 personnel, significant property damage, or is an incident with potential.

National Level Review

Convened by National Fire Director (or designate). This review is generally conducted for any fire that involves agency wide or national issues, significant adverse media or political interest, multi-regional resource response, a substantial loss of equipment or property, large expenditure of funds (more than $5,000,000).

- ***FS** - $10,000,000 plus a fatality, or multiple, serious fire related injuries (three or more personnel), and other fires the National Fire Director identifies to be reviewed.*

Hotline Review

Normally conducted by the FMO in conjunction with the incident commander, this review examines an ongoing fire to confirm decisions made daily in the WFSA, or to determine where the decision process has been faulty and what corrective actions are needed.

Incident Management Team Closeout and Review

The Agency Administrator conducts a closeout with the Incident Management Team (IMT) prior to a team's release from the incident. This ensures effective transfer of command of the incident to the local unit, or to another team, evaluates the status of fire business, and addresses issues or suggested improvements. See Appendix B.

Wildland Fire Review

Examines an ongoing fire to evaluate decisions or correct deficiencies; identifies new or improved procedures, techniques or tactics; compiles consistent and complete information to improve local, state/regional or national fire management programs; examines fire related incidents to determine cause(s), contributing factors, and to recommend corrective actions; and determine cost-effectiveness of an operation.

Escaped Prescribed Fire Review

Examines escaped prescribed fires to:

- prevent future escapes from occurring
- establish accountability
- determine if the prescribed fire plan was adequate
- determine if the prescription, actions and procedures set forth in the prescribed fire plan were followed
- determine if overall policy, guidance, and procedures relating to prescribed fire operations are adequate
- determine the level of awareness and understanding of procedures and guidance of the personnel involved

- determine the extent of prescribed fire training and experience of personnel involved.

Escaped prescribed fire review direction is found in the following agency manuals/direction.

- ***BLM -*** *BLM 9214 Prescribe Fire Handbook and the 9215 BLM Fire Training Handbook.*
- ***FWS -*** *Fire Management Handbook*
- ***NPS -*** *RM-18, Chapter 10 & 13*
- ***FS -*** *5140-1*

After Action Review (AAR)

An AAR is a learning tool intended for the evaluation of an incident or project in order to improve performance by sustaining strengths and correcting weaknesses. An AAR is performed as immediately after the event as possible by the personnel involved. An AAR should encourage input from participants that is focused on:

- what was planned
- what actually happened
- why it happened
- what can be done the next time

It is a tool that leaders and units can use to get maximum benefit from the experience gained on any incident or project. When possible, the leader of the incident or project should facilitate the AAR process. However, the leader may choose to have another person facilitate the AAR as needed and appropriate. AARs may be conducted at any organizational level. However, all AARs follow the same format, involve the exchange of ideas and observations, and focus on improving proficiency. The AAR should not be utilized as an investigational review. The format can be found in the *Interagency Response Pocket Guide (IRPG), PMS #461, NFES #1007*

Investigations

Guidance

The following provides guidance and establishes procedures for national level incident/accident investigations (as defined below). Each state/region and local unit must have procedures in place to conduct investigations for incidents/ accidents that do not require national involvement. The following information may be used as a guide for this procedure as well as referencing the following applicable agency guidance.

- ***BLM -*** *Handbook 1112-1, Safety and Health Management*
- ***FWS -*** *Fire Management Handbook*
- ***NPS -*** *RM-18, Chapter 13*

- ***FS*** *- FSM-5100 and FSH-6709.11 FSM 5720 (Aviation), FSM 5130 (Ground Operations), FSM 6730 (Specific policy), FSH 6709.12, Chapter 30 (General guidance), and most recent Accident Investigation Guide, for specific guidance."*

Per the 1995 Memorandum of Understanding between the U.S. Department of the Interior and the U.S. Department of Agriculture *"Investigation of Serious Wildland Fire-Related Accidents,"* serious wildland fire-related accidents will be investigated through the use of interagency investigation teams.

Investigation Categories

Entrapment
Defined by Natural Wildfire Coordinating Group (NWCG) as situations where personnel are unexpectedly caught in a fire behavior-related, life-threatening position where planned escape routes and safety zones are absent, inadequate, or have been compromised. Entrapments may or may not include deployment of a fire shelter for its intended purpose, and they may or may not result in injury. They include "near misses." Notification to the National Fire and Aviation Safety Office of the jurisdictional agency is required. Level of investigation will be determined at the national level.

Shelter Deployment
Shelter deployment may occur in situations where individuals are not entrapped. Any time a shelter is deployed (other than for training purposes), regardless of circumstances, notification to the National Fire and Aviation Safety Office of the jurisdictional agency is required. Level of investigation will be determined at the national level.

Incidents with Potential and/or Non-Serious Injury
Wildland fire-related mishaps or non-fire incidents involving agency fire personnel that result in serious or non-serious injuries involving personnel, near miss accident /close-call (which would have resulted in an injury or fatality), substantial loss of property (less than $250,000), or an incident so complex and fraught with operational discrepancies that it has the potential to produce an accident, injury, or fatality given a similar environment or set of circumstances that existed at the time of the incident. Investigations are required and conducted at the state/region or local level (national assistance is available upon request). Notification to the National Fire and Aviation Safety Office is required.

Wildland Fire Serious Accident
Defined as accidents where one or more fatalities occur and/or three or more personnel are inpatient hospitalized as a direct result, or in support of, wildland fire operations, or substantial property or equipment damage of $250,000 or more occurs. Notification to the National Fire and Aviation Safety Office is

required. National Office will conduct the investigation with the Delegation of Authority coming from the National Fire Director or agency director. Agency contacts are listed below:

- ***BLM*** *- Michelle Ryerson*
- ***FWS*** *- Rod Bloms*
- ***NPS*** *- Al King*
- ***FS*** *- Ed Hollenshead*
- ***FS*** *- Forest Service protocol for multiple fatalities or 3 or more serious injuries requiring hospitalization investigation teams are assigned by the Safety and Health Branch in the WO and are Chief's Office Investigations.*

For more information on conducting investigations, refer to USDI, Interior 485 Departmental Manual 7, Serious Accident Investigation; USDA Forest Service Manual 6730, Accident Reporting and Investigation; the Interdepartmental Memorandum of Understanding between the U.S. Department of the Interior and the U.S. Department of Agriculture dated October 26, 1995; *Executive Order 12196, Occupational Safety and Health Programs for Federal Employees; 29 CFR 1960.29,Accident Investigation; 29 CFR 1960.70, Reporting of Serious Accidents; Investigating Wildland Fire Entrapments; Interagency Standards for Fire and Fire Aviation Operations;* and the *Fireline Handbook*.

Investigation Process

Notification

Interagency investigations will be co-led and/or have interagency team members. Agency reporting requirements shall be followed. As soon as a serious accident is verified, the following groups or individuals should be notified: Agency Administrator, public affairs, agency law enforcement, safety personnel, county sheriff or local law enforcement as appropriate to jurisdiction, National Interagency Coordination Center (NICC), agency headquarters, and OSHA (within 8 hours only if resulting in a fatality[ies] or three or more personnel are inpatient hospitalized).

- After initial notification, NICC will advise the national fire director(s) or designee(s).
- The fire director(s) or designee(s) will ensure notification to the agency safety manager and Designated Agency Safety and Health Official (DASHO).

Personnel Involved

Treatment, transport, and follow-up care should be immediately arranged for injured and involved personnel. Develop a roster of involved personnel and supervisors and ensure they are available for interviews by the investigation team. Consider relieving involved supervisors from fireline duty until the preliminary investigation has been completed. Attempt to collect initial statements from the involved individuals prior to a Critical Incident Stress

Management (CISM) session. Critical Incident Stress Teams are available through Employee Assistance Programs (EAP's), Geographic Area Coordination Centers (GACC's) or may be ordered through NICC.

- A Critical Incident Stress Defusing should be provided no more than 8 hours after an incident, or if possible, it should be provided immediately (one to two hours) after the incident, and usually takes 30 minutes to 1 hour.
- A Critical Incident Stress Debriefing should occur between 24 to 72 hours after the incident, and usually takes 1-3 hours.

Site Protection

The site of the incident should be secured immediately and nothing moved or disturbed until the area is photographed and visually reviewed. Exact locations of entrapment(s), injury(ies), and fatality(ies), and the condition and location of personal protective equipment, and any damaged property or equipment must be documented.

Investigation

The 24-Hour Preliminary Brief that contains only the most obvious and basic facts about the accident will be completed and forwarded by the Agency Administrator responsible for the jurisdiction where the accident occurred. In the case of an entrapment and/or fire fatality, use NWCG *"Wildland Fire Entrapment/Fatality Initial Report," NFES 0869.*

Investigation Team Ordered

Following initial notification of a serious accident, the National Fire Director(s) will immediately dispatch an investigation team.

Roles and Responsibilities

Director

The Fire Director(s) or designee(s) of the lead agency, or agency responsible for the land upon which the accident occurred, will:

- Immediately appoint, authorize, and dispatch an accident investigation team.
- Ensure that resources and procedures are adequate to meet the team's needs.
- Receive the factual and management evaluation reports and take action to accept or reject recommendations.
- Forward investigation findings, recommendations, and corrective action plan to the DASHO (the agency safety office is the "office or record" for reports).
- Convene a board of review (if deemed necessary) to evaluate the adequacy of the factual and management reports and suggest corrective actions.

- Ensure that a corrective action plan is developed, incorporating management initiatives established to address accident causal factors.

Agency Administrator

- Identify agencies with statutory/accident jurisdictional responsibilities for the incident; develop local preparedness plans to guide emergency response.
- Provide for and emphasize treatment and care of survivors.
- Ensure the Incident Commander secures the accident site to protect physical evidence.
- Conduct an in-briefing to the investigation team.
- Facilitate and support the investigation as requested.
- Implement CISM.
- Notify home tribe leadership in the case of a Native American fatality.
- Receive an in-briefing from the local Agency Administrator to include the 24-hour Preliminary Brief (if not already completed by local unit), as well as other general information about the accident.
- Produce a 72-hour Expanded Report - see reports section below.

Team Composition

Team Leader

A senior agency management official, at the equivalent associate/assistant regional/state/area/division director level. The team leader will direct the investigation and serve as the point of contact with the agency DASHO.

Chief Investigator

A qualified accident investigation specialist is responsible for the direct management of all investigation activities. The chief investigator reports to the team leader.

Accident Investigation Advisor

An experienced safety and occupational health specialist or manager who acts as an advisor to the team leader to ensure that the investigation focus remains on safety and health issues. The accident investigation advisor also works to ensure that strategic management issues are examined.

Interagency Representative

An interagency representative will be assigned to every fire-related Serious Accident Investigation Team. They will assist as designated by the team leader and will provide outside agency perspective.

Technical Specialists
Personnel who are qualified and experienced in specialized occupations, activities, skills, and equipment, addressing specific technical issues such as arson, third-party liability, weather, and terrain.

- ***BLM -*** *BLM has established Serious Accident Investigation Teams (SAIT) that are managed on a rotational basis. Dispatching is done from the National Office of Fire and Aviation Safety Manager and teams are ordered through NICC.*

Reports

The 24-Hour-Preliminary Report
This report contains only the most obvious and basic facts about the accident. It will be completed and forwarded by the Agency Administrator responsible for the jurisdiction where the accident occurred. In the case of an entrapment and/or fire fatality, use NWCG *Wildland Fire Entrapment/Fatality Initial Report, NFES 0869.*

The 72-Hour Expanded Report
This report provides more detail about the accident and may contain the number of victims, severity of injuries, and information focused on accident prevention.

The Final Report
Within 45 days of the incident, a Factual Report (FR) and a Management Evaluation Report (MER) will be produced by the investigation team to document facts, findings, and recommendations and forwarded to the DASHO through the agency Fire Director(s).

Factual Report
This report contains a brief summary or background of the event, and facts based only on examination of technical and procedural issues related to equipment and tactical fire operations. It does not contain opinions, conclusions, or recommendations. Post-accident actions should be included in this report (emergency response attribute to survival of a victim, etc). This report contains the following sections.

- **Executive Summary:** A brief narrative of the facts involving the accident including dates, locations, times, name of incident, jurisdiction(s), number of individuals involved, etc.
- **Narrative:** A detailed chronological narrative of events leading up to and including the accident, as well as rescue and medical actions taken after the accident. This section should spell out in detail who, what, and where.
- **Investigative Process:** A brief narrative stating that the team was assigned to investigate the accident. It should include a standard statement that human, material, and environmental factors were considered. If one of these factors is determined to be noncontributing to the accident, it should be addressed first and discounted. For example, if the investigation

revealed that there were no environmental findings that contributed to the accident. Then simply state that fact and move on to the next factor. Human factors or material factors paragraphs should not be formulated so as to draw conclusions, nor should they contain adjectives or adverbs to describe and thus render an opinion into pertinent facts.

- **Findings:** Findings are developed from the factual information and are listed in the following order:
  - Direct cause of the accident.
  - Indirect causes which contributed to the accident.
  - Other findings which, if left uncorrected, could lead to future accidents.
  - Opinions or recommendations are not findings.
  - Findings must be substantiated by the factual data within the report.
  - Maps, Illustrations, and Photographs: graphic information used to document and visually portray facts.
  - Records: factual data and documents used to substantiate facts involving the accident.
  - Appendices: excerpts, tests results, and similar items used as reference information for documented facts involving the accident.

Management Evaluation Report (MER)

The MER is intended for internal use only and explores management policies, practices, procedures, and personal performance related to the accident. It takes the abnormalities/and findings identified in the factual report and categorizes them for management. This report may contain:

- Opinions by the investigators as to the cause of the accident.
- Conclusions and observations.
- Confidential information.
- Recommendations for corrective measures.

This report includes the following sections:

- **Executive Summary:** A brief narrative of the facts involving the accident. Keep this section short. Readers can refer to the factual report if they want more detail.
- **Other Findings:** Other findings that did not contribute to the accident but, if left uncorrected, could lead to other accidents.
- **Other Information:** This paragraph can contain opinions by the investigators, conclusions and observations, and confidential information which the team feels is relevant for management consideration. (This paragraph is not required).
- **Recommendations:** Recommendations are prevention measures that management may take to prevent similar accidents. Although this is not an absolute requirement, there should be a recommendation for each cause. The recommendations must be reasonable, feasible, relate to the cause(s) of the accident, and allow for definitive closure. Depending upon the

scope of impact the recommendations can be implemented by a local unit, the state office or the national office. The team should specify who should implement the recommendations.

- **Enclosures:** Information that is not contained in the Factual Report, but which the team feels is necessary to support their recommendations. Since this report can be obtained by the public under certain circumstances, do not include anything that is not needed to substantiate recommendations.

Board of Review

- A Board of Review is used to evaluate recommendations, determine responsibility, and follow up on serious accident investigations. After determining responsibility for an incident, the Board of Review can make recommendations ranging from no action taken to termination of employment.
- Only the Agency Director or Deputy Director may appoint a Board of Review.

Fire Investigation &Trespass

Introduction

Agency policy requires any wildfire to be investigated to determine cause, origin, and responsibility. Accurate fire cause determination is a necessary first step in a successful fire investigation. Proper investigative procedures, which occur concurrent with initial attack, more accurately pinpoint fire causes and can preserve valuable evidence that would otherwise be destroyed by suppression activities.

The agency or its employees must pursue cost recovery or document why cost recovery is not initiated for all human caused fires on public and/or other lands under protection agreement.

Fire trespass refers to the occurrence of unauthorized fire on agency-protected lands where the source of ignition is tied to some type of human activity.

Policy

The agency must pursue cost recovery, or document why cost recovery is not required, for all human-caused fires on public lands. The agency will also pursue cost recovery for other lands under fire protection agreement where the agency is not reimbursed for suppression actions, if so stipulated in the agreement.

For all human-caused fires where negligence can be determined, trespass actions are to be taken to recover cost of suppression activities, land rehabilitation, and damages to the resource and improvements. Only fires started by natural causes will not be considered for trespass and related cost recovery.

The determination whether to proceed with trespass action must be made on "incident facts," not on "cost or ability to pay." Trespass collection is both a cost recovery and a deterrent to prevent future damage to public land. It is prudent to pursue collection of costs, no matter how small. This determination must be documented and filed in the unit office's official fire report file.
The Agency Administrator has the responsibility to bill for the total cost of the fire and authority to accept only full payment. On the recommendation of the State/Regional Director, the Solicitor/Office of General Council may compromise claims of the United States, up to the monetary limits ($100,000) established by law 31 U.S.C. 3711[a], 4 CFR 103-104, and 205 DM 7.1 and 7.2. The Solicitor/Office of General Council will refer suspension or termination of the amount, in excess of $100,000, exclusive of interest, penalties, or administrative charges, to the Department of Justice.

Unless specified otherwise in an approved protection agreement, the agency that has the land management jurisdiction/administration role is accountable for determining the cause of ignition, responsible party, and for obtaining all billable costs, performing the billing, collection, and distribution of the collected funds. The agency with the fire protection responsibility role must provide the initial determination of cause to the agency with the land management jurisdiction/administration role. The agency providing fire protection shall provide a detailed report of suppression costs that will allow the jurisdictional agency to proceed with trespass procedures in a timely manner.

Each agency's role in fire trespass billing and collection must be specifically defined in the relevant Cooperative Fire Protection Agreement. The billing and collection process for federal agencies is:

- For example, a federal agency fire occurs on another federal agency's land and is determined to be a trespass fire. BLM provides assistance, and supplies costs of that assistance to the federal agency with jurisdictional responsibility for trespass billing. The responsible federal agency bills and collects trespass, and BLM then bills the federal agency and is reimbursed for its share of the collection.
- For example, where BLM administered land is protected by a state agency, the billing and collection process is:
  - The state bills BLM for their suppression costs. The BLM will pursue trespass action for all costs, suppression, rehabilitation, and damages, and deposits the collection per BLM's trespass guidance.

All fires must be thoroughly investigated to determine cause. Initiation of cause determination must be started with notification of an incident. The initial attack incident commander and the initial attack forces are responsible for initiating fire cause determination and documenting observations starting with their travel to the fire. If probable cause indicates human involvement, an individual trained in fire cause determination should be dispatched to the fire. Agency References:

- ***BLM*** *- 9238-1*
- ***FWS*** *- Fire Management Handbook*
- ***NPS*** *- RM-18, Chapter 8 and RM-9*
- ***FS*** *- FSM-5130 and FSM-5300*

Chapter 19
FWS Specific Reviews & Investigations Information

Link to Redbook Chapter 19

19-2-5 Types of Reviews

Individual Fire Reviews - Fire reviews examine all or part of the operations on an individual fire. The fire may be ongoing or controlled. Theses evaluations may be local, state/regional, or national review, a "hotline" review, an incident management team closeout review, a wildland fire review, or an escaped prescribed fire reviews. Fire reviews should also be conducted on well run and efficient fires in order to document efficient procedures for use on future fires.

- Local Level Review - The Refuge Manager will appoint other qualified persons, including the refuge Fire Management Officer (or an official who has designated fire program management responsibilities) to be a part of the review.

  The purpose of this review is to provide the Refuge Manager with information to recognize commendable actions and to take needed corrective action(s). As a minimum an oral review will be conducted. A written evaluation, prepared by the incident commander is required for all fires with extended operational periods.

  Costs associated with the review will be charged to the account assigned to the fire with the approval of the Regional Fire Management Coordinator. A copy of the complete report will be sent to the Regional Fire Management Coordinator, who will review it and, if appropriate, forward a copy to the Fire Management Branch.

- State/Regional Level Review - The regional level review normally will be conducted at the refuge where the fire occurred. It will be attended by the Refuge Manager of the refuge. The refuge's Fire Management Officer (or the official who has designated fire program management responsibilities), the Incident Commander(s) or Prescribed Fire Burn Boss(es) for the fire, and other individuals agreed upon by the Regional Director and Refuge Manager.

  A copy of the review report will be sent to the Fire Management Branch. Costs associated with the review will be charged to the account assigned to the fire.

- National Level Review - The national level review normally will be conducted at the refuge where the fire occurred. It will be attended by the Refuge Manager of the refuge, the refuge's Fire Management Officer (or an official who has designated fire program management responsibilities), the Regional Fire Management Coordinator, the Incident Commander(s) for the fire, and other individuals agreed upon by the Service Fire Management Coordinator and the Regional Director.

All costs associated with the review will be charged to the account assigned to the fire.

- Escaped Prescribed Fire Review - All prescribed fires that are reclassified as unplanned and unwanted wildland fires will be reviewed by the refuge manager (or designated representative). This review may be included as part of a Regional or National Level review if necessary. The purpose of the review is to determine why and under what circumstances a prescribed fire had to be reclassified as a wildland fire. It will identify the circumstances leading to the reclassification of the fire, what actions were taken after reclassification as a wildland fire, and possible future actions that need to be taken to avoid similar situations.

A formal report will be prepared, signed by the refuge manager, and a copy forwarded to the Regional Fire Management Coordinator and the Fire Management Branch.

Costs of the review will be charged to the account assigned to the fire with the approval of the RFMC.

- Distribution of Individual Fire Reviews - Regional Fire Management Coordinators will be responsible for determining specific information from fire reviews that might be of interest or concern to other refuge areas. Such information might be specific problems that occurred or recommendations that might be applicable elsewhere. RFMCs will forward such information within 30 days to the Fire Management Branch for appropriate distribution.

Program Reviews - The National Wildlife Refuge System, Fire Management Branch, has national program oversight and intra and interagency coordination responsibility for all aspects of the fire management program. This oversight includes ensuring that there is continuity within the program, compliance with Service and Departmental policy and uniformity and compliance in the use of program funds. Program areas to be reviewed include program administration, preparedness, emergency fire operations (including rehabilitation), and resource fire management.

Program reviews will focus on the positive aspects within the program, the new and innovative ideas that may have Regional, national or interagency application, and on the services being provided to our "customer." Most important in the review will be the safety policies and practices within the program and the people involved in the program.

Objectives - The review is designed to obtain, analyze, and evaluate information concerning the administrative, managerial, operational, and monitoring procedures of the program. In general the objectives of the program review are to:

- Confirm compliance with laws, regulations, and Departmental guidance.
- Identify opportunities to share ideas, methods, and techniques developed by other offices and individuals.
- Validate adequacy of management policy, structure, and guidance to support field organizations in performing their duties.

Types of Program Reviews

- Operations Evaluations: Operations evaluations of refuges and regions will include the review of fire management programs to assure compliance with established Fish and Wildlife Service standards.
- Fire Program Review: The Chief of the Fire Management Branch will convene an ad hoc team to review Servicewide fire activity during any year in which significant, unusual or controversial fire activity occurs. This review team will analyze the reports from national level reviews and appropriate region level reviews to determine what, if any, policy or operational changes should be initiated. The review team will develop findings and recommendations and establish priorities for action.
- FIREBASE Review: All refuges receiving annual, recurring FIREBASE funding in addition to normal unit strength funding will be subject to a periodic fire-program review. Refuges will be reviewed on a two, three or four-year schedule, depending on the dollar value of a refuge's FIREBASE allocation. The Fire Management Branch will determine this value each year and will notify regional offices accordingly. From this information, regional offices will compile a list of refuges to be reviewed each fiscal year. These reviews will be conducted by either the regional offices, the Fire Management Branch or both. Refuges should be reviewed more frequently than the standard schedule if known problems exist or if program deficiencies have been identified in previous program reviews. These reviews will include both an audit of expenditures and an analysis of how well FIREBASE addresses program management needs. When appropriate, the FIREBASE review may be conducted in concert with an operation evaluation of the refuge.

Program Review Process - A team approach will be used during the review process. Membership on this team may vary depending upon the objectives that are to be met. General composition for Regional reviews will involve the following positions or expertise:

- Service Fire Management Coordinator or designee (Team Leader)
- Regional Fire Management Coordinator
- Peer Regional Fire Management Coordinator or Fire Management officer from another Region
- Program Specialist/Analyst from Finance, Personnel or
- Fire Management Branch staff specialists as needed

The basic review team should not exceed five or six people. There may be fewer members required depending on the complexity. Some refuges will also be visited. Travel costs will be shared between the Regional and national offices.

The review will begin with a meeting of the Review Team, Regional Director and the Assistant Regional Director, Refuges and Wildlife. The purpose of this meeting will be to clarify the review objectives, and to ensure understanding of the process and the expected product. A close-out with the same group will occur at the conclusion of the review where a rough draft of major review findings and recommendations will be presented.

The review will look at what guides the program now, what is in place, how that is working and focus on policy, procedures and practices. If a policy or procedure is not being followed, the reason behind this must be determined and suggestions for change identified.

The Region and any refuges visited will need to make certain information available to the Review Team prior to the review, This material will be standard types of reports that would normally be available at the Regional or refuge level. Some information will be requested ahead of the Review Team's arrival in order to maximize field time and to reduce the amount of time required to address some of the program review questions.

The types of information may include but are not limited to:

- Fire management plans and related support documents.
- Fire FTE profile for the Region including location, job title, and funding source.
- FFS reports that show expenditures of fire funds including emergency funds for current year.
- Budget allocation documents showing funding spread at the Regional Office and at the refuge.
- End-of-year summary reports showing actual expenditures against planned expenditures.
- Copies of most recent internal reviews conducted by the Region.
- Annual narratives.
- Cooperative agreements and/or contracts.
- Latest reviews or evaluations that have relevance to the fire program.

Personal interviews will also be conducted with individuals outside of the fire program at the Regional and refuge levels. Interviews will include cooperators, Finance, Procurement, Personnel staffs, etc.

Findings and Recommendations - A close-out will be conducted with any refuge visited as a courtesy to the refuge staff. Any major finding will usually be made known to the refuge manager unless the Regional Director establishes different guidance.

The close-out with the Regional staff will provide at least a rough draft of the final report. The intent again is to improve the program so this will be approached in a positive manner. The final report will be issued from the Chief, National Wildlife Refuge System. Due dates for any follow-up actions and responsibility will be negotiated to ensure reasonable dates are established that will lead to success in improving the program.

Follow-up - Follow-up responsibilities should be assigned to the Regional Director or designee and to the Chief, National Wildlife Refuge System when the review involves the Washington Office. The action would serve to bring the review and its recommendations to closure by validating that all actions had been completed. This final step adds validity to the process and illustrates top management support to enhancing the program through the review process.

Chapter 20
Administration

Introduction

All federal agencies have adopted the *National Wildfire Coordinating Group (NWCG) Interagency Incident Business Management Handbook (IIBMH)* as the official guide to provide execution of each agency's incident business management program. Unit offices, geographic areas, or NWCG may issue supplements, as long as policy or conceptual data is not changed.

Policy

Since consistent application of interagency policies and guidelines is essential, procedures in the *IIBMH* will be followed. Agency manuals provide a bridge between manual sections and the *IIBMH* so that continuity of agency manual systems is maintained and all additions, changes, and supplements are filed in a uniform manner.

- ***BLM*** *- The IIBMH replaces BLM Manual Section 1111.*
- ***FWS*** *- Refer to Service Manual 095 FW 3 Wildland Fire Management.*
- ***NPS*** *- Refer to RM-18.*
- ***FS*** *- Refer to FSH 5109.34.*

Use of Pay Plan for Hazardous Fuel Reduction

Refer to the Department of Interior (DOI) Pay Plan for Emergency Workers for information regarding the use of emergency workers for hazardous fuel reduction projects on Departmental lands. Refer to the Forest Service Pay Plan for Emergency Workers for information regarding the use of emergency workers for hazardous fuel reduction projects on Forest Service Lands.

Cache Management

The DOI-BLM manages two National Interagency Support Caches (NISC), and USDA-Forest Service manages nine national caches. Agencies often serve as interagency partners in local area support caches, and operate single agency initial attack caches. All caches will maintain established stocking levels, receive and process orders from participating agencies, and follow ordering and fire replenishment procedures as outlined by the national and geographic area cache management plans and mobilization guides.

- ***FS*** *- Refer to FSM 5160 for specific requirements.*

National Interagency Support Caches

The eleven national caches are part of the National Fire Equipment System (NFES). Each of these caches provides incident support in the form of equipment and supplies to units within their respective geographic areas. The NFES cache system may support other emergency, disaster, fire-related or land management activities, provided that such support is permitted by agency policies and does not adversely affect the primary mission. These national caches do not provide supplies and equipment to restock local caches for non-

incident requests. Non-emergency (routine) orders should be directed to the source of supply, e.g., GSA or private vendors. The Great Basin cache at NIFC provides publications management support to the National Wildfire Coordinating Group (NWCG). Reference the NWCG, *National Fire Equipment System Catalog (NFES 0362)* for more detailed information.

Forest Service National Symbols Program distribution is through the Northeast Area National Interagency Support Cache. This material is coordinated by the USDA Forest Service, under advisement of the National Association of State Foresters' (NASF) Cooperative Forest Fire Prevention Committee (CFFP), and the DOI Bureau of Land Management. Materials include Smokey Bear prevention items, and Junior Forest Ranger environmental educational materials. It also distributes DOI Fire Education materials and provides resource kits for National Fire Prevention Teams. The website at www.symbols.gov contains the catalog of these materials and offers information having to do with these programs.

Local Area Interagency Support Caches

These caches directly support more than one agency, and generally cover more than one administrative unit. They will maintain stocking levels to meet the identified needs of the multiple agencies for whom service is provided.

Initial Response Caches

Numerous caches of this level are maintained by each agency. These caches will establish and maintain stocking levels to meet the initial response needs of the local unit(s).

Inventory Management

System Implementation

Each fire cache, regardless of size, should initiate and maintain a cache inventory management system. Agency management systems provide a check out/return concept that incorporates a debit/crediting for all items leaving the cache. This system is strictly followed in the NISC's. Inventory management processes should be implemented for all local interagency support and initial action caches.

Reporting Requirements

By April 1st of each year, all local interagency support and initial action caches will submit to their servicing NISC, available quantities of the items referenced in Appendix CC.

All items reported will conform to refurbishment standards set forth in *NFES 2249, Fire Equipment Storage and Refurbishment Standards*. Those items not identified in NFES 2249 will not be refurbished.

Accountability

Fire loss/use rate is defined as all property and supplies lost, damaged or consumed on an incident. It is reported as a percentage that is calculated in dollars of items issued compared to items returned. The reasonable anticipated fire loss/use rate for all items issued to an incident is 15 percent of trackable and durable items. Consumable items are not included in this total. All items stocked in agency fire caches will be categorized for return (loss tolerance/use rate) and accountability purposes.

Trackable Items

Include items that a cache may track due to dollar value, sensitive property classification, limited quantities available, or other criteria set by each geographic area cache. Items that are considered trackable are usually engraved or tagged with a cache identification number. These items must be returned to the issuing cache at the end of the incident use, or documentation must be provided to the issuing cache as to why it was not returned. All trackable items are also considered durable. 100 percent accountability is expected on trackable items.

Durable Items

Include cache items considered to have a useful life expectancy greater than one incident. High percentages of return for these items are expected. These items are not specifically cache identified/tagged/engraved.

Acceptable loss tolerance/use rates for the following durable goods have been established:

- 10% for water handling accessories, helicopter accessories, tents, and camp items such as heaters, lights, lanterns, tables, and chairs.
- 20% for hose, tools, backpack pumps, sleeping bags, pads, and cots.
- 30% for personal protective equipment.

Consumable Items

Include items normally expected to be consumed during incident use. Consumable items returned in unused condition are credited to the incident. Examples of consumable items are: batteries, plastic canteens, cubitainers, forms, MREs, fusees, hot food containers, petroleum products, and medical supplies.

Incident to Incident Transfer of Supplies and Equipment

Transfer of supplies and equipment between incidents is not encouraged, due to the increased possibility of accountability errors. However, in special instance, when it is determined to be economically feasible, the following must be accomplished by the Supply Unit Leader from the incident that is releasing the items.

Documentation will be completed on the *Interagency Incident Waybill (NFES #1472)*, and must include the following:

- NFES Number
- Quantity
- Unit of Issue
- Description
- Property number, if item is trackable
- Receiving incident name, incident number and resource request number
- The Supply Unit Leader will send the waybill transfer information to the servicing geographic area cache to maintain proper accountability recording.

Fire Loss Tolerance Reporting for Type 1 and 2 Incidents

In order to help managers keep incident-related equipment and supply loss to a minimum, IMT's are required to maintain accountability and tracking of these items. Guidelines and procedures to assist with this accountability are provided in Chapter 30 of the *IIBMH*. To further facilitate these procedures and provide oversight, a fire loss report has been developed that provides detailed information regarding used and trackable item use. This report has been accepted by NWCG for all wildland fire agencies and will be compiled for all Type 1 and Type 2 incidents. Investigations may be conducted in those cases where loss/use tolerances rates may have been exceeded.

These reports are complied by the geographic area NFES cache servicing the particular incident. Reports will then be forwarded to the responsible local office, with a copy to the state/regional FMO, within 60 days of the close of the incident to meet these time limits. Several steps must be followed to facilitate complete data resulting in accurate reports:

- At the close of each incident, all property must be returned to the servicing NFES cache.
- If accountable property has been destroyed or lost, appropriate documentation must be provided to the cache for replacement and updating property records.
- All property purchased with emergency fire funds for an incident must be returned to the NFES cache system.
- All unused consumable and/or durable NFES items must be returned to the servicing NFES cache within 30 days of control of the incident.
- Agency Administrators/fire management officers must review the fire loss report and recommend appropriate follow-up action if losses are excessive. Those actions and recommendations should be documented and filed in the final incident records.

Incident Supply and Equipment Return Procedures

Supplies and equipment ordered with suppression funds will be returned to the ordering unit at the end of the incident and dispersed in one of three ways:

- Items meeting NFES standards will be returned to the local or geographic area cache for reuse within the fire supply system.
- Items not meeting the prescribed NFES standards will either be purchased with project funds by the local unit if the items are needed for program use.
- Items will be delivered to the unit's excess property program for disposal.

Cache Returns and Restock Procedures

All returns for credit and restock of caches to specific incident charges should be made within 30 days after the close of the incident. If that timeframe cannot be met, it is required that returns and restock be made during the same calendar year as items were issued. All returns should be tagged with appropriate incident number, accompanied by an interagency waybill identifying the appropriate incident number, or accompanied by issue documents to ensure proper account credit is given. Any items returned after the calendar year of issue will be returned to multiple-fire charges, unless specific incident charge documentation (issues) can be provided with the return.

Incident Replacement of Government Property

Refer to the *Interagency Incident Business Management Handbook (IIBMH), Chapter 30* for procedures governing property management relating to incident activities. The agency administrator is responsible for providing agency property management guidelines and/or procedures to incident personnel.

Damage or Loss for assigned property is addressed under IIBMH Chapter 30, 35.4. Specialty or non-cache items originally provided by the home unit through the use of preparedness funds will be replaced by home unit funds if the loss is due to normal wear and tear. If the government property is damaged on the incident due to a specific event, eg., wind event damages tent, the incident may, upon receipt of required documentation and proof of damage, authorize replacement using the *Incident Replacement Requisition* (OF315). Cache items will be replaced at the incident if available. Cache items that are not available at the incident may be authorized for restocking at the home unit via an authorized *Incident Replacement Requisition.*

Mobile Fire Equipment Policy

It is agency policy to maintain each piece of mobile fire equipment at a high level of performance and in a condition consistent with the work it has been designed to perform. This shall be accomplished through application of a uniform preventive maintenance program, timely repair of components broken or damaged while on assignment, and in accordance with all agency fiscal requirements. Repairs shall be made and parts replaced, as identified, to keep the equipment functional. Priority will be given to any item required for the equipment to be kept safe and operational.

- ***BLM -*** *Mobile fire equipment is not to be altered or modified without approval of the BLM National Fire Equipment Committee.*

Fire Equipment Management

Introduction

This section contains specific guidance on activities, standards, and procedures in the management of the agencies' fire equipment.

- ***BLM -*** *The BLM's fire equipment program designs, develops, and acquires specialized equipment, cabs, chassis, utility bodies, and pump packages to meet the BLM's annual fire engine replacement and fire suppression requirements. Fire engine design is accomplished through the analysis of performance needs identified, survey of new technologies, and the development of test models and prototype units. Acquisition of these components is done through a combination of contracting, remanufacture of existing units, and in-house assembly. The BLM operates a fire vehicle program that balances state of the art technology with overall cost efficiency, to provide maximum safety for personnel while effectively meeting suppression needs. Also refer to the BLM Manual H-9216-1, Fire Equipment Supply Management.*
- ***NPS -*** *The NPS manages the Working Capital Fund (WCF) Fire Equipment Program through the Fire Management Program Center. The working capital funding for the program is administered through an interagency agreement with the BLM. The NPS's WCF fire equipment program acquires specialized equipment, cabs, chassis, utility bodies, and pump packages to meet the NPS's annual fire engine replacement and fire suppression requirements. Fire engine design is accomplished through the analysis of performance needs identified, and survey of new technologies. Acquisition of these components is done through contracting with venders identified on GSA contracts.*

Standards and Specifications

- ***BLM -*** *Standardization of our mobile fire equipment fleet aides in the ability to produce equipment that effectively meets the user's needs at the lowest possible cost, and with the least impact on the BLM workforce.*

Fire Equipment Development

- ***BLM -*** *The BLM maintains a Fire Equipment Development Unit located at NIFC. This unit is responsible for the ordering, receiving, inspection, distribution, and development of new fire equipment that will meet or exceed the minimum performance standards established by the BLM National Fire Equipment Committee.*
- ***NPS -*** *The Fire Equipment and Facilities Specialist, located at NIFC, is responsible for ordering, receiving, inspection, and distribution of new fire equipment.*

Equipment Development Process

- ***BLM -*** *The BLM has established a fire equipment development process to ensure that any new fire equipment, engine models, or technologies meet or exceed established performance standards. All new fire engines, new equipment models, vehicle chassis, and major components will follow this development process, and are tested and evaluated under actual field conditions prior to being made available for general ordering. While it may take only a few weeks to complete the development and evaluation process for a minor component, it takes several years to develop a new chassis, fire engine model, or major component.*

Management of Standards

- ***BLM -*** *BLM's specifications and standards are maintained by the Fire Equipment Development Unit at NIFC. Equipment standards and options are managed under a "sealed pattern" concept. Major changes to equipment are made once a year during the BLM National Fire Equipment Committees fall meeting. This is done through a formal documented process.*
- ***BLM -*** *Minor changes to blueprints and specifications are the responsibility of the Fire Equipment Development Unit to ensure that equipment in production is not delayed. Major changes must be addressed through the BLM fire equipment development process.*
- ***BLM -*** *Procurement of nonstandard equipment with fire management funds, when standard equipment is available, has to have written approval by the Director, Office of Fire and Aviation. The BLM Fire Equipment Committee has the responsibility to approve and establish the minimum performance standards of all BLM/WCF mobile fire equipment.*

Classes of Standard Units

Each agency has established classes for all GSA and agency-owned vehicles.

Equipment Deficiencies and Improvements

- ***BLM -*** *The BLM fire engine fleet is in a constant state of development. Improvements to the equipment begins only after field service has identified that a specific item of equipment is not operating to its optimum performance, a deficiency has been encountered, or that an improvement to the equipment would allow it to be easier to operate and maintain.*
- ***BLM -*** *To help identify items found deficient or in need of improvement an Improvement/Report of Deficiency form is available on the Fire Equipment Development Unit web site at http://web.blm.gov/internal/fire/EquipDev/index.htm This deficiency and improvement reporting method will allow for the documentation of the where, what, when, and how the deficiency or improvement was identified and status of its correction or implementation. It will also allow the BLM to monitor fire equipment over the long term and aide in identifying trends.*

Funding Accessories and Upgrades

Any equipment added to a fire engine which is not part of the current agency standard for the vehicle class (supplemental lighting, winches, special painting, radios, etc.) are add-on items and are not funded with WCF funds. The cost of fire engine package modifications and optional equipment, which is not in the current fire engine standard, (including the replacement/modification of equipment provided with the vehicle), is the responsibility of the state/region or local office.

Valid/Invalid Expenditures of WCF Funds

Travel on WCF Funds

- ***BLM -*** *Travel using WCF funds is allowed only for NIFC Fire Equipment Development Unit and National Business Center personnel attending pre-work conferences, serving as contracting officers, contracting officer representatives, or project inspectors on fire vehicle related contracts, and for other personnel associated with the delivery of a new fire engine or support vehicle.*
- ***NPS -*** *Travel using WCF funding is allowed only for Fire Management Program Center and Accounting Operation Center staff attending pre-work conferences, serving as contracting officers or project inspectors on fire equipment related contracts. The WCF program also provides travel funding for park fire personnel to transport new fire equipment back their respective parks. WCF funds will not be used to transport new equipment back to parks commercially except under extenuating circumstances. Retrieval of new fire vehicles should* be *done by park fire individuals so as to obtain a through briefing of the operational features of that vehicle by the manufacturers.*

Vehicle Repairs, Maintenance

- ***BLM -*** *The cost of all vehicle repairs and maintenance should where possible be charged to the benefiting activity unless this cannot be established.*
- ***NPS -*** *The cost of WCF vehicle repairs and maintenance is the responsibility of the individual parks.*

Mid-Cycle Maintenance

- ***BLM -*** *Mid-cycle maintenance on fire engines may be required to help ensure that the vehicles reliability, integrity, safety, and cosmetic value are up to minimum standards. It is known that some wear and tear cannot be resolved through a regular maintenance schedule; and it is necessary to perform special maintenance on the vehicle. These costs are chargeable to the WCF but, before this mid-life maintenance can be initiated, required repairs must be identified. Estimates of the maintenance and repair cost must be completed prior to having the work completed. A copy of the*

estimate and approval shall be forwarded to the Fire Equipment Development Unit at NIFC so it can be placed in the vehicles history file.

- ***BLM -*** *Mid-cycle maintenance does not include the cost of any item that should have been corrected at the time the damage occurred or repairs to equipment, which was not standard at the time of original purchase.*

Fixed Ownership Rates (FOR's)

These are the fees that are charged monthly for each fire vehicle in service. These fees continue to accumulate over the life of a vehicle, and are used to replace each vehicle at the end of its life cycle. The FOR rates are adjusted annually by the WCF manager to reflect changes in replacement costs due to inflation and/or changes in performance. The collection period is from May to October to allow the benefiting activities to be charged.

Use Rates

- ***BLM -*** *Use rates are independent of the FOR rates, and are adjusted annually to reflect all WCF costs associated with the administration, delivery, maintenance, and repair of vehicles in each vehicle class. These use rates may vary significantly from year to year, particularly in those vehicle classes, which have low number of vehicles. (To aid in keeping these rates low where possible benefiting activities should be responsible and charged for any repairs and maintenance.)*

Fire Equipment Committees

- ***BLM -*** *BLM National Fire Equipment Committee. The committee consists of the national chairperson, state equipment committee chairpersons (or designated representatives), a national office representative, Fire Equipment Development Unit supervisor, and National Business Center (NBC) equipment management specialist. Meetings are scheduled twice a year. Agenda items and topics aresolicited from the national office and states. Formal meeting minutes containing findings and equipment recommendations are distribute for review prior to adoption.*
- ***BLM -*** *BLM State/Geographic Area Fire Equipment Committees. Each state/geographic area should maintain a fire equipment committee which provides the following:*
  - *Establishes, coordinates, and standardizes internal (state) fire equipment management practices.*
  - *Identifies equipment needs, deficiencies and develops proposals for presentation to the BLM National Equipment Committee.*
  - *Provides a representative to the National Equipment Committee to present the states equipment requirements, improvements, and deficiencies.*
- ***NPS -*** *The NPS equipment committee meets twice yearly to identify equipment problems, needs, and NPS standards. This committee is comprised of engine foremen (captains), fire management officers, and representation from the Fire Use Modules. The permanent chairperson is*

the Fire Equipment and Facilities Specialist at the Fire Management Program Center.

Property Transfer/Replacement

- ***BLM -*** *Surplus, early turn-ins, and transfer fire vehicles may be transferred to another area for continued service with the approval of the State Director and WCF manager. In these instances, the vehicle remains in the same class, and the FOR and use rates will continue to be charged to the unit acquiring the vehicle. Field Offices wishing to dispose of fire engine equipment prior to the normal replacement date may do so. In these instances, no future replacement is automatically provided there is no accrued credit from the FOR collected on that unit prior to disposal. Field offices acquiring this type of equipment continue payment of the FOR and use rates.*
- ***BLM -*** *Conversions - Offices in possession of fire engine equipment due for replacement have the option of replacing that equipment with vehicle(s) of another class. The change in NUS must be consistent with the approved FMP (conversion of two light engines to one heavy engine). State Director and Property Manager approval and sufficient contributions through the FOR or other funds to make up any difference in cost are required.*
- ***NPS -*** *Surplus vehicles for NPS will be excessed through the BLM Working Capital Fund Program. An SF-126 form will be submitted to the NPS Fire Equipment and Facilities Specialist upon receipt of new vehicle. After review, the form will be transferred to the BLM. BLM will manage the disposal of all surplused WCF equipment. Residual value of sold excessed fire vehicles is returned back into the NPS WCF. Parks should not excess WCF fire equipment through normal GSA channels.*

Fitness Equipment and Facilities

- ***NPS -*** *BDO-57 Occupational Medical Standards, Health and Fitness defines the minimum equipment needed to meet physical fitness goals. The following guidance will be used to specifically determine FIREPRO allocations for equipment purchase:*
- ***NPS -*** *The FIREPRO funding allocation will represent the percentage of mandatory fitness participants in a park. For example, park AX may have 20 total mandatory fitness participants in its health and fitness program, five (5) of whom are wildland firefighters. FIREPRO would pay 25 percent of the cost of equipment purchase.*
- ***NPS -*** *The regional fire management officer's approval is required for any anticipated purchases requiring FIREPRO contributions in excess of $1,200.*
- ***NPS -*** *Where all of a park's mandatory fitness participants are wildland firefighters; FIREPRO will fund up to a maximum of $1,200 per park for equipment purchase. The regional fire management officer's approval is required for purchases in excess of that amount.*

- ***NPS -*** *DO-57 indicates that health club costs must be borne by park management for mandatory fitness participants. However, in-park exercise facility development is the preferred option. Where this is not possible, health club costs, not to exceed $360 per year, may be paid from FIREPRO funds for each wildland firefighter mandatory program participant. Approval from the regional fire management officer is required for annual fees that exceed $360.*

Wildland Fire Uniform Standards

- ***NPS -*** *The Servicewide Uniform Program Guideline (DO-43) sets forth the Servicewide policies and associated legal mandates for wearing the National Park Service (NPS) uniform and for authorizing allowances to employees.*
- ***NPS -*** *The guideline states that superintendents administer the uniform program within their areas, and are responsible for developing and communicating local uniform and appearance standards in accordance with DO-43, determining who will wear the uniform and what uniform will be worn, and enforcing uniform and appearance standards. Three options exist for uniforms for wildland fire personnel:*
- ***NPS -*** *Within the context of the uniform standards, if the conventional NPS uniform is identified at the local level as required for specified fire management staff, FIREPRO program management funds may be used to support uniform purchases in accordance with allowance limits identified in DO-43.*
- ***NPS -*** *While Nomex outerwear (i.e., shirts, trousers, brush-coats), routinely issued as personal protective equipment, has become recognized as the uniform of the wildland firefighter as a matter of necessity, these apparel also have justifiable utility as a uniform standard at the park level for certain FIREPRO and/or ONPS base-funded wildland fire staff.*
- ***NPS -*** *When the conventional NPS uniform or the full Nomex outerwear is not appropriate or justified, local management with regional director approval may establish a predetermined dress code for fire staff. The goals of the NPS uniform program can appropriately be applied (with common sense) to this departure from the norm.*
- ***NPS -*** *Where appropriate and justified, FIREPRO funds may be applied to the purchase of 100 percent cotton tee shirts and sweatshirts, and ball caps, with appropriate logo and color scheme, to augment the Nomex outerwear worn in conjunction with project or wildland fire management incidents. Nomex outerwear will usually be returned to the park's fire cache based on the tour of duty (end of season, transfer to another park, etc.).*
- ***NPS -*** *The fire management officer is responsible for establishing a reasonable allotment schedule for new or returning employees, commensurate with supplies provided in previous seasons. A suggested per person issuance is three to four tee shirts, one ball cap, and one*

sweatshirt (where appropriate). $75 would normally be adequate to cover costs of this issuance.

- ***NPS -*** *Just as with uniform allowance discussed in DO-43, the intent of FIREPRO-funded purchases is to defray the cost of the appropriate apparel, not necessarily to cover the cost of all items. This will not only be factored into the quantities deemed necessary for the individual, but would also preclude FIREPRO-funded purchases of fleece jackets, rain gear, and other personal items generally considered the responsibility of those employees not covered by the NPS uniform program.*

Fire Management Credentials

- ***NPS -*** *Official fire management credentials, with numbered badge, can be obtained by approved permanent or permanent less-than-full-time NPS employees. These credentials will be utilized for identification purposes only and will not be worn with the official NPS uniform or otherwise conflict with DO-43. Lost or stolen credentials, as government property, should be entered into NCIC for confiscation and return when found.*

Professional Liability Insurance

With the passage of Public Law 106-58, agencies are now required to pay up to 50% (no more than $150) of the annual professional liability insurance premiums for qualified supervisors, management officials, and law enforcement officers who choose to purchase this insurance. Fire Management personnel may fall within the qualified supervisors and management official's categories. Refer to agency specific policies.

- ***NPS -*** *December 14, 1999 memorandum from the Associate Director, Administration to Regional Directors [P34 (2653)] transmitted the NPS policy on these reimbursements and should be referred to for qualifications and reimbursement criteria.*

Chapter 20
FWS Specific Administration Information

Link to Redbook Chapter 20

Records and Reports

Permanent Refuge Records – All final wildland fire records (e.g., DI-1202, fire weather, narrative, photos, etc.) presently in the refuges should be held in the refuge as permanent historic resource management records.

Situation Reports- Situation reports contain current information about fire danger, fire status, and resource availability. Refuges with permanent fire staffs prepare daily situation reports during their official fire seasons. Those refuges, when outside of official fire season, and all other refuges, prepare situation reports under the following circumstances:

- Daily, when in very high or extreme fire danger.
- Daily, whenever a fire has occurred, is in progress, or is planned.
- Additionally, as required by Regions/zones.

It is preferable for reports to be completed by 1100 hours (Mountain Standard Time Zone) for compilation into interagency situation reports. In accordance with local or Regional procedures, refuges provide situation reports to local cooperators or interagency coordination centers.

Historic situation report files will be used in the FIREBASE prescribed fire monitoring needs analysis to monitor staffing requirements. For this reason it is especially important that refuges make daily entries for all wildland fires and prescribed burns.

Fire Weather Records - All refuges will maintain or reference fire weather stations, and record daily weather observations during their official fire seasons. Weather observations are entered directly into WIMS.

Fire Report Records - Each wildland fire and support action will have a fire report prepared and archived to document the fire incident. In the event that a prescribed fire does not meet established objectives, and/or exceeds its established prescription and is reclassified as an unwanted wildland fire, two separate reports are prepared. The narrative of the prescribed fire report should indicate that the fire was reclassified and reference the new assigned wildland fire number, and report only those acres burned within prescription. A new report is started for the newly declared wildland fire, and report acres burned from the point of reclassification to the declared out acres. The cause and narrative should indicate that the unwanted wildland fire resulted from a prescribed fire which was reclassified. All unwanted wildland fires caused by prescribed fires will be reviewed: see section 3.6.2 Fire Reviews - Prescribed Fire / Wildland Fire Review in the Wildland Fire Operations Chapter.

The Fish and Wildlife Service Fire Management Information System (FMIS) has an on-line data entry and editing application for direct entry of occurrence information. Refuges, which have computer telecommunications capability, will use the computer to file their reports, and retain the hard copy report on file in the refuge. Refuges without computers will forward one copy of each completed Fire Report to the appropriate data entry site assigned by the Regional Fire Management Coordinator for data entry.

Data entry begins at the time of the fire in order to get a fire number. The complete fire report is to be entered on the computer system within 10 days after the fire is declared out. Regional Offices will assure that all fire reports are entered into the Servicewide database. General Fire Reporting instructions can be found on the Fire Management Home Page.