

# National Aviation Safety and Management Plan

---



# 2011 National Aviation Management Plan

## Signatures and Approval

<b>Prepared by:</b> <u>/s/ Aaron Schoolcraft</u> Aaron Schoolcraft, Aviation Management Specialist	<b>Date:</b> <u>07/01/10</u>
<b>Reviewed by:</b> <u>/s/ Paul Linse</u> Paul Linse, Aviation Management Specialist	<b>Date:</b> <u>07/21/10</u>
<b>Reviewed by:</b> <u>/s/ Larry Brosnan</u> Larry Brosnan, Assistant Director, Aviation	<b>Date:</b> <u>07/21/10</u>
<b>Reviewed by:</b> <u>/s/ Rich Kvale</u> Rich Kvale, Deputy Director, Fire Operations	<b>Date:</b> <u>11/22/10</u>
<b>Reviewed by:</b> <u>/s/ Ralph Dorn</u> Ralph Dorn, Director, Safety and Occupational Health	<b>Date:</b> <u>09/02/10</u>
<b>Reviewed by:</b> <u>/s/ Tom Harbour</u> Tom Harbour, Director, Fire & Aviation Management	<b>Date:</b> <u>11/22/10</u>
<b>Approved by:</b> <u>/s/ Jim Hubbard</u> Jim Hubbard, Deputy Chief, State & Private Forestry	<b>Date:</b> <u>09/08/10</u> Approved by letter

# 2011 Regional Aviation Management Plan

## Signatures and Approval

### FOREWORD

This document supplements the USDA-Forest Service (FS), *National Aviation Management Plan*. Information presented in this document is a critical component of the Northern Region's Aviation program and promotes the safety philosophy that all mishaps are preventable and that mishap prevention is an inherent function of management.

Questions regarding this plan should be directed to the appropriate Regional Aviation Officer (RAO). The Northern Region, RAO, retains the original signature copy and electronic version of this plan.

**Prepared:**           /s/ Margaret M. Doherty          

**Date:** 7/20/2011

Margaret M. Doherty, Regional Aviation Officer

**Reviewed:**           /s/ Gary D. Boyd Jr.          

**Date:** 7/21/2011

Gary D. Boyd Jr., Regional Aviation Safety Manager

**Reviewed:**           /s/ Patricia L. Koppenol          

**Date:** 7/20/2011

Patricia L. Koppenol, Regional Director of Fire, Aviation, and Air

**Approved:**           /s/ Leslie A.C. Weldon          

**Date:** 7/22/2011

Leslie A.C. Weldon, Regional Forester

# 2011 Regional Health Protection Management Plan

## Signatures and Approval

Prepared by:   \o\ Kathleen Matthews   Date:  
KATHLEEN MATTHEWS  
Aerial Survey Program Coordinator and UAO

Reviewed by:   \o\   Date:  
DAYLE BENNETT  
Boise Field Office Group Leader

Reviewed by:   \o\   Date:  
GREGG DeNITTO  
Missoula Field Office Group Leader

Reviewed by:   \o\   Date:  
STEVE MUNSON  
Ogden Field Office Group Leader

Reviewed by   \o\   Date:  
VON HELMUTH  
Coeur d'Alene Field Office Group Leader

Reviewed by:   \o\   Date:  
GARY BOYD  
Northern Region Aviation Safety Manager

Reviewed by:   \o\   Date:  
MITCHELL MIGNANO  
Intermountain Region Aviation Safety Manager

Reviewed by:   \o\   Date:  
MARGARET DOHERTY

Northern Region Aviation Officer

Reviewed by:     
CLAIRE MENDENHALL  
Intermountain Region Aviation Officer

Date:

Reviewed by:     
MIKE DUDLEY  
R1/4 State & Private Forestry Director

Date:

Approved by:     
LESLIE WELDON  
R1 Regional Forest Supervisor

Date:

Approved by:     
HARV FORSGREN  
R4 Regional Forest Supervisor

Date:

# 2011 Forest Health Protection/ Law Enforcement Management Plan

**Prepared:** \_\_\_\_\_  
Name, Position

**Date:** \_\_\_\_\_

**Reviewed:** \_\_\_\_\_  
Name, Position

**Date:** \_\_\_\_\_

**Reviewed:** \_\_\_\_\_  
Margaret M. Doherty, Regional Aviation Officer

**Date:** \_\_\_\_\_

**Approved:** \_\_\_\_\_  
Name, Forest Supervisor or Special Agent in Charge

**Date:** \_\_\_\_\_

# 2011 Forest Aviation Management Plan

Signatures and Approval

**Prepared:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Name, Position

**Reviewed:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Name, Position

**Reviewed:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Name, Forest Aviation Officer

**Reviewed:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Name, Forest Fire Management Officer

**Approved:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
Name, Forest Supervisor

## Table of Contents

### **1.0 Aviation Management Plan**

- 1.1 Purpose
- 1.2 Mission Statement
- 1.3 Leaders Intent
- 1.4 Aviation Doctrine
- 1.5 National Aircraft Management Strategy
- 1.6 Authority
- 1.7 General Policy

### **2.0 Aviation Organization and Responsibilities**

- 2.1 Organization
- 2.2 The Washington Office (WO) Staff
- 2.3 The Regional Office (RO) Aviation Staff
- 2.4 Forest Aviation Staff
- 2.5 Additional Aviation Positions
- 2.6 National Groups/ Committees
- 2.7 Program Overview

### **3.0 Administrative Direction**

- 3.1 General
- 3.2 Reporting and Documentation Requirements
- 3.3 Aviation Plans
- 3.4 Aircrew Orientation Briefing Package
- 3.5 Land Use Policy for Aviation Activities
- 3.6 Budget
- 3.7 Contracting
- 3.8 Aircraft Contracting Start / Modification/ Extension
- 3.9 Contractor Performance
- 3.10 End Product Contracts
- 3.11 Supplemental Fire Aircraft Acquisition
- 3.12 Cooperator Aircraft
- 3.13 Aircraft Administrative Use and Reports
- 3.14 Dispatching
- 3.15 Flight Use Reports
- 3.16 Charge Codes
- 3.17 Working Capital Fund (WCF)
- 3.18 Federal Excess Property (FEPP)
- 3.19 Financial Business Management System (FMBS)
- 3.20 Program Reviews
- 3.21 New Program Requests

## **4.0 Aviation Safety Management Systems**

- 4.1 General
- 4.2 Safety Management Systems (SMS)
- 4.3 Policy
- 4.4 Risk Management
- 4.5 Assurance
  - 4.5.1 Safety and Technical Assistance Team (STAT)
  - 4.5.2 Aviation Safety Communiqué
  - 4.5.3 Aircraft Accident Investigation Process
  - 4.5.4 Project Aviation Safety Planning (PASP)
- 4.6 Promotion
  - 4.6.1 Human Factors
  - 4.6.2 Aviation Safety Awards Program
- 4.7 National Fire and Aviation Operations Alert System

## **5.0 Aviation Operations**

- 5.1 General
- 5.2 Operational Guides and Handbooks
- 5.3 Public/ Civil Aircraft Operations
- 5.4 Employee on Non-Forest Service Aircraft
  - 5.4.1 FS Employee Pilots Not Employed as Pilots
  - 5.4.2 FS Employee-Owned Aircraft Approval
- 5.5 Emergency Exceptions to Policy
- 5.6 Category of Flight
- 5.7 Flight Planning
- 5.8 Flight Following
- 5.9 Radio Frequency Management/ Communications
- 5.10 Overdue or Missing Aircraft
- 5.11 Mishap Response
- 5.12 Passengers
- 5.13 Transport of Hazardous Materials
- 5.14 Invasive Species Control
- 5.15 Fire Chemicals and Aerial Application Policy near Waterways
- 5.16 Search and Rescue (SAR)
- 5.17 Airtanker Operations
  - 5.17.1 Very Large Airtankers (VLAT)
  - 5.17.2 Airtanker Base Personnel
- 5.18 SEAT Operations
- 5.19 Aerial Supervision/ Leadplane Operations
  - 5.19.1 Aerial Supervision Personnel
- 5.20 Helicopter Operations
  - 5.20.1 Helitack
  - 5.20.2 Rappel
  - 5.20.3 Cargo Letdown
  - 5.20.4 Short-Haul and Hoist (Law Enforcement & Investigations ONLY)
- 5.21 Aerial Ignition Operations
- 5.22 Wild Horse and Burro Operations
- 5.23 Aerial Capture, Eradication and Tagging of Animals (ACETA)

- 5.24 Smokejumper Operations
  - 5.24.1 Smokejumper Personnel
  - 5.24.2 Smokejumper Aircraft
- 5.25 Light Fixed-Wing Operations
  - 5.25.1 Reconnaissance or Patrol Flights
  - 5.25.2 Single Engine Night Flights
  - 5.25.3 Backcountry Airstrip Operations
- 5.26 Law Enforcement and Investigation (LEI) Operations
  - 5.26.1 Special Law Enforcement Aviation Projects
  - 5.26.2 Rapid Assessment and Initial Detection (RAID)
  - 5.26.3 LEI Training
  - 5.26.4 Civil Air Patrol (CAP)
  - 5.26.5 Department of Homeland Security (DHS)
  - 5.26.6 LEI Personal Protective Equipment (PPE) During Tactical Operations
  - 5.26.7 Emergency Operations
  - 5.26.8 LEI Short-Haul and Hoist Operations
- 5.27 Unmanned Aerial Systems (UAS)
- 5.28 Forest Health/resource aviation
- 5.29 Animal Transport (Internally).
- 5.30 Aircraft Maintenance
- 5.31 Supplemental Oxygen

## **6.0 Aviation Training**

- 6.1 Aviation Training for All Flight Activities and Positions
- 6.2 Responsibility
- 6.3 Instructor Standards
- 6.4 Records Management
- 6.5 Tuition and Travel
- 6.6 Development
- 6.7 IAT/ NWCG Crosswalk
- 6.8 Contract Contracting Officer Representative (COR) Requirements

## **7.0 Airspace**

- 7.1 Interagency Airspace Coordination
- 7.2 Fire Traffic Area (FTA)
- 7.3 Temporary Flight Restriction (TFR)
- 7.4 Aircraft Transponder Code (Firefighter)
- 7.5 Airspace Boundary Plan
- 7.6 Airspace Deconfliction
- 7.7 Airspace Conflicts
- 7.8 Airspace Agreements- Memorandum of Understanding

## **8.0 Aviation Security**

- 8.1 Aviation Security
- 8.2 Forest Service Facilities Security Risk Assessments
- 8.3 Forest Service Security Response Actions
- 8.4 Regional Homeland Security Advisory System Response Plan

- 8.5 Facility Homeland Security Advisory System Response Plan
- 8.6 General Aviation
- 8.7 Aircraft Security Information (Cooperators)
- 8.8 TSA Airport Security Procedures

**9.0 Aviation Facilities**

- 9.1 General
- 9.2 Permanent Air Bases
- 9.3 Temporary Bases
- 9.4 Safety
- 9.5 Agency Owned/ Operated Facilities
- 9.6 Agency Owned/ Operated Airstrips
- 9.7 Leasing
- 9.8 Funding
- 9.9 Land Use Agreements
- 9.10 Facilities Security

**10.0 Appendix**

- 10.1 [IAT Appendix 1 Forest Service Requirements](#)
- 10.2 [Day Trip Authorization](#)
- 10.3 Policy Change - FSM 5700 and 5709.16, Instrument Flight Conditions and Night Flying
- 10.4 [Definitions](#)
- 10.5 [Abbreviations](#)
- 10.6 [References](#)

# 1.0 Aviation Management Plan

## 1.1 Purpose

The purpose of the Forest Service National Aviation Management Plan is to describe National Fire and Aviation Management (FAM) leaders' intent, authority, roles and responsibilities, programs, activities and to provide strategic and operational direction and operational guidance to each organizational level. Individual Regions and Units may supplement this plan when needed. This plan is supplemental to policy and does not replace the Forest Service [Manual 5700](#) and [Handbook 5709.16](#).

### Regional Supplement:

#### 1.1 Purpose

The purpose of the plan is to identify regional aviation management goals, objectives, programs and activities, and to provide strategic and operational guidance to each organizational level as appropriate. The Forest Service must endeavor to place the safety of employees above all else and ensure our workplaces are free of recognized hazards. The Forest Service goal is to develop a culture that achieves and maintains a zero accident rate. Prior to conducting any work projects, all risks should be mitigated to the lowest acceptable level possible. Incorporating [Safety Management Systems \(SMS\)](#) with a strong Quality Assurance (QA) component will improve the business model for safety, efficiency, and effectiveness.

#### OBJECTIVES

1. To provide an expansion for local guidance, but not a replacement for aviation management directives.
2. To describe regional aviation management programs and activities.
3. To provide strategic direction for aviation activities.
4. To minimize human exposure to hazards through implementation of effective risk management techniques.
5. To eliminate loss of life, suffering from injury or permanent impairment, and the anguish and suffering of family and friends.
6. To eliminate the costs associated with mishaps.

Forest Supplement:  
Reserved

## 1.2 Mission Statement

Aviation Management in FAM supports agency resource management programs through a proactive and professional aviation program that:

- Develops and coordinates efficient aviation policy and management processes.
- Provides guidance for aviation programmatic and operational risk management.
- Leads aviation safety assurance and promotion programs.
- Provides support for aircraft acquisition as specified by Forest Service management objectives.
- Develops and promotes a skilled aviation management workforce.
- Supports a systems-wide approach to safety and management considering all functional areas and scales regarding fleet, service provider and cooperative aircraft, program and personnel.

### Regional Supplement:

Reserved

### Forest Supplement:

Reserved

## 1.3 Leaders' Intent

The Forest Service's aviation program goal is to provide the aviation tools that safely and efficiently accomplish missions related to the task of managing national forests. Aircraft are high impact tools that are expensive and unforgiving without operational oversight and active management. The proper utilization of aircraft in support of resource management and protection programs serve as a force multiplier when dealing with issues of time, remoteness, terrain, large areas and distances. Aviation management is about balancing mission goals with the environment, budget and safety of the involved personnel.

### Safety

- Safety must be a core value of our culture, ingrained in the character of every employee.
- Provide a safe and healthful environment for all our employees, volunteers, and partners.
- Risk management as part of SMS will be inherent in all aviation missions.
- All aviation personnel are empowered and expected to manage the risks of aviation operations and make reasonable and prudent decisions to accomplish the mission. Take every opportunity to plan your missions thoroughly, err on the side of conservatism and respect your aircraft and the environment in which you operate.
- Individuals will be held accountable for their decisions, which should be based on policy, principles, risk management, training, experience, and the given situation.

- Employees are empowered to report hazards, safety issues and concerns, as well as near misses, incidents and accidents without fear of reprisal.
- The agency is committed to ensuring our workplaces are free of recognized hazards and, prior to conducting any work project, all risks are mitigated to the lowest acceptable level possible.

#### Professionalism

- Personnel performing aviation functions must meet all qualification requirements of the Forest Service Manuals, Handbooks, and Guides.

#### Performance

- Personnel perform aviation functions in a safe manner, adhering to policy and procedures, avoiding shortcuts and reporting potential hazards, safety issues, near misses, incidents and accidents.

#### Diversity

- Individual development, employee wellness, and workforce diversity will be emphasized at all levels of the Forest Service aviation program.

#### Innovation

- With a commitment to aviation safety and efficiency, managers at all levels are responsible for enhancing the aviation program.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 1.4 Aviation Doctrine

Change management process starts with a clear value-based doctrine for what the agency should be. These doctrinal principles form the business model and drive the QA program implementation. Reference Quality Assurance Program Plan for Aviation Management, October 2010.

- **PRINCIPLE 1: "Create a constancy of purpose"** Replace short-term reaction with long-term planning. This applies to action plans that make adjustments for weaknesses and deficiencies.
- **PRINCIPLE 2: "Adopt a new philosophy"** Meaningful change can only take place from within the organization. Change focus from operations output to quality service.

- **PRINCIPLE 3: "Cease dependence on inspection to achieve quality".** Quality does not come from inspection alone. If quality is designed into the process and standards are fully implemented then variation is reduced and there is less need to inspect operations for defects because there won't be any.
- **PRINCIPLE 4: "Do not award business based on cost alone"** Move towards a fewer suppliers for any one service. Multiple suppliers mean greater potential for variation between service providers. Actions should be focused on the detection of variations between vendor standards and validates the need to move to fewer vendors.
- **PRINCIPLE 5: "Improve constantly the system of production and service"** Each new action must constantly strive to reduce variation and introduce mitigations that reduce mishaps and improve effectiveness.
- **PRINCIPLE 6: "Institute a program of education and self-improvement"** Personnel need a thorough grounding in the principles, tools and techniques of Safety Management Systems. People must learn new ways of working together as teams and new behaviors that support the new management philosophy.
- **PRINCIPLE 7: "Break barriers among staff areas"** There is an 'internal customer' that should be considered. Management processes, antiquated policies, budget allocations and hiring restrictions may be barriers to success. Act to correct such inefficiencies.
- **PRINCIPLE 8: "Take action to accomplish the transformation"** Everyone in the organization must work together to create change management.
- **Principle 9: Adopt and Institute Leadership.** Leadership means designing the system around high standards, building a quality culture, and modeling behavior that exemplifies the values to support such culture.

### 1.5 National Aircraft Management Strategy

Aviation resources are one of a number of tools available to accomplish land management objectives. The use of aviation resources has value only if it serves to accomplish these objectives. In order to maximize effectiveness and efficiency, aviation resources must be centrally controlled, and aviation operations must be locally executed.

Aviation use must be determined based on strategic management objectives, identified hazards and risk mitigation and the probability of a successful outcome. The risk management process must consider the risks to the aircrew, ground resources, and the public versus the risk exposure of not performing the mission.

The agency aviation program goals are:

1. The Aviation program has the right people, in the right places with the budget and staffing commensurate with the work to be done.

2. Aviation leadership is skilled in aviation program management, articulates leader's intent, inspires the workforce, and appropriately manages the program.
3. The Aviation program is clearly defined for the Washington Office HQ and at the Boise detached unit at NIFC.

More information regarding aviation program goals can be found at:  
[http://www.fs.fed.us/fire/aviation/av\\_library/AVIATION%20PROGRAM%20STRATEGY%20SUMMARY%20112009.pdf](http://www.fs.fed.us/fire/aviation/av_library/AVIATION%20PROGRAM%20STRATEGY%20SUMMARY%20112009.pdf)

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**1.6 Authority**

This plan fulfills the requirements outlined in [FSM 5700](#). This plan sets the standard that will be aviation policy in 2011 and has been developed to provide standardization and policy for aviation programs. While this document is Forest Service specific, it does incorporate interagency standards.

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**1.7 General Policy**

The policy of the Forest Service requires employees to follow the direction in aviation manuals, handbooks, and the aviation guides as listed in this chapter, under [FS Manual section 5706](#).

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

## 2.0 Aviation Management Organization

### 2.1 Organization

The Washington Office (WO) Fire and Aviation Management (FAM) is located at the United States Forest Service (USFS) National Headquarters in Washington D.C. and has a detached unit at the National Interagency Fire Center (NIFC) in Boise, ID.

The Forest Service has nine Regional Offices and the North East Area located throughout the United States.

Region 1: Missoula, MT

Region 2: Golden, CO

Region 3: Albuquerque, NM

Region 4: Ogden, UT

Region 5: Vallejo, CA

Region 6: Portland, OR

Region 8: Atlanta, GA

Region 9: Milwaukee, WI

Region 10: Juneau, AK

Northeast Area: Newtown Square, PA

There are five (5) Research Stations, one (1) Institute and one (1) Laboratory.

Pacific Northwest Research Station: Portland, OR

Pacific Southwest Research Station: Berkeley, CA

Rock Mountain Research Station: Ft. Collins, CO

Northern Research Station: Newtown Square, PA

Southern Research Station: Ashville, NC

International Institute of Tropical Forestry: San Juan, PR

Forest Products Laboratory: Madison WI

Each region/area/station/ has several forests/ units located within their geographical location or area of responsibility.

### 2.2 Washington Office (WO) Headquarters Staff:

#### *Washington D.C. Staff*

#### **Director, Fire and Aviation (FAM)**

The Director, FAM, is responsible to the Deputy Chief for State and Private Forestry. The Director (FAM) responsibilities are located in the [FSM 5704.2](#), [FSM 5720.43](#), and [FSH 5709.19, Chapter 10](#).

#### **Deputy Director, FAM Operations**

The Deputy Director, Operations, is responsible to the Director of FAM. The Deputy Director, Operations responsibilities are located in the [FSM 5704.21](#) and the [FSH 570916, Chapter 50](#).

### **Assistant Director, Aviation**

The Assistant Director, Aviation, is responsible to the Deputy Director FAM Operations. The Assistant Director, Aviation is located in the [FSM 5704.21](#). The Assistant Director, Aviation provides national program direction, leadership, and management of the FS aviation program, including coordination of aviation activities with other staffs, agencies and groups, with an emphasis on Aviation Planning, Budget, Policy, Operations, Aircraft Airworthiness and Quality Assurance. The Assistant Director, Aviation supervises:

- Branch Chief, Aviation Operations (National Aviation Operations Officer) - Boise
- Branch Chief, Airworthiness (National Airworthy and Logistics Officer) – Boise
- Quality Assurance Group – Boise
- Four Aviation Management Specialists (AMS) - HQ
- Aviation Technology Specialist - Missoula

### **Aviation Management Specialists (AMS) – 4**

The AMS are responsible to the Assistant Director, Aviation for providing management oversight in developing, recommending and implementing aviation objectives supported by the National Office.

### **Aviation Technology Specialist**

Aviation Technology Specialist is responsible to the Assistant Director, Aviation.

The Aviation Technology Specialist:

- Provides management oversight in developing and recommending aviation technology objectives, plans, and policies for the full range of aviation programs in support of National Forest System resource management.
- Serves as a focal point with internal and external users, Technical & Development Centers, and interagency partners.

### **Boise Aviation Staff**

NIFC detached unit functions at the Forest Service National Headquarters Office

### **Quality Assurance Group**

#### **National Fixed-Wing Standardization**

The National Fixed-Wing Standardization responsibilities are in the [FSH 5709.16, Chapter 20, 20.42](#).

#### **National Helicopter Standardization**

The National Helicopter Standardization responsibilities are in the [FSH 5709.16, Chapter 20, 20.44](#).

### **Aviation Safety Inspector - Airworthiness**

- Assists with helicopter and fixed wing contract specifications, evaluations and approvals.
- Analysis of aircraft maintenance related [SAFECOMs](#).

- Part of the Forest Service quality assurance team that provides oversight of Forest Service fleet, contracted and cooperator aircraft.

**Branch Chief, Airworthiness (National Aviation Maintenance and Logistics Officer)**

The Branch Chief is accountable to the Assistant Director, Aviation. The Branch Chief supervises an Aeronautical/ Aerospace Engineer and Aviation Maintenance Inspectors (Airworthiness). The responsibilities of the Branch Chief are in the [FSM 5704.23](#).

**Aeronautical/ Aerospace Engineer**

The Aeronautical/Aerospace Engineer is responsible to the Branch Chief Airworthiness. The Aeronautical/ Aerospace Engineer Provides oversight of Forest Service owned Temporary Certified Data Sheets (TCDS) & Supplemental Type Certificates (STC), the Forest Service Operational Loads Monitoring (OLM) program.

The Aeronautical/ Aerospace Engineer:

- Assists in the evaluation of proposed new equipment and aircraft modifications.
- Member of the Forest Service Airworthiness Working Group and/ or the Interagency Airworthiness Practices Board.
- Interfaces with engineering representatives from aircraft and equipment manufacturers.
- Makes up a part of the airworthiness approval process for UASs utilized by the Forest Service.

**Aviation Safety Inspectors – Airworthiness (2)**

The Aviation Safety Inspectors - Airworthiness are responsible to the Branch Chief, Airworthiness.

The Aviation Safety Inspectors - Airworthiness:

- Provide oversight for delegated National / Regional program areas
- Perform National and Regional Aviation program quality assurance, inspections and evaluations to support US Forest Service
- Establish work programs for inspection, monitoring, audits and surveillance.
- Evaluates compliance with US Forest Service policy and Federal Aviation Regulations (14 CFR) with respect to airworthiness, maintenance, preventive maintenance, and alteration programs.
- Provides expert technical representation on agency and interagency working groups.
- Prepares and reviews technical specifications for aircraft, aircraft equipment / modifications, maintenance and inspection requirements

### **Aviation Safety Inspectors – Avionics (2)**

The Aviation Safety Inspectors - Avionics are responsible to the Branch Chief, Airworthiness.

The Aviation Safety Inspectors - Avionics:

- Performs National and Regional aviation avionics program management, including planning, organizing, implementing and controlling the aviation avionics program.
- Accomplishes equipment, aircraft and operator inspections and evaluation to support the US Forest Service.
- Evaluates compliance with US Forest Service policy and Federal Aviation Regulations (14 CFR) with respect to avionics, avionics maintenance, avionics installations and alteration programs.
- Inspects the avionics of multi-engine piston, or twin-engine turboprop aircraft as well as various fixed and rotor wing aircraft owned, contracted by and cooperated with by the US Forest Service.
- Prepares and reviews technical specifications for avionics and inspection requirements, contract rewrite evaluations (Subject Matter Expert) and contract pre-award evaluation.
- Submits findings and recommendations to the National and or Regional office which result from surveillance and inspections of aircraft.

### **Branch Chief, Aviation Operations (National Aviation Operations Officer)**

The Branch Chief is responsible to the Assistant Director, Aviation provides oversight, coordination, and direction of aviation operations coordinated and conducted by National Office. The Branch Chief supervises the National Helicopter Operations Specialist, National Helicopter Program Manager, National Aerial Attack Specialist, National Airtanker Program Manager, 2 Aviation Management Specialists and 1 National Helicopter Inspector Pilot. The Branch Chief also supervises 2 National Helicopter Inspector Pilots located virtually. The Branch Chief's responsibilities are located in the [FSM 5704.22](#) and [FSH 5709.16, Chapter 10, 10.41c](#).

### **National Helicopter Inspector Pilots (NHIP) – 4**

The Helicopter Inspector Pilots are responsible to the Branch Chief Aviation Operations.

The National Helicopter Inspector Pilots:

- Provides leadership and oversight for the development and implementation of a national helicopter pilot and training program.
- Establishes the content and methodology of the national aircraft pilot training program for meeting the national goals and objectives of a safe, effective, and standardized aviation program.
- Identifies and approves qualified airplane pilot instructor, check, and inspector pilots.

- Maintains current listings, including all mission and aircraft authorizations, of all qualified instructor, check, and inspector pilots.

Two NHIPs are stationed in Boise, 2 virtual TBD.

#### **National Helicopter Program Manager**

National Helicopter Program Manager is responsible to the Branch Chief, Aviation Operations and provides oversight, coordination, and direction of the national helicopter program.

The National Helicopter Program Manager:

- Serves as principal helicopter program advisor to National Contracting, Fire and Aviation HQs staff and the Regions in the development and implementation of policies, programs and standard practices for helicopter programs and specialized projects.
- Responsible for performing contract helicopter inspections and pilot approvals.

#### **National Aerial Supervision Specialist**

The National Aerial Supervision Specialist is responsible to the Branch Chief, Aviation Operations and provides national program leadership, coordination, and interagency cooperation in aerial supervision and the smokejumper program. The National Aerial Supervision Specialist responsibilities are located in the Interagency Aerial Supervision Guide, Section, 2) Air Attack Group Supervisor, (a) ii.

#### **National Airtanker Program Manager**

The National Airtanker Program Manager is responsible to the Branch Chief, Aviation Operations and provides national airtanker program leadership, coordination, oversight and interagency cooperation.

#### **Aviation Management Specialist**

The AMS is responsible to the Branch Chief, Aviation Operations for providing management oversight in developing, recommending and implementing aviation objectives, plans, and policies for the full range of aviation programs supported by the National Office.

#### **National Helicopter Operations Specialist (NHOS)**

The NHOS is responsible to the Branch Chief, Aviation Operations for the oversight, coordination, and direction of helicopter operations activities conducted by the National Office. The NHOS supervises the Helicopter Efficiency Coordinator.

The NHOS:

- Provides primary technical oversight and support for WO contracted helicopters, including the responsibility for contract pilot approval, either in person or through regional/interagency pilot inspector designees.
- Contact and coordination point for industry groups and cooperating agencies regarding contract helicopter approvals and operations.
- Providing oversight and assistance to regional helicopter program managers.
- Provide National oversight and continuing evaluation of the aviation program executed to accomplish National, Regional, Forest, and District level aviation objectives.
- Provides oversight of the national helicopter program.

#### **National Helicopter Efficiency Coordinator (NHEC)**

The NHEC is responsible to the NHOS for the coordination, and direction of helicopter activities conducted by the National Office in coordination with the National Interagency Coordination Center.

The NHEC:

- Provides oversight and continuous coordination of the national helicopter program executed to accomplish National, Regional, Forest, and District level aviation objectives.
- Provides technical oversight and Contracting Officer Technical Representation (COTR) support for nationally contracted helicopters.

#### **National Rappel Specialist (NRS)**

The NRS is responsible to the NHOS for the oversight in developing, recommending and implementing rappel objectives, plans, and policies for the national rappel program.

The NRS:

- Provides oversight and continuous coordination of the national rappel program executed to accomplish National, Regional, Forest, and District level aviation objectives.
- Assures quality, integration and coordination among the rappel program to ensure that the program and materials reflect aviation management policy direction, objectives, and regulations.
- Provides standardization needs and coordinates with cooperating agencies to meet these needs through the design and development of comprehensive aviation operating standards and practices, and training curricula and courses.

#### **Assistant Director, Risk Management**

The Assistant Director, Risk Management, is responsible to the Deputy Director, FAM Operations. The Assistant Director, Risk Management supervises one Branch Chief, Aviation Safety Management Systems.

### **Branch Chief, Aviation Safety Management Systems**

The Branch Chief, Aviation Safety Management Systems, is responsible to the Assistant Director, Risk Management. The Branch Chief, Aviation Safety Management **Systems** has collateral duties for oversight of aviation safety and Aviation Training.

This position has the operational responsibility for development, implementation, and monitoring of the Aviation [Safety Management Systems](#), including oversight of the following key SMS components:

- Policy, including managing and coordinating implementation of the National Aviation Safety Management Guide.
- Risk management.
- Safety Assurance.
- Safety Promotion, including training programs.
- Reporting accidents and incidents to the Director, Fire and Aviation Management Staff, Washington Office and to Forest Service and Department Safety and Health officials.
- Determining the classification of mishaps as accidents, incidents with potential or incidents
- Management and oversight of Aviation Safety Systems including;
- National Aviation Safety Center, System Safety Enterprise Team, National Aviation Safety Council, [SAFECOM](#) reporting system; aviation safety training and education.
- Maintains a process for data collection and analysis; and evaluation of aviation risk management and operational safety.
- Establishes safety criteria and standards for National aviation contracts.
- Coordinates with the National Aviation Officer, Logistics to assure aircraft airworthiness standards and aircraft selection in Agency and service provider aircraft types and provides guidance for final fleet composition.
- Provides program oversight and direction for aviation education and training, including interagency aviation training (IAT), System Safety Leadership for Agency Managers (SSLAM) and Lessons Learned.

### **Aviation Training and Risk Management Officer**

The Aviation Training and Risk Management Officer are responsible to the Branch Chief, Aviation Safety Management Systems. Provides program leadership, develops policy, and provides oversight and coordination of service-wide aviation training and standardization programs for manager, user and pilot groups.

The Aviation Training and Risk management Officer is:

- Responsible for evaluating the Forest Service multi-resource aviation management training
- Standardization needs and coordinates with cooperating agencies to meet these needs through the design and development of comprehensive aviation operating standards and practices, and training curricula and courses.

- Assures quality, integration and coordination among these programs to ensure that the programs and materials reflect aviation management policy direction, objectives, and regulations.
- Monitors interagency aviation training programs to ensure current training developments, technical accuracy and current Forest Service procedures are reflected.
- Evaluates effectiveness of technology transfer and adjusts training material/content to incorporate state-of-the-art technology into the needs and objectives of all related activities.

#### **National Aviation Safety Specialist**

The National Aviation Safety Specialist is responsible to the Branch Chief, Aviation Safety Management Systems. The National Aviation Safety Specialist is responsible for service-wide programs involving the development and implementation of plans and programs in aviation safety and standardization for aviation safety programs.

The National Aviation Safety Specialist:

- Provides program coordination and management in the application of service-wide aviation safety policy and programs.
- Collects and manages data maintained in the national statistical data bases for aviation operations and safety programs for the purpose of providing managers with statistical information for the accomplishment of national aviation safety accident and incident prevention requirements.
- Analyzes and evaluates the data to determine the effectiveness and efficiencies of program operations in meeting established goals and objectives.
- Provides aviation managers with statistical reports and technical advice and recommendations based on the evaluation and analysis of the outputs generated from the data.
- Supports risk management processes and produces an annual report that contains aviation statistical data on use, flight hours, departures, accident rates, SAFECOM incident report analysis, and a brief summary of incidents and accidents.

#### **Forest Health Protection National Aviation Safety Manager**

Designated by the Director of Forest Health Protection, State and Private Forestry, Washington Office, the Forest Health Protection National Aviation Safety Manager (FHP NASM) is responsible for coordinating safety matters for Agency and cooperators conducting FHP aviation activities such as aerial reconnaissance, aerial application and aerial photography.

The FHP NASM:

- Provides a national focal point for forest health aviation, a conduit between National leadership and Regional FHP aviation, works closely with National and Regional Fire and Aviation staffs and also with various state and other federal partners.
- Provides application of the principles of SMS in order to provide risk management oversight, monitor aviation trends, coordinate and provide training as a qualified Interagency Aviation Training (IAT) Instructor, ensure compliance with aviation policies and procedures, participate in safety evaluations, coordinate with safety managers and unit aviation officers for the purpose of accident prevention.
- The FHP NASM is the permanent chair of the Aerial Survey Working Group, a member of the Aerial Applications Safety Council, the National Aviation Safety Council, the IAT Steering Committee, and participates within a variety of other forest health and aviation-related councils and committees.

### **2.3 The Regional Office (RO) Staff**

Regional level aviation organizations vary based on workload and overall organization. The Regional Aviation Officer and Regional Aviation System Safety Manager are the two consistent positions.

#### **Regional Forester**

Regional Forester responsibilities are located in [FSM 5704.3](#).

#### **Regional Aviation Officer (RAO)**

The RAO is responsible for the oversight, coordination, and direction of aviation operations activities conducted by the Regional Office. The RAO responsibilities are located in the [FSM 5704.3](#), [FSH 5709.16](#), [Chapter 10, 10.42b](#) and [FSH 5720.48b](#).

#### **Regional Aviation Safety Managers (RASM)**

The RASM reports to the Director or the Deputy Director and are responsible for implementation, fostering and promoting SMS, including Policy, Risk Management, Assurance and Promotion. Their responsibilities are located in the [FSM 5720.48d](#).

#### **Regional Aviation Safety Inspector, Airworthiness / Regional Aviation Maintenance Program Manager**

The ASI, Airworthiness is responsible for the maintenance and airworthiness program conducted by the Regional Office. The ASI responsibilities are located in the [FSH 5709.16](#), [Chapter 40, 40.44, 40.45](#) and in the FS Aircraft Inspection Guide (AIG).

#### **Regional Aviation Safety Inspectors – Avionics**

The ASI, Avionics, performs National and Regional aviation avionics program management, including planning, organizing, implementing and controlling the aviation avionics program. The ASI accomplishes equipment, aircraft and operator inspections and evaluation to support the National and Regional US Forest Service.

**Regional Supplement:**

**Regional Aviation Officer (RAO)**

Responsible for leadership, management, and direction of the aviation program, including coordination of aviation activities with other staffs, agencies, groups, and forests.

**Regional Aviation Safety Managers (RASM)**

Develop and implement a comprehensive aviation safety program. This includes policy development, safety awareness and mishap prevention, risk and trend analysis, mishap reporting and investigation.

**Aircraft Maintenance Technician**

Responsible for providing aircraft maintenance and support for WCF aircraft. Assists the ASI with Forest Service and contract aircraft inspections.

**Supervisory Pilot**

Responsible for the supervision of regional agency pilots by mission specialty, i.e. smokejumper, ASM/Leadplane, helicopter, infrared, resource reconnaissance, and photography.

**Fixed Wing Operations Specialist**

Responsible for leadership, coordination and direction of the regional fixed-wing program. Leads and coordinates development of recommended policies, standards and operational procedures. Organizes the regional fixed wing contract light aircraft inspection and pilot approval program. Provides technical support for the Regional Aviation Contracting Officer, Regional Aviation Safety Manager, the Regional Aviation Officer, and Forest Aviation Officers.

**Helicopter Operations Specialist**

Responsible for leadership, coordination, and direction of the helicopter program. Provides technical assistance to National/ Regional Aviation Contracting Officer, Regional Aviation Safety Manager, Regional Aviation Officer and Forest Aviation Officers. Leads and coordinates development of recommended policies, standards and operational procedures. Coordinates training in helicopter management. Provides technical support for specialized programs such as rappel, aerial ignition, helitack, and aerial delivery systems.

**Helicopter Inspector Pilot (HIP)**

Performs contract helicopter inspections and pilot approvals. Assist the Helicopter Operations Specialist in the helicopter program management and oversight.

**Pilots**

Responsible for safe, efficient, and cost effective use of FS owned or leased aircraft (FSM 5704.7 and 5712.31). Pilots assist in performing contract inspections and pilot approvals. Only properly certified and qualified pilots, as designated by the Regional Aviation Officer and/or National Fixed Wing or Helicopter Standardization pilots will be responsible for flight training and management of the Regional standardization and evaluation programs.

**Air Tactical Group Supervisor (ATGS) Coordinator**

Responsible for coordinating training and disseminating information in support of the ATGS program.

**GACC Logistics/Aircraft Coordinator**

Responsible for regional aircraft coordination, primarily the scheduling and tracking of regional aviation assets while striving for a safe and cost effective utilization of those aviation resources. Responsible for the area coordination of smokejumper aircraft, lead planes, airplanes, helicopters, and airtankers. Processes resource orders for aircraft received from within the geographic area and from NICC. Serves as the primary contact for aviation dispatch related questions. Coordinates Temporary Flight Restrictions (TFR) and Notices to Airmen (NOTAM) with the Federal Aviation Administration (FAA).

**National/Regional Aviation Contracting Officer**

Coordinates development, issuance, and administration of aviation contracts. Functions as the Administrative Contracting Officer (ACO) for national aviation contract resources within the region. Develop, issue, and administer aviation contracts and rental agreements, with Regional/Forest aviation personnel serving as technical experts, contracting officer's representatives and inspectors.

**2.4 Forest Staff****Line Officer**

Line Officer responsibilities are located in the [FSM 5720.48a](#).

**Forest Aviation Officer/Unit Aviation Officer (FAO/UAO)**

The FAO/UAO manages the forest aviation program by providing technical and management direction of aviation resources to support Forest programs. The FAO/UAO shall meet the Aviation Manager qualifications in [IAT Guide](#). The FAO/UAO responsibilities are located in the [\(FSM 5704.61\)](#). Some Forests employ "service-first" positions to fulfill the FAO/UAO responsibilities. On those units, the position is referred to as a UAO.

**All Employees**

All employees involved in aviation activities are responsible for acquiring, knowing and following aviation policy and regulations ([FSM 5704.09](#), [FSM 5720.46](#)).

**Employees:**

- Shall fly only in government approved aircraft flown by an approved pilot, [FSM 5704.9](#).
- Have the responsibility to immediately report to the appropriate official any instances of unsafe equipment or aviation operations. [FSM 5723.1](#) and [5720.46](#)
- Must use the appropriate personal protective and life support equipment.
- Must report potential and actual problems, incidents, and accidents using the [SAFECOM](#) reporting system.
- Maintain currency in required aviation training.
- Ensure their safety as well as that of other personnel.

Forest Supplement:

Reserved

## 2.5 Additional Aviation Positions

RESERVED

Forest Supplement:

Reserved

## 2.6 National Groups/Committees

### National Aviation Team (NAT)

The NAT comprises of the all the Washington Office aviation staff (Policy/Budget/ Operations/Airworthiness/ Quality Assurance, and Aviation Risk Management).

### NAT Branch Chiefs

The NAT Branch Chiefs comprise of all the Branch Chiefs in each aviation functional area.

### Interagency Committee on Aviation Policy (ICAP)

This committee is chaired by the General Services Administration (GSA) and includes all federal agencies that own or hire aircraft. GSA established the committee at the direction of the President's Office of Management and Budget (OMB). GSA publishes regulatory policy for aircraft management in [41 Code of Federal Regulations \(CFR\) 102-33](#), "Management of Government Aircraft," and [41 CFR 300-3; 301-10; and 301-70](#), "Travel on Government Aircraft."

[OMB Circular A-126](#), "Improving the Management and Use of Government Aircraft, provides the basic guidance for management of federal aviation programs and for travel on government aircraft.

### National Interagency Aviation Council (NIAC)

Provide efficiencies and enhancements in interagency aviation programs, safety and operations.

Steering Committee chartered under NIAC:

- Interagency Airtanker Board (IAB)
- Interagency Airspace (IASC)
- [Interagency Aviation Training \(IAT\)](#)
- Smokejumper Screening and Evaluation Board (SASEB)
- Interagency Single Engine Airtanker Steering Committee
  
- Interagency Airtanker Base Operations (IABO)
  - Interagency Base Operating Guide
  - Airtanker Base Directory Working Group
- Interagency Aerial Supervision Steering Committee

- Automated Flight Following (AFF) Steering Committee
- Interagency Helicopter Operations (IHOps) Steering Committee
- IHOps Working Groups
  - Aerial Ignition
  - Aerial Capture, Eradication & Tagging of Animals
  - Rappel
  - Short Haul
  - Interagency Helicopter Operations Guide

### **2.7 Program Overview**

The Forest Service aviation program is comprised of national, regional and forest level personnel and aircraft.

From the national office, the Forest Service takes the lead in owning and contracting several aviation assets used by the interagency wildland firefighting community including Very Large Airtankers (VLATs), Large Airtankers (LATs), smokejumper aircraft (owned and leased), Type I and II helicopters (leased), Lead/Aerial Supervision Module (ASM) airplanes (owned and/or leased), and Infrared (IR) airplanes. These assets are acquired for the primary use of the Forest Service; however, they are available for use by other federal, state, and county partners as specified in agency policy and procedure.

Regions own and contract for several aviation assets including Forest Health Protection (FHP) airplanes (owned and leased), Type III helicopters (contracted), aerial supervision airplanes (owned and leased), and Single Engine Airtankers (SEATs).

The majority of Forest Service aviation use is for wildland fire detection, suppression and support. Other aviation uses include forest health protection and survey, wildlife survey, projects related to natural resource management, and administrative flights.

#### **Regional Supplement:**

Reserved

#### **Forest Supplement:**

Reserved

## 3.0 Administration

### 3.1 General

The administration section establishes management responsibilities, policies, and procedures for the administration of the aviation program in the Forest Service.

#### Regional Supplement:

Regional aviation resources include contract, rental, cooperator, and Forest Service (FS) owned or leased aircraft. The primary mission of these aircraft is wildland fire suppression. Mission support aircraft include airtankers, lead-planes, helicopters, smokejumper/paracargo, fire-detection, Infrared Surveillance, and passenger transportation aircraft. Other missions include, but are not limited to, support for various land management activities such as prescribed burns, forest health protection, aerial photography, law enforcement, and search/rescue operations.

Forest Supplement:

### 3.2 Reporting and Documentation Requirements

The Forest Service is responsible for providing for the following;

- Responses to Department of Agriculture Office of Inspector General (OIG) audits.
- Responses to Congressional inquiries.
- Meeting the requirement of the Federal Requirement for Federal Aviation for Interactive Reporting System (FAIRS).
- Approving and documenting senior executive travel in agency and agency-procured aircraft is required by OMB Circular A-126.
- Retaining contract management records for 6 and ½ years.
- Complying as applicable with existing records holds and freezes for all records.
- Responding to Freedom of Information Act (FOIA) s – All aviation records are subject to Freedom of Information Requests.

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 3.3 Aviation Plans

All Aviation Management Plans must be approved by the appropriate line officer ([FSM 5711.04](#)).

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

#### National Aviation Safety and Management Plan (NASMP)

The NASMP provides information regarding Forest Service aviation organization, responsibilities, administrative procedures and policy and is intended to serve as an umbrella document that Regional and Forest Aviation Plans tier from. The Director, FAM, will develop and maintain an Aviation Management Plan that is updated and supplemented ([FSM 5711.04](#)). The NASMP is approved by the Director of FAM annually.

#### National Aviation Safety and Mishap Prevention Plan

The Forest Service National Aviation Safety and Mishap Prevention Plan is incorporated into the National Aviation Management Plan ([FSM 5711](#)) and the Safety Management System (SMS) Guide.

#### Regional, Northeast Area or Station Aviation Management Plans (RAMP)

Each region, the Northeast Area (NA) and Stations shall publish a RAMP that implements national policy and describes protocols specific to each regional aviation program. The RAMP serves as an umbrella document for Forest Aviation Management Plans. The regional directors shall supplement and update annually the aviation management goals, objectives, programs and activities, and strategic direction at each organizational level ([FSM 5711.04b](#)). The RAMP is approved by Regional Foresters annually.

#### Regional, Northeast Area and Station Aviation Safety Plan

The RASM has the responsibility to prepare the Regional Aviation Safety Plan ([FSM 5720.48d](#)). The Regional, NA Station Aviation Safety Plan is approved by the Regional Forester annually.

#### Regional, Northeast Area and Station Homeland Security Advisory System (HSAS) Response Plan

Each Region, NA and Station must develop a HSAS Response Plan that details the security actions that each Region, NA and Station will implement, based upon the HSAS threat level.

The Regional, NA or Station HSAS Response Plan must be reviewed by the Fire and Aviation Management staff, HQ Washington Office (FSH 5109.16, Chapter 50, 52.1). The Regional, NA and Station HSAS Response Plan is approved by the Regional Forester.

**Regional, Northeast Area and Station Aviation Safety Plan**

The RASM has the responsibility to prepare the Regional Aviation Safety Plan (FSM 5720.48d). The Regional, NA Station Aviation Safety Plan is approved by the Regional Forester annually. Regional FHP unit aviation officers have the responsibility to draft FHP Aviation Safety Plans that either tier to the RAMP or appear as an appendix within.

**Regional, NA or Station Aviation Mishap Response Plan**

Regional Foresters and/or Area Director have responsibility to ensure that every Forest Service unit that utilizes aircraft develops, and annually updates, an aviation mishap response plan (FSM 5720.48a). The Regional, NA or Station Aviation Mishap Response Plan is approved by the Regional Forester.

**Forest Aviation Management Plans (FAMP)**

Forests are required to maintain and update unit aviation plans annually, which implement national and regional policy and establish local procedures and protocol. The Forest Service and Station Directors shall supplement and update annually the aviation management goals, objectives, programs and activities, and strategic direction at each organizational level (FSM 5711.04b). The FAMP is approved by the appropriate Forest Supervisor annually.

**Facility HSAS Response Plan**

Each aviation facility must develop a Facility HSAS Response Plan that is specific to that aviation facility and details the security actions the facility will take for each HSAS threat level. The Facility HSAS Response Plan must be reviewed by the FAM staff, Washington Office (FSH 5109.16, Chapter 50, 52.2). The Facilities HSAS Response Plan is approved by the appropriate Forest Supervisor annually.

**Forest Aviation Mishap Response Plan**

Forest Supervisors, district rangers, and other officials designated with line authority have responsibility to ensure that every Forest Service unit that utilizes aircraft develops, and annually updates, an aviation mishap response plan (FSM 5720.48a).

**Project Aviation Safety Plans (PASP)**

A PASP is submitted independent of a Forest, Northeast Area or Station Aviation Management Plan. For all non-emergency aviation projects, a PASP shall be developed and approved as required in the FSM 5711.04b and FSM 5711.1.

**Mission Use of Aircraft (Operational) Plans**

Mission Use of Aircraft (Operational) Plans shall be developed and updated annually to address recurring aircraft operations.

Specific Operational Plans will be developed for national, regional or local permanent and temporary:

- Airbase Operations
- Helitack/Rappel operations (Exclusive Use)
- Smokejumper operations
- Airtanker operations
  - Very Large Airtanker
  - Large Airtanker
  - Scoopers
  - Single Engine Airtankers (SEATs)
- Aerial Supervision
- Light Fixed Wing operations
- Law Enforcement & Investigation operations
- Forest Health Protection (FHP)

Elements of the plans shall at a minimum include: organization, identification of typical missions, mission risk assessment and mitigation, training program, administrative procedures. The agency must use a risk management based approach for every task, looking for the hazards that may interfere with the safe and successful completion of the task at hand.

**Regional Supplement:**

Project Aviation Safety Plans (PASP). Any agency activity involving aircraft or aviation resources becomes an aviation project (except end product contracts). Agency personnel must contact local aviation managers prior to conducting any aviation activity. Involvement of agency aviation personnel is necessary at the earliest possible planning stage. Employees will review applicable aviation and safety plans before conducting aviation projects. The Regional Aviation Officer or their designee will review special aviation project plans, which are outside the scope of those projects covered by the Unit Aviation Management Plan. **PASP's** must be approved by the Line Officer with jurisdiction or oversight for the project. Contact the RAO in determining this need. When appropriate, Aviation Project Plans submitted to the RAO shall be not less than 5 working days prior to the start of the project.

Comment [BG1]: removed

Comment [BG2]: added comment

**Forest Supplement:**

Reserved

### **3.4 Aircrew Orientation Briefing Package**

It is encouraged that each forest creates an Aircrew/Pilot Orientation Briefing Package. The Aircrew/Pilot Orientation Briefing Package serves as a source of information to provide visiting pilots, aircrews, and Incident Management Teams.

#### **Regional Supplement:**

Each forest will create an Aircrew/Pilot Orientation Briefing Package.

#### **Forest Supplement:**

Reserved

### **3.5 Land Use Policy for Aviation Activities**

The regulation of aviation activities on or over Forest Service managed lands is solely dependent on Land Management Plans (LMP) direction and any applicable FARs.

Temporary aviation operations on Forest Service lands maybe restricted due to LMP direction. FAOs should coordinate with resource managers to identify areas of restriction when developing Operating Plans, Forest Aviation Management Plans, and PASP. FAOs shall implement any invasive species control measures for aviation activities, and are also the focal point for coordinating the reporting of any fire chemical aerial application in or near waterways.

#### **Regional Supplement:**

Wilderness Areas. Helicopter use in wilderness areas must first be approved according to each specific Wilderness Plan. Longline operations require a risk assessment, including consideration of other delivery methods before use. Longline and rappel operations are classified as helicopter landings in some wilderness areas and require approval before use.

#### **Forest Supplement:**

Reserved

### **3.6 Budget**

Budgeting is completed on a three year cycle. Out year budget requests are submitted to Congress in the President's Budget in February, six months prior to the fiscal year for which they were submitted. It is then vetted separately through the Department of Agriculture and Office of Budget Management (OMB). Finally, it will then be aggregated with all other agency and program requests into the President's Proposed Budget. The current year budget is finalized after congress passes an Appropriations bill.

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

**3.7 Contracting**

Aircraft are acquired through two different types of contracts, either Exclusive-Use (Ex-Use) or Call-When-Needed (CWN).

Exclusive-use contracts are generally used when the agency has a definite aircraft need for a specific period of time. Ex-use aircraft are guaranteed a minimum amount of use through a Mandatory Available Period (MAP). Daily availability is usually cheaper with Ex-Use contracts since the vendor is guaranteed a minimum amount of work.

Call-When-Needed contracts are a way for the agency to have ready access to a pool of aviation assets that meet a minimum standard, usually used for non-recurring missions or during periods of surge activity often related to wildland fire suppression. The disadvantages are that the aircraft may not be available, the agency personnel and vendor personnel don't have the same opportunity for crew cohesion that an Ex-use crew has, and that daily availability rates are generally higher since the vendor has no guaranteed work.

**Regional Supplement:**

Contractors provide approximately 90% of all FS aviation services. Therefore, national standard contract specifications have been developed for the technical aspects of administering contractor-furnished aviation services. The standard contract specifications are minimum safety and performance requirements for mission-specific equipment and operations. The Contracting Officer (CO) is the legal authority for administration of the contract. Every employee using or managing contractor-furnished aviation services is required to immediately notify the CO when a contractor or a contractor's employee engages in unsafe acts or violates a requirement of the contract. The appropriate Regional Aviation Safety Office should also be notified and the occurrence documented on a SAFECOM.

The FS has adopted requirements and developed inspection procedures for FS aviation inspectors to verify and evaluate contractors and cooperator-provided flight crews, aircraft, and certain required equipment. The requirements, which are the foundation of the approval system, have evolved through operational experience and are the minimally acceptable criterion for providing an adequate standard of safety while conducting FS missions. The inspection procedures are intended to provide the pilot inspectors with a means of determining the flight crew's qualifications, level of proficiency, and application of mishap prevention

measures. In addition, the procedures also provide inspectors with a means of determining the condition of the aircraft, required equipment, and the level of compliance with an approved maintenance program. Each employee that uses or causes the use of contractors and cooperater-furnished aircraft is required to determine that the pilots and aircraft have been approved for the specific FS mission.

Forest Supplement:

Reserved

### **3.8 Aircraft Contract Start/ Modification/ Extension**

For Large Airtankers and Type I and II helicopters, contract start dates and MAP are a coordinated decision between the national office and Regions. For Type III helicopters, Regions determine all contract information. Light fixed-wing aircraft are contracted through the Regions. The MAP is the required time frame that an aircraft must be available for government use.

Regional Supplement:

Reserved

Forest Supplement:

Reserved

### **3.9 Contractor Performance**

All CWN and EXU contractor performance shall be documented on a daily diary and in a final evaluation. This information shall be provided to the CO. Future contact awards are based on past performance.

Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 3.10 End Product Contracts

An end-product contract is intended to efficiently and effectively accomplish certain projects with no internal operational controls from the Forest Service. Certain aviation operations, such as aerial application of herbicides and insecticides, seed, fertilizer, prescribed burn projects, and some Burned Area Emergency Rehabilitation (BAER) projects may be administered in a more efficient and less expensive manner if contracted on an end-product basis, instead of through a Forest Service flight services contract. Refer to [FSM 5711.2](#) for more information on end-product contracts.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 3.11 Supplemental Fire Aircraft Acquisition

RESERVED

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 3.12 Cooperator Aircraft

Cooperative aircraft operations and partnerships are encouraged for the purpose of efficiency and standardization in procedure. The Regional Office and the states shall make a concerted effort to establish cooperative structures to increase capability and avoid duplication and conflicting procedures.

Use of state/local government, military, or other federal agency aircraft by Forest Service employees may require prior inspection and approval by Forest Service or AMD, usually in the form of a Cooperator Letter of Approval. Proposed use of these aircraft should be requested through the FAO to the RAO. Any employee wishing to ride on cooperator aircraft or work around a cooperator aircraft operation must consult their respective aviation manager.

Cooperator agreements for all aviation services provided to the Forest Service by other agencies and cooperators must specify levels of operational standards and safety comparable to those required of agency or contractor operations (FSM 5710.35).

When the Forest Service utilizes other governmental agency aircraft for non-fire missions, an agreement shall be created and at a minimum address:

- Payment
- Operational Control
- Aircraft Management
- Performance Planning
- Mission Profile
- Landing Zones (When Applicable)
- Agreement Expiration Date
- Public /Civil Aircraft Utilization Dispatch Work Sheet (Public Law 103-411) (When Applicable)

Fire Missions:

- Create a resource order

Non-Fire Missions:

- Completed cost analysis
- Complete Project Aviation Safety Plan (PASP)

Military and cooperator aircraft approval shall meet the requirements in the FSM 5713.43.

**Regional Supplement:**

Use of state/local government require prior inspection and approval by the RAO.

Forest Supplement:

Reserved

### **3.13 Aircraft Administrative Use and Reporting**

The USDA Property Management Regulation (PMR) 110-33 is the agency wide policy guidance for the use of Government aircraft to accomplish official business. In combination with the Office of Management and Budget Circular A-126 they restrict the operation of government aircraft to defined official purposes; restrict travel on such aircraft; require special review of such travel on government aircraft by senior officials or non-federal travelers under certain circumstances; and codifies policies for reimbursement for the use of government aircraft. The transportation of passengers or cargo on Forest Service aircraft shall be limited in accordance with these Regulations.

FSH 6509.33\_301 Federal Travel Regulation requires that all employees have a travel authorization for any official travel. Each instance of administrative use of a Forest Service aircraft to transport passengers must be justified, documented and approved and as such, will comply with the requirements contained in FSM 5711.3. All documents pertaining to these flights must be maintained on file for two years.

Special requirements exist for travel that is not to meet mission requirements or required use travel by the following individuals and must be authorized in advance and in writing:

- Senior Federal officials;
- Members of families of such senior Federal officials; and
- Non-Federal travelers.

Such authorizations must be approved and signed on a trip-by-trip basis by the Department's General Counsel or his or her principal deputy to insure compliance with Regulations.

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 3.14 Dispatching

#### General

All flights (other than scheduled commercial air carrier flights) will be arranged by qualified aviation dispatchers and/or appropriate aviation manager and approved at the appropriate management level.

#### Administrative Flight Requests

Prior to submitting an administrative flight request, a [Flight Request/Justification for Administrative Use of Aircraft \(Form FS 5700-10\)](#), [Travel Cost Comparison Worksheet \(Form FS 5700-11\)](#), and an [Aircraft Flight Request/Schedule](#) shall be completed.

#### Mission Flights Flight Requests

All flight requests for mission flights shall follow the [National Mob Guide, Chapter 20, 24.3](#).

#### Ordering

The aircraft ordering process can be found in the [National Mob Guide, Chapter 20, 24.1](#).

**Regional Supplement:**

Dispatching:

- A. Flight Following. Flight following shall be in accordance with *Regional and National Mobilization Guides*.
- B. Ordering Flights. Reference Chapter 20 of the National/Regional Mobilization Guides
- C. Flight Request (Administrative). Prior to submitting an "administrative" flight request, a completed "Flight Request/Justification for Administrative Use of Aircraft" (Form FS 5700-10) and "Travel Cost Comparison Worksheet" (Form FS 5700-11) shall be provided to the appropriate dispatch center (FSM 5711.3).
- D. Flight Plans. Reference FSH 5709.16.33 and Chapter 20 of the National/Regional Mobilization Guides.

Forest Supplement:

Reserved

**3.15 Flight Use Reporting**

**Forest Service Aviation Business System (ABS) and Aviation Management Information Systems) (AMIS)**

Flight time, daily availability, and other authorized charges or deductions shall be recorded on a Flight Use Report in [Aviation Business System \(ABS\)](#). The data shall be entered and reviewed by the Government and the Contractor's Representative.

Working Capital Fund (WCF) aircraft use is entered into the [Aviation Management Information System \(AMIS\)](#) until ABS can accept WCF use.

**Aviation Management Directorate (AMD) Aviation Management Systems (AMS)**

All Bureau of Land Management (BLM) fleet aircraft and Department of Interior (DOI) contracted aircraft will utilize the AMD Aviation Management System (AMS) web based flight reporting system. The AMS application will become available at <http://ams.nbc.gov>.

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**3.16 Coding and Funding of Contract, Fleet, Severity Aircraft Availability**

RESERVED

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**3.17 Working Capital Fund (WCF) (Fleet Aircraft)**

The purpose of the WCF is to provide a sustainable funding mechanism for the operation and replacement of agency owned aircraft that support fire suppression and non-fire aviation activities. WCF aircraft are subject to the same regulations regarding capitalization, decapitalization, and depreciation as other WCF non-expendable personal property.

The *Working Capital Fund Accounting Operations Handbook*, [FSH 6509.11f](#) provides greater detail on how to accomplish day-to-day management, operations, and tasks, and what the WCF Aircraft User Guide will provide more aircraft specific information. Additionally, for more information regarding WCF fleet aircraft, refer to FSM 5713.1.

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

### 3.18 Federal Excess Property Program (FEPP)

The FEPP program refers to Forest Service owned property that is on loan to State Foresters for the purpose of wildland and rural firefighting. Once acquired by the Forest Service, it is loaned to State and local cooperators for firefighting purposes. Approximately 70% of FEPP is sub-loaned to local fire departments. For policy guidance regarding FEPP, refer to FSH 3109.12 (aviation specific FSH 3109.14, Chapter 40), the FEPP Desk Guide, Chapter 40.

The RAO may:

- Review all State aviation operations plans for compliance with Forest Service and State excess property direction.
- Help establish minimum standards for pilot qualifications and maintenance for excess property aircraft.
- Coordinate and/or establish an approved source of parts for excess property aircraft, such as the DoD.
- Review State security risk assessments and mitigation plans.

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 3.19 Financial Business Management System (FMBS)

RESERVED

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 3.20 Program Reviews

RESERVED

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 3.21 New Program Requests

1. If there is a request for:
  - 1.1. New equipment e.g. aircraft, parachute, etc.
  - 1.2. New contract, agreement or contract change e.g. VLAT, Scoopers, etc.
  - 1.3. New process or changed process e.g. rappel standardization, RADS,
  - 1.4. Deviation from standards e.g. LEI exemption,
  - 1.5. New or changed policy e.g. policy revisions or updates
  - 1.6. New or changed procedure e.g. rappel procedures,
2. Proponent will develop a Concept Paper that describes:
  - 2.1. Background
  - 2.2. Position
  - 2.3. Estimated Costs
  - 2.4. Justification and Summary
  - 2.5. Key Points
3. Aviation Branch Chiefs- will review the Concept Paper.
  - 3.1. A Go/No Go decision will be made
  - 3.2. There may be a request for additional information before a Go/No Go is made
  - 3.3. GO decision will continue the concept
    - 3.3.1. Proponent will develop a complete proposal paper with supporting documentations.
4. Assistant Director, Aviation brief the Concept during a weekly Fire & Aviation Management AD calls.
  - 4.1. Provide copies to ADs prior to call
  - 4.2. Initiate brief discussion and decision.
    - 4.2.1. Decision to continue with the proposal and develop an analysis team or implement
    - 4.2.2. Decision to develop or gather more information and bring the proposal back to a later meeting for a GO/ NO GO decision.
    - 4.2.3. NO GO decision will end the proposal.

4.2.4. Notify the proponent of the decision

5. Identify and inform stakeholders

5.1. This process should continue throughout Steps 3 and 6.

6. Analysis Team Development

6.1. National Aviation Team (NAT) puts together the Analysis Team- includes Acquisition, Budget, Ops, Risk, QA, Airworthiness.

6.2. Inclusion of SMEs for Analysis

6.3. Stakeholders may include RAOs, RASMs, Airworthiness, HOSs, HIPs, RFDs, etc.

6.4. Acquisition Plan

6.5. Process Change Plan

6.6. Marketing/ Communication strategy

6.7. Official documentation

6.8. Risk Assessment (safety, business and financial)

6.9. Time lines

6.10. Approval Level

6.11. Recommendation(s)

7. National Aviation Team Review of Analysis Team Plan and Recommendation(s)

7.1. NAT reviews, makes changes and finalizes the plan

7.2. NAT briefs Director/ADs

7.3. Gain approval from stakeholders as necessary

7.4. Director/ ADs make a Go/ No-Go decision

7.5. No-Go decision ends the proposal

7.6. Go decision begins Implementation/ Action Plan process

7.7. Brief high-level stakeholders (RFs, DCs, etc)

8. Implementation/Action Plan

8.1. Acquisition Plan

8.2. Process change plan

8.3. Marketing /Communication strategy

8.4. Official document

8.5. Risk Assessment

8.6. Create timelines

8.7. Approval letter

8.8. Line Officer approval or Chief's Decision Memo if requested by policy (FSM 5704.1)



## 4.0 Aviation Safety Management Systems

### 4.1 General

Safety is the state in which the possibility of harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through continuing processes of hazard identification and risk management. *“It (safety) must be a core value of our culture, ingrained in the character of every employee. As an agency, we must endeavor to place the safety of our co-workers and ourselves above all else. This obligation requires integrity, trust, and leadership: the integrity of every employee to adhere to Agency standards, the trust in our leaders to place safety as the first priority, and leadership at all levels to provide a culture that encourages employees to communicate unsafe conditions, policies, or acts that could lead to accidents without fear of reprisal”* (Chief’s Safety Policy, August 27, 2009). This commitment to safety will be reflected as doctrine within aviation safety management. The adoption of Safety Management System (SMS) continues the application of Forest Service Doctrine. SMS is not a safety program; rather it is a system which aligns, assesses, and organizes an organization’s existing safety processes around the concept of system safety. SMS incorporates a proactive approach using hazard identification and risk management to achieve accident prevention.

Regional Supplement:

### SAFETY CULTURE

Safety culture is a term used to identify an overall approach to managing safety within an organization. Rather than being a set of rules or procedures, safety culture is an attitude or way of life that is practiced in all endeavors. An example of safety culture is the unprompted action of fastening your seat belt when entering any automobile, even a taxicab, when traveling. For organizations and individuals practicing a culture of safety, giving safety briefings and wearing a safety belt become second nature.

Safety awareness is a mental attitude and an individual commitment fostered by proper management and supervisory procedures. Forest Service management must be a partner in aviation safety to ensure that the standards and procedures established are understood and followed. It means that where operational decisions must be made, they are made prudently, with safety an integral part of mission accomplishment. This requires individuals to know how to do a job or mission properly, apply FS policies, approve operating procedures, and follow them consistently. With a safety awareness attitude and appropriate training, most aviation mishaps can be prevented.

Aviation safety cannot be legislated or mandated. It can only be successfully accomplished by fostering and inspiring an attitude in which aviation safety is the foremost priority. An undeviating and persistent commitment to professional conduct by everyone involved in the

aviation program is paramount to achieving mishap prevention and successful risk management.

All individuals involved in the aviation program play a role in the successful and safe outcome of aviation activities; however, management is responsible for achieving safety goals. This can only be accomplished through awareness and uncompromising support by management.

Forest Supplement:

Reserved

#### **4.2 Safety Management Systems (SMS)**

SMS offers a complimentary solution based on structuring the existing rules and continuous review of the efficacy of those rules. Thus, the system ensures that guidance and regulation meet the original intent and that they have no unforeseen adverse side effects. SMS can be considered as functioning like a filing system, which structures the organization's existing safety initiatives and provides a review process for how they well those initiatives function. SMS is divided into four components: Policy, Risk Management, Assurance, and Promotion.

Regional Supplement:

#### **SYSTEM SAFETY**

System Safety is the application of special technical and managerial skills in a systematic, forward-looking manner to identify and control hazards throughout the life cycle of a project, program, or activity. System Safety is a holistic approach to safety management

Forest Supplement:

Reserved

#### **4.3 Policy**

SMS is a critical element of management responsibility in determining the agency's safety policy and SMS also defines how the agency intends to manage safety as an organizational core function.

- Policy guides aviation safety doctrine, philosophy, principles and practices.
- Policy provides framework for aviation plans ([Refer to 3.3 Aviation Plans](#))
- Policy assists in the development of local standard operating procedures

- Policy will foster and promote doctrinal principles and safety management systems within the Regions

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**4.4 Risk Management**

To provide structure to control risk in operations a formal system of hazard identification and safety risk management is essential. The risk management process is designed to manage risk to acceptable levels by the identification, assessment, and prioritization of risks followed by coordinated application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events.

The agency:

- Will define a process for risk acceptance that defines acceptable and unacceptable levels of safety risk; establishes descriptions for severity levels, and likelihood levels.
- Will define specific levels of management that can make safety risk acceptance decisions.
- Will define acceptable risk for hazards that will exist in the short-term while safety risk control/mitigation plans are developed and executed.
- Will establish feedback loops between assurance functions to evaluate the effectiveness of safety risk controls.

There are necessary steps in the Risk Management Process.

- Define Objectives (i.e. Strategic program analysis, change management, accident action plan, other)
- System Descriptions: Identify each system-component that contributes to the mission.

Risk assessment is a step in the risk management process. Risk assessment is the determination of hazards associated with a situation or activity.

There are necessary steps in the risk assessment process:

- Hazard Identification: Brainstorm all possible failures, threats, and danger points.
- Assessment: Evaluate potential for injury, damage, fatality, etc. based upon severity and likelihood of an event occurring.
- Control: Determine mitigations needed, conduct risk/benefit analysis, develop an action plan.
- Implement Controls: Initiate designed controls.
- Evaluate Controls: Monitor controls and supervise operations to determine if controls are effective.

Risk assessment can be divided into three levels:

**Time Critical:** This method of risk assessment is an “on-the-run” mental or verbal review of the situation without necessarily recording the information.

**Deliberate:** This method is used with adequate planning time and may involve more than one system at its source. It involves a systems identification, hazard identification, risk assessment/analysis, consideration of control options and risk decision making, implementation of controls, and supervision. This will involve documentation of the process and actions.

**Strategic:** Strategic Risk Management is conducted at the highest levels of the organization and is typically applied to "systems of systems" type complexity, and requires more sophisticated techniques and professional reviews. This method should be used in instances where new technology, change, or institute of new programs or activities. It involves an additional phase in the objective of the risk assessment which includes a cost/benefit analysis of mitigations. The strategic process produces a more permanent record of findings and decisions used for long term planning, organizational decision-making and as authoritative training resources.

#### Regional Supplement:

#### RISK MANAGEMENT

- A. Risk management is a technique of applying order to an intuitive human decision-making process. The technique guides the decision of how to accomplish a task considering the hazards, exposure to those hazards, and the probability of a specific hazard contributing to a mishap.

$$\text{Risk} = \text{Hazards} \times \text{Exposure} \times \text{Probability}$$

1. Hazards. The causes of damage and injury. Human error is the most difficult hazard to predict and in the past has been the cause of 80% of all aviation mishaps.
  2. Exposure. The frequency of occurrence and the number of people or aircraft that may encounter a hazard.
  3. Probability. The likelihood that, considering the hazard and exposure, a mishap will occur. It is important to note that accomplishing similar missions without a mishap does not mean that you have a no-risk mission.
- B. The process of managing risk makes operations safer without compromising the mission accomplishment. The purpose of managing risk is to preserve human and material resources by identifying and preventing events that cause damage and injury to those resources. Three rules guide the risk management process.

1. Accept no unnecessary risk
  2. Make risk decisions at the proper level
  3. Accept risks only if benefits outweigh the potential safety costs
- C. Successful outcomes can be achieved by applying the following steps of risk management to each flight or aviation mission:
1. Identify Risks. Identify specific risks associated with all specified and implied tasks. Determine the hazards, exposures, and probabilities causing these risks.
  2. Assess Risks. Determine the magnitude of each risk.
  3. Make Decisions. Make risk acceptance decisions by balancing risk benefits against risk magnitude, and eliminate unnecessary risks. These decisions should include the appropriate level of FS management whenever possible. Sometimes the only appropriate decision is to cancel the mission. More often the benefits justify the mission, but only if the risk can be minimized by controls over how and who conducts the mission. This also helps to reduce the potential costs of a mishap to an acceptable level.
  4. Identify Controls. Appropriate controls may be in the areas of individual qualifications, training, performance of the aircraft, aircraft equipment, weather conditions, operating procedures, ground support equipment and people, personal protective equipment, communications and others. Appropriate controls reduce the magnitude of mission-essential risks through proper application of established and identified controls.
  5. Implement Controls. Integrate specific controls into aviation plans and mission performance. Knowledge and understanding of controls down through the organization to each individual involved in aviation use is essential to the successful and safe outcome of each mission. This means following established agency policies and procedures contained in FS documents. It means using trained personnel and following all contract specifications.
  6. Monitor Operations. Review mission performance, suitability of controls, adherence to controls, and mission progress. Take prompt and appropriate corrective actions.
- D. The moving force driving aviation safety and training efforts is: "Safety through Prevention". Risk management is a key component in successful mishap prevention.
- E. Identifying Hazards
1. Steps must be taken to detect and accurately identify those hazards that increase the risk in accomplishing FS aviation missions. Hazard identification is most

effectively approached as a team effort, as many hazards that exist in both ground and flight operations may not be readily detectable. Diverse perspectives are held by all individuals (pilots, mechanics, managers, crewpersons, etc.) associated with aviation operations.

2. Hazard identification is accomplished through a sequence of prescribed actions, which are similar, whether taken before or after a mishap. Actions taken prior to a mishap are “proactive” measures and are intended to prevent occurrence. Actions taken after a mishap are “reactive measures” and are intended to prevent recurrence. These actions may be termed hazard detection and hazard correction. Although both hazard detection and correction are integral components of our prevention efforts, the greatest benefit is gained through proactive prevention efforts. Therefore, our major effort should be to implement “proactive” measures for the purpose of preventing mishap occurrence.

Forest Supplement:

Reserved

#### **4.5 Assurance**

The safety assurance component involves processes for quality control, mishap investigation, and program reviews.

- Continuing Monitoring
- Standards for Evaluations
- Audits and Evaluations
- Investigations
- Reporting and Feedback

Quality Assurance (QA) techniques can be used to provide a structured process for achieving objectives. Forest Service efforts to date have concentrated on the development and implementation of comprehensive doctrine/policy revision, risk management processes, SMS promotion and training.

##### **4.5.1 Aviation Safety and Technical Assistance Team (ASTAT)**

The Forest Service provides representation on ASTAT to support aviation resources and personnel operating in the field during periods of increased aviation operations. The team’s purpose is to assist and review helicopter and/or fixed wing operations on ongoing wildland fires. An ASAT should be requested through the agency chain of command and operate under a delegation from the appropriate state/regional aviation manager or multi-agency coordinating group. Formal written reports will be provided to the appropriate manager.

An ASAT should consist of:

- Aviation Safety Manager

- Operations Specialist (helicopter and/or fixed wing)
- Pilot Inspector
- Maintenance Inspector (optional)
- Avionics Inspector (optional)

#### 4.5.2 Aviation Safety Communiqué - SAFECOM

[SAFECOM](#)s fulfill the Aviation Mishap Information System (AMIS) requirements for aviation mishap reporting for the Forest Service. The [SAFECOM](#) is to report any condition, observance, act, maintenance problem, or circumstance which has the potential to cause an aviation-related mishap ([FSM 5720.46](#)). 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. This form is located on the [SAFECOM](#) web page, [Interagency SAFECOM System](#). All personnel involved in aviation activities are encouraged to submit [SAFECOM](#)s, when they feel it is warranted.

#### 4.5.3 Aircraft Accident Investigation Process

In short, the [National Transportation Safety Board \(NTSB\)](#) has the responsibility to investigate all Forest Service aviation accidents. In addition, the Forest Service investigation team will conduct their investigation of Forest Service management and policy issues following the Accident Investigation Guide (Edition 2005) concurrent with the [NTSB](#) investigation. At completion of the accident investigation, a draft report will be reviewed by an Accident Review Board (ARB). The chair person forwards the Final Investigation Report, the Draft Accident Prevention Action Plan and transmittal letter to the Chief's office for approval.

#### 4.5.4 Project Aviation Safety Planning (PASP)

Accident prevention is paramount when planning individual aviation operations. Prior to commencing non-emergency operations involving the use of aircraft, the Regional Directors, Area Director, Forest Supervisors, and Station Directors shall develop and document a PASP that will be reviewed by the RAO ([FSM 5711.04b](#)).

#### Regional Supplement:

#### SAFETY ASSURANCE (Internal Evaluation Program)

Safety assurance is a means of determining compliance with safety standards and to detect unsafe conditions prior to experiencing a mishap involving possible loss of life, personal injury, or property damage.

- Formal evaluations are accomplished using a team of FS, interagency and/or industry aviation and management officials to conduct surveys, audits, and reviews. The evaluation team is responsible for providing the operational unit and its managing organization with a written report of its findings

and responsible for developing and implementing an action plan that addresses the findings and recommendations contained in the report. These evaluations should be conducted periodically at each established aviation base.

- B. Informal evaluations are conducted on a more frequent basis and are performed by aviation specialists during field assistance visits to Forests and Grasslands, aviation bases, incident bases, and projects. In all cases, follow-up includes all subsequent activity needed to see that corrective actions are taken.

**REPORTING AND FEEDBACK:**

Each individual and each organizational unit has an obligation to the aviation community to share mishap prevention information. A communication tool used to assist in this effort is the SAFECOM (FS Form 5700-14). Categories of reports include aircraft mishaps, aviation hazards, aircraft maintenance deficiencies, and airspace intrusions.

If a mishap involves damage or injury, notify the appropriate Regional Aviation Safety Manager immediately by the most expeditious means available. Do not fly on any aircraft with a maintenance deficiency or in an aircraft involved in an accident until the WO or RO Interagency Aviation Maintenance Inspector has returned the aircraft back to contract availability (for contracted aircraft) or airworthy status (for FS owned aircraft). If the aircraft has been involved in an incident, and there is any doubt as to its airworthiness, do not fly on the aircraft until consulting an Interagency Aircraft Maintenance Inspector.

Non-scheduled aircraft maintenance or repairs require that the appropriate Regional Aircraft Maintenance Inspector be notified before the aircraft is returned to contract availability. A SAFECOM is required to be submitted to the SAFECOM web site within 5-days of the return to service.

**A. Submission (Electronic):**

- 1. Access the FS Aviation Safety Web Site at:  
[http://www.fs.fed.us/fire/av\\_safety/index.html](http://www.fs.fed.us/fire/av_safety/index.html)
- 2. From the Home page click on the "SAFECOM" link.
- 3. From the SAFECOM page, click on "Submit SAFECOM" and complete the form. Once submitted, the SAFECOM will reside in the FS Aviation Mishap Database and the appropriate aviation safety managers will be notified by email that a SAFECOM has been submitted within the selected Region and Forest/Unit.

**B. Submission (Hard Copy):**

- 1. Fill out the SAFECOM form and provide a copy to the appropriate Forest/Unit Aviation Officer (FAO/UAO).
- 2. Upon receipt, the FAO/UAO will submit the SAFECOM electronically.

C. Processing:

Once a SAFECOM comes to the attention of the appropriate FAO/UAO, when necessary, corrective action(s) and comments should be documented on the form. It is incumbent on the FAO/UAO to quickly process SAFECOMs so that distribution and dissemination to aviation users and managers may be accomplished.

D. Dissemination:

Timely distribution of SAFECOMs is a key component in mishap prevention. SAFECOMs may be accessed and printed from the "Public Access" area of the database. FAO/UAOs and the appropriate RASM should be contacted if additional information or follow-up action(s) is required.

Access (Protected Area). Access to the SAFECOM "Protected Area" is limited to regional aviation safety program managers and FAO/UAOs.

**TREND MONITORING**

The identification of prevailing events serves to indicate areas of risk so that appropriate action may be taken accordingly. Trends develop when singular events occur at a rate that a general direction or tendency may be detected. Trends are more apparent when the frequency is high and the events are recent; however, events that occur over an extended period of time also develop trends that, if corrected, can reduce operational risk. Trends that develop locally are usually dealt with locally. However, they must be looked at from a national perspective to determine if they have a broader significance. Careful attention to hazards and causal factors that compromise flight safety can reduce our operational risk by a significant amount. The use of SAFECOM information for trend monitoring is another key component in a mishap prevention program.

**MISHAP INVESTIGATION**

- A. The primary purpose of aircraft mishap investigations is the prevention of future occurrences. Investigations are conducted to identify and determine causal factors. Reactive hazard detection is accomplished through the identification of the cause(s) of mishaps and then taking corrective action to prevent their recurrence. Factors that could have a system-wide adverse effect on the safety of personnel, whether or not they contributed to the mishap, are included in the investigation.
- B. Forest Service investigations are to be conducted by professional aviation investigators to the greatest extent possible. Experience has shown that investigations performed by experienced professional investigators reveal more about what is causing mishaps. In addition to determining causal factors, investigators will forward management issues directly related to the mishap. Data obtained from investigations will be used for trend analysis and as a source of institutional memory. (FSM 5723)

**HAZARD CORRECTION**

The causes of most mishaps reveal failures to observe controls already established through previous risk management efforts and mishap experiences. In addition, some mishap causal

factors reveal hazards not previously addressed adequately. It is imperative that these hazards or hazardous practices be corrected or they are sure to be repeated.

### **CHAIN-OF-EVENTS**

Not all hazardous situations result in mishaps. However, under certain conditions a mishap is likely to occur. There is often a thin line between having a mishap and not having one occur. Mishaps tend to be random, unpredictable, and caused by a combination of circumstances and errors or chain-of-events. The same chain-of-events will not necessarily result in a mishap or the same magnitude of injury or damage if the timing is different. Often just altering one condition can prevent a mishap. Rarely is there a single, simple solution to preventing a mishap. Mishaps evolve from multiple causes and require multiple actions to prevent them from occurring.

### **PROXIMATE and ROOT CAUSE(S)**

The cause of a mishap can be thought of as an unsafe act, unsafe condition or both which have potential (sometimes unpredictable) for resulting in injury or damage. This type of mishap cause is referred to as "Proximate Cause(s)" defined as the nearest definable event, act or condition that can be identified as causative of the mishap. However, in order to eliminate the potential of experiencing a mishap we must determine the "Root Cause(s)". Root causes should be thought of as proximate causes reduced to answer the question "Why did this mishap occur." Root causes are always human deficiencies. Ultimately, human errors cause mishaps. If it's a mechanical failure, then you can be sure that human error is involved, either in how the device was designed, manufactured, or used.

### **OPERATING PLANS**

It is imperative that all aviation operations be planned with necessary consideration given to safety goals that meet or exceed aviation safety standards established by the FS. Considerable forethought must be given to managing the risks and minimizing the hazards associated with FS missions. Each unit or project operating plan is to be used to set procedures and generally state how aviation resources are to be utilized. Many factors are involved and each location has different needs. Plans must be continually reviewed and updated, as aviation operations are dynamic and continually evolve through operational experience. The next higher level in the organization should approve each operating plan. Both ground and air operations personnel must review the approved operating plan prior to beginning the planned mission.

### **SAFETY TECHNICAL ASSISTANCE TEAMS**

These teams are activated during periods of high aviation activity or threat and are dispatched to provide safety, technical assistance and conduct evaluations. Team composition depends on the complexity and type of aviation activities involved with the incidents.

Forest Supplement:  
Reserved

#### 4.6 Promotion

The organization must promote safety as a core value with practices that support a positive safety culture. Safety promotion can be accomplished through safety awards, education and communication.

- Training
- Communication
- [Lessons Learned Website](#)
- Reporting and Feedback
- Safety and Mishap Information
- Safety Awards

The desired positive Safety Culture is informed, flexible, learning, just and a reporting culture that captures the operational knowledge and experience of the employees. The end result of this cultural shift is to achieve the status of a High Reliability Organization (HRO).

#### Regional Supplement:

##### Hazard Maps

1. Each unit will maintain a current flight hazard map. Copies of this map shall be available and displayed for use at each location where flight planning, flight tracking, aircraft dispatch, or flight mission briefings occur. Examples of locations are; dispatch offices, permanent aircraft bases, temporary helibases, or special project sites. Geographical Information System (GIS) should be utilized if possible. A flight hazard layer should be built which depicts the local hazards.
2. Particular attention shall be placed on hazards in the approach and/or takeoff patterns of heliports, helispots or airstrips; and lines, which cross drainages. Examples include transmission lines, wires and cables; television translators, microwave stations, and towers. Medical facilities with landing areas or heliports should be shown on the hazard map. Those with air ambulance capability should also be indicated.
3. Airports, landing strips, heliports, maintained helispots, known avoidance areas, specific flight hazards, MTRs, MOAs, TFRs and SUA's should be indicated.
4. Temporary hazards, such as blasting, shall be marked and noted with legal information, such as name of contact, radio frequency, legal location, dates and/or time in effect.
5. All personnel are responsible for reporting aerial hazards to the UAO/FAO as the designated point-of-contact for inclusion of information on the hazard map.

6. Hazard maps shall be updated annually. Each map will include the date it was created and/or updated. Unit or Forest Aviation Officers are responsible for the development and update of Aerial Hazard Maps.
7. Aircraft/project managers shall review flight hazard maps prior to initiating flight operations.

Forest Supplement:

Reserved

#### **4.6.1 Human Factors**

Human error is the single area, which if possible to eliminate or reduce, would provide the greatest benefit in accident prevention. Human behavior is so complex that it is unrealistic to think that human error can be eliminated. When fully implemented, SMS provides and promotes a positive Safety Culture which can reduce the impact of human error.

#### **4.6.2 Aviation Safety Awards Program**

Aviation Safety Awards are a positive part of the aviation program and are provided to all levels with the Forest Service organization. National awards are given following the guidelines in [FSM 5724](#) for pilots and employees.

Regional Supplement:

#### **HUMAN FACTORS**

Realistic training and experience are the most effective methods of minimizing human error mishaps as much as can be expected. When a person responds to an emergency situation, they immediately rely on trained reactions or past experiences. We must provide appropriate training and meaningful experience to individuals who are placed in positions requiring them to manage risk effectively.

Management or supervisory errors can directly or indirectly exert pressure on individuals to act against their judgment, stretch/ignore policy and standard operating procedures, or complete the mission regardless of risk.

Reserved

Forest Supplement:

Reserved

**4.7 National Fire and Aviation Operations Alert System**  
RESERVED

## 5.0 Aviation Operations

### 5.1 General

It is the responsibility of each employee, cooperater, and contractor to conduct aviation operations that have been approved by management, planned properly, utilizes the correct equipment, use qualified personnel, and insure that the risk has been mitigated to an acceptable level. Forest Service employees are often challenged with working in very high-risk and dynamic environments that are not always predictable. This responsibility can only be realized through participation of every employee. Safety is the first priority and leadership at all levels to must foster a culture that encourages employees to communicate unsafe conditions, policies, or acts that could lead to accidents without fear of reprisal. The four components of SMS (Policy, Risk Management, Assurance, and Promotion) are critical to the success of safe operations.

#### Regional Supplement:

#### PROCEDURES

Forest Service employees may use only aircraft and pilots that have been properly approved (FSM 5703.1 and 5720.3.4). Contract or cooperater aircraft will display an Aircraft Data Card or letter of authorization in the aircraft. Contract and cooperater pilots are required to present a Pilot Qualification Card, or letter of authorization listing the missions for which they are approved to fly. Passengers have the responsibility to request to see these documents, and to confirm that the aircraft and pilot are current for the intended mission .

#### FLIGHT OPERATIONS

- A. There is considerable risk involved with flying aircraft in the FS due to the typical mission profile (e.g., low altitude, mountainous terrain, poor visibility, turbulence, and traffic congestion in confined airspace). This formidable environment is more demanding of pilot skill, reduces the allowable margin for pilot error, and limits the options and time to make good decisions for a safe outcome. While the quality and operational limitations of the aircraft play an important role in reducing the level of risk, statistics indicate that the human element is the leading factor in aviation mishaps. It is, therefore, imperative to have a means to develop and promote safe attitudes for those people involved in flight operations. In addition, contract and management controls must be in place to assure that contract and employee pilots are fully qualified, proficient and current for the missions being performed.
- B. Pilots, crewmembers, and ground personnel play a primary role in preventing mishaps, and they must approach job accomplishment in a professional manner and use good judgment if the outcomes are to be successful. While management regards proficiency training as a productive means to accomplish this, a concentrated effort must be placed on the human factors aspect of performance. Human factors information allows for better interface with the machinery and environment in which we operate. Therefore, human factors training must be identified as a significant aspect of any mishap prevention plan.

C. Aviation safety is best met by using a standardized approach. The FS has, through many years of operating experience, developed national requirements that set organizational limitations for flight operations. Details of adopted national requirements can be found in a variety of aviation publications. The purpose of these national requirements is to reduce exposure to hazards and manage risk through management controls. This approach emphasizes the importance of management interest, support, and involvement in nurturing successful outcomes in flight operations.

D. Policy:

1. Each flight will be planned and executed in a safe manner. Safety considerations will take precedence over costs or mission accomplishment. (FSM 5720)
2. Preflight inspection and preflight planning is mandatory. Proper flight planning will include a thorough weather briefing, NOTAM briefing, Military Training Routes (MTR) and Temporary Flight Restrictions (TFR) check, and the acquisition of appropriate maps and communications (frequency) plans.
3. Each Forest/Grassland will have an overall aviation plan and project aviation safety plan for each project that uses aviation resources.
4. Aviation safety objectives will be accomplished by adherence to FS manuals, handbooks, guides, operating plans, contracts, and applicable Federal Aviation Regulations (FARs).
5. Aircrew proficiency, currency, training, and standardization will receive high priority in an effort to prevent pilot error mishaps.

## GROUND OPERATIONS

A. Ground operations include those activities that are both directly and indirectly related to the support of aircraft and mission accomplishment. Ground activities that are undertaken haphazardly have the potential of being root causes to catastrophic mishaps. Mishaps that occur in flight operations frequently have causal factors that are directly attributable to ground activities. Therefore, ground activities are critical to assuring safe outcomes in flight operations. Forest Service management has acknowledged the significance of hazard identification and development of standard aviation ground operations. Details of adopted national requirements are found in various FS aviation manuals, handbooks, and guides. The requirements are used as controls in the development of operational procedures.

B. Policy:

1. Aviation objectives will be achieved by adherence to FS manuals, handbooks, guides, and operating procedures. (FSM 5703)
2. Ground crews assigned to support aviation either directly or indirectly will be properly qualified for the specific assignment and will be briefed on the mission.
3. Helicopters deployed for project or suppression activity will be staffed with qualified personnel. Call-when-Needed (CWN) modules must be given time to conduct pre-use inspections, power checks, and verify pilot and aircraft qualifications cards prior to use. It is important that this be done at a location other than the incident helibase. (*Interagency Helicopter Operations Guide and National Interagency Mobilization Guide*)

Forest Supplement:

Reserved

## 5.2 Operational Guides and Handbook

A list of all of the Forest Service aviation policy documents can be found in the [FSM 5703](#).

Reference:

[Forest Service Manual 5700 Aviation Management](#)

[Title 14 CFR](#)

[Forest Service Handbook 5109.17 Fire and Aviation Management Qualifications Handbook](#)

[Forest Service Handbook 5709.16 Flight Operations](#)

[6709.11 Health & Safety Code Handbook](#)

[5309.11 Chapter 50 Law Enforcement Manual](#)

[Applicable Federal Aviation Regulations \(FAR's\)](#)

[Office of Management and Budget \(OMB\) Circulars A-76, A-123, A-126](#)

[GSA Federal Property Management Regulation \(FPMR\) 101-37](#)

[Interagency Standards for Fire and Aviation Operations Standards](#)

Interagency Aviation Operational Guides:

- [Aircraft Inspection Guide](#)
- [Forest Service Accident Investigation Guide](#)
- [Helicopter Flight Evaluation Guide \(HFEG\)](#)
- [Interagency Aviation Mishap Response Guide and Checklist](#)
- [Interagency Aviation Training Guide \(IAT\)](#)
- [Interagency Smokejumper Operations Guide \(ISMOG\)](#)
- [Interagency Smokejumper Pilots Operations Guide \(ISPOG\)](#)
- [National Interagency Mobilization Guide](#)

- [Interagency Helicopter Operations Guide \(IHOG\)](#)
- [Interagency Airspace Coordination Guide \(IACG\)](#)
- [Interagency Aviation Hazardous Materials Guide](#)
- [Interagency Aerial Ignition Guide \(IAIG\)](#)
- [Interagency Helicopter Rappel Guide \(IHRG\)](#)
- [Interagency Aerial Supervision Guide \(IASG\)](#)
- [Interagency Airtanker Base Operations Guide \(IABOG\)](#)
- [Interagency Single Engine Air Tanker Operations Guide \(ISOG\)](#)
- [Professional Helicopter Pilot Guide](#)
- Interagency System Safety Aviation Guide
- [NASF Cooperators Aviation Standards for Interagency Fire](#)

Handbooks:

- [Interagency Aviation Transport of Hazardous Materials Handbook](#)
- [Military Use Handbook](#)

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**5.3 Public/Civil Aircraft Operations**

Forest Service aviation activities include both "civil" and "public" operations. Civil aircraft operations shall comply with [FSM 5703.32](#). Public aircraft operations shall comply with [FSM 5703.31](#).

**Civil Aircraft**

All Forest Service aircraft operations are civil unless specifically designated public. All aircraft other than public aircraft are considered civil aircraft ([FAR1.1](#)).

**Public Aircraft**

Public aircraft operations shall be the exception not the rule. The definition for Public Aircraft can be found in the [FSM 5705](#). The Forest Service will comply with all [Federal Aviation Regulations \(FAR\)](#) in the operation and maintenance of public aircraft with the few exceptions outlined in [FSM 5714](#).

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

**5.4 Employees on Non-Forest Service Aircraft**

All agency employees will comply with Forest Service aviation policies when performing agency employment-related duties on board any organization's aircraft and/or aircraft operated under any other organization's operational control. Employees shall be mindful of policy and the appropriate approval level for any deviation from policy. These policies include, but not limited to: approved aircraft and pilot (carding or letter of approval), PASP, flight following, PPE, and appropriate management.

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

**5.5 Emergency Exception to Policy**

Federal employees who are involved in an event in which there clearly exists an imminent threat to human life, and there is insufficient time to utilize approved methods, may deviate from policy to the extent necessary to preserve life.

The following provisions and follow-up actions apply:

- Personnel involved in the decision making associated with deviating from policy must weigh the risks versus benefit, must have an adequate understanding and knowledge the mission risk, or contact an individual that does if practical.
- Any deviations shall be documented on a SAFECOM.
- Requires Line Officer (District Ranger, Forest Supervisor, etc) to authorize each flight. Refer to FSM 5713.53.

**Regional Supplement:**

Life-threatening emergencies may require a deviation from policy; however, FS employees shall follow FS aviation safety practices and policies to the maximum extent practical.

**Forest Supplement:**

Reserved

**5.6 Category of Flight**

The following terminology is used throughout this section under these definitions.

A **“Point-to-Point”** flight is one that originates at one developed airport or permanent helibase and flies directly to another developed airport or permanent helibase with the sole purpose of transporting personnel or cargo cross country. These types of flights are often referred to as "administrative" flights and require the aircraft and pilot to be only carded and approved for point-to-point flight. A point-to-point flight is conducted higher than 500 feet above ground level (AGL), except for takeoff and landing. Flights conducted to/from an unimproved or backcountry strip will NOT be considered point-to-point due to the additional hazards.

A **“Mission flight”** is defined as any flight other than point-to-point, conducted with the express purpose of performing (or directly supporting) an agency or resource management related task or tactical job such as fire suppression, wildlife census, reconnaissance, etc. Mission flights require additional agency planning, active flight following, additional pilot and aircraft inspections and carding, and operational supervision by qualified agency personnel.

**Regional Supplement:**

**Point-to-Point Flights.** Forest Service and AMD do not inspect point-to-point only aircraft. These aircraft are approved and operated under CFR 14-Part 135. These aircraft are not approved for special mission use. Pilots authorized for point-to-point only are issued a card valid for two years identifying the aircraft for which they are authorized. FSH 5709.16.14.12

**Forest Supplement:**

Reserved

## 5.7 Flight Planning

### Point-to-Point

Point-To-Point flights will be tracked by either an FAA - VFR (Visual Flight Rules) or IFR (Instrument Flight Rules) Flight Plan. Additionally, there must be notification to dispatch upon departure and arrival.

### FAA Flight Plans

FAA Flight Plans are filed by the pilot, opened in flight upon departure, and closed by the pilot with FAA Air Traffic Control (ATC) or Flight Service upon arrival.

### Agency Flight Plans

Agency flight plans for Point-to-Point flights are documented on a Flight Request/Flight Schedule form. Flights are tracked through documented, positive hand-offs to other Dispatch Centers until arrival is confirmed. The procedures for accomplishing agency flight tracking are documented in detail in the National and Geographic Area Mobilization Guides.

Mission flights may not be conducted any earlier than 30 minutes before official sunrise or later than 30 minutes past official sunset. Mission flights may only be conducted when weather and visibility conditions meet or exceed the VFR weather minimums specified in [14 CFR 91.155](#).

### Regional Supplement:

Reserved

### Forest Supplement:

Reserved

## 5.8 Flight Following

### Mission Flight Following

Mission Flight Following is accomplished by flight crews and agency Dispatchers using agency radio systems or by agency personnel using radio systems on the scene of an incident or project where the aircraft is operating.

Automated Flight Following (AFF) can be used to supplement radio communication, but does not reduce or eliminate the requirement for FM radio capability and radio communication. Reference the [National Interagency Mobilization Guide, Chapter 20 Automated Flight Following Requirements and Procedures](#).

The method of flight following for Fire incidents is documented on an Aircraft Resource order or in a Dispatch Center's Mobilization/Operating Guide. The method for flight following non-fire resource missions will be documented in a Project Aviation Safety Plan (PASP) and/or Flight Request/Flight Schedule form.

**Regional Supplement:**

**IDENTIFICATION OF FLIGHT FOLLOWING REQUIREMENTS**

- A. The time required to rescue a survivor is directly related to how accurately the survivor's position can be determined. If a flight plan was filed, the aircraft stayed on course, and its progress was updated with frequent position reports, the chance of rescue is greatly enhanced.
- B. At the time the flight is planned, flight following requirements should be clearly identified. Requirements should identify check-in procedures, including time and locations, dispatch office(s) or other flight following facilities involved, individuals responsible for flight following, frequencies to be used, and any special circumstances requiring check-ins (i.e. military facilities within Special Use Airspace). When Automated Flight Following (AFF) is available, it will be the Primary means of flight following and radio flight following will be Secondary. When AFF is not available, all flights requiring a fifteen (15) minute check-in will report location by Lat/Long, geographic location (if known), and heading. (See National Interagency Mobilization Guide for AFF requirements and procedures.)

**CHECK-IN REQUIREMENTS**

Check-in intervals or times must be specified in the agency's flight following procedures. Check-ins must be documented and provide enough information so that the aircraft can be easily located if it is overdue or missing.

**FAILURE TO MEET CHECK-IN REQUIREMENTS**

The dispatch or other flight following facility shall implement response procedures for overdue or missing aircraft.

**Forest Supplement:**

Reserved

### 5.9 Radio Frequency Management/Communications

Do not use any frequency without proper authorization from the authorized radio frequency management personnel at the local, state, regional or national level.

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

### 5.10 Overdue or Missing Aircraft

An aircraft is considered “overdue” when it fails to arrive within 30 minutes past the Estimated Time of Arrival (ETA) and cannot be located. An aircraft is considered “missing” when its fuel duration has been exceeded, it has been reported as “overdue” to the FAA and the FAA has completed an administrative search for the aircraft without success. If an aircraft is missing, overdue, or downed, initiate the Interagency Mishap Response Guide and Checklist.

**Regional Supplement:**

#### OVERDUE OR MISSING AIRCRAFT

- A. Aircraft. Overdue aircraft must be reported in accordance with local Regional protocol. An aircraft is considered “Overdue” when the pilot fails to check-in within the time frame specified in the agency’s flight following request, or when an aircraft operating on an FAA (VFR) Flight Plan, fails to arrive within 30-minutes past ETA, and its location cannot be established. .
- B. In the event that a FS owned, leased or contracted aircraft is determined to be overdue (30-minutes after ETA at destination, or if 2 successive periodic checks are unsuccessful the dispatcher will follow procedures in the Aircraft Mishap Response Plan (Aircraft Crash, Search, and Rescue Guide).
- C. Flight Service Station Notification. FAA Flight Service Station  
Dial 1-800-992-7433 or 1-800-WXBRIEF
- D. The FSS may require the following information:
  - Reported by:
  - Phone:
  - Operator:
  - Aircraft #:
  - Aircraft Color:
  - Departure Point:
  - Route:
  - ETA:
  - Agency:
  - Flight Plan (type):
  - Pilot’s Name:
  - Aircraft Type:
  - Number Aboard:
  - Departure Date/Time:
  - Destination:
  - Fuel on Board

- E. Missing Aircraft Definition. An aircraft is considered “Missing” when it has been reported to a FSS as being “Overdue” and FSS has completed its administrative search for the aircraft.

### SAR OPERATIONS

USFS does not have jurisdictional authority for SAR operations on FS Lands. Missing aircraft search is under the jurisdiction of Montana Aeronautics in Montana and Idaho Bureau of Aeronautics in Idaho. Until the aircraft is found and identified these agencies are the controlling agencies and all agency SAR operations will be coordinated with them. After the aircraft is positively Identified jurisdiction transfers to the Sheriff of the county the aircraft is located and all ground recue/recovery operations must be coordinated with their office. This does not prohibit forest service participation if coordinated and approved by the jurisdictional agency.

Idaho Aeronautics Days 208-334-8775  
After Hours 800-632-8000 (Idaho State Com. Center)

Montana Aeronautics Days 406-444-2506  
After Hours 800-525-5555 (MT Highway Patrol Disp)  
406-841-8022

Air Force Rescue Coordination Center 800-851-2051

Forest Supplement:

Reserved

#### 5.11 Mishap Response

The Interagency Aviation Mishap Response Guide and Checklist outlines appropriate response to a loss of flight following, or an aircraft incident or accident. The guide describes procedures and requirements, including initiation of SAR, fire, medical response, notification of Forest Service Safety (1-888-4MISHAP) and Forest Service management. This guide is specific to each unit and shall be available in all dispatch offices. The guide must be updated annually at a minimum.

Regional Supplement:

**AIRCRAFT MISHAP RESPONSE ACTIONS**

**RESCUE OPERATIONS**

- A. Time is an extremely critical factor in responding to an emergency situation. Immediate positive action is necessary; delay may effect someone's survival.
- B. Preserve life and secure the area.
- C. Do whatever is necessary to extricate injured occupants and to extinguish fires, keeping in mind the necessity of protecting and preserving evidence.
- D. Secure the area and deny access except to authorized officials.
- E. Document and/or photograph the location of any debris which must be disturbed in order to carry out rescues and/or fire suppression activities.

**SITE SAFETY PRECAUTIONS**

Aircraft wreckage sites can be hazardous for many reasons other than adverse terrain or climatic conditions. Personnel involved in the recovery, examination, and documentation of wreckage may be exposed to physical hazards posed by such things as hazardous cargo, flammable/toxic fluids, blood borne pathogens, burning resins, fractured carbon fiber and composite materials, sharp or heavy objects, and disease. It's important to exercise good judgment, utilize available protective devices and clothing, and use extreme caution when working in the wreckage. Do not exceed your physical limitations.

**WRECKAGE SECURITY**

Treat the area like a crime scene. Arrange for security at the mishap scene. Determine if hazardous materials (HazMat) are on the aircraft and request special assistance if necessary. Wreckage and cargo should not be disturbed or moved except to the extent necessary:

- To remove persons injured or trapped
- To protect the wreckage from further damage
- To protect the public from injury
- To deactivate the emergency locator transmitter (ELT) if installed.

Where it is necessary to move aircraft wreckage, mail or cargo, sketches, descriptive notes, and photographs should be made.

## NEWS RELEASES

The National Transportation Safety Board (NTSB) should make contacts with news media regarding the mishap.

## EVIDENCE

Perishable evidence, e.g. human factors data and witness information, must be quickly documented.

Forest Supplement:

Reserved

### 5.12 Passengers

A passenger is any person aboard an aircraft, when traveling on official Forest Service business, who does not perform the function of a flight crewmember or air crewmember.

Passengers will:

- Use appropriate personal protective equipment for the type of flights being conducted
- Report aviation incidents, operations deviating from policy, potential incidents
- Ensure personal safety as well as safety for others involved in the flight

### Agency Employees off Duty:

Federal employees cannot utilize annual leave/Leave without Pay (LWOP) or “volunteer” in order to circumvent agency policy. If any aspect of the employee’s activity is related to their official duties, they are conducting agency business, regardless of their pay or leave status.

Refer to the regulations regarding off-duty activities in accordance with the Standards of Ethical Conduct for Employees of the Executive Branch (5 C.F.R. Part 2635.802-803)

### Volunteers

Volunteers when traveling on official business are official passengers, within the terms of FSH 6509.33, Federal Travel Regulations 301-1. A Day Trip Authorization (FS-5700-12) shall be filled out for each flight listing each volunteer. During fire mission flights, the Incident Commander with Delegation of Authority from the unit line officer or the local line officer is the appropriate level of approval. (FSM 5716.44- Exhibit 01)

**Regional Supplement:**

1. Passengers (Non-Federal). Reference FSM 5716.4
2. Fixed Wing Special Mission Operations. PPE is recommended for all fixed-wing special mission operations. Fire surveillance, aerial reconnaissance, air tactical etc.
3. Aerial Reconnaissance For non-fire aerial reconnaissance flights, aerial observers are not required to be AOBS qualified.
4. For fire reconnaissance flights, see Chapter 16 Aviation Operations, of the Interagency Standards for Fire and Fire Aviation Operations (Red Book )

**Forest Supplement:**

Reserved

**5.13 Transportation of Hazardous Materials**

Transportation of hazardous materials aboard agency contracted aircraft must meet the requirements set forth in the Interagency Aviation Transport of Hazardous Materials Guide. When hazardous materials are transported on agency aircraft, the DOT SP-9198 shall be onboard each aircraft.

There shall be no transport of hazardous materials aboard commercial aircraft.

**Regional Supplement:**

Hazardous Materials (HazMat) Transport.

1. HazMat is a commonly used term for hazardous materials including explosives, compressed gases, flammable liquids and solids, oxidizers, poisons, corrosives, and radioactive materials that have been classified by the U.S. Department of Transportation (DOT) to require special containers, specific labeling, and special handling for transportation. The FS, along with the Department of the Interior (DOI), and several states, is party to Exemption DOT-E 9198, which allows aircraft transportation of hazardous materials in accordance with the *Aviation Transport of Hazardous Materials Guide*. This guide provides description, as well as required procedures for aircraft transportation, of HazMat items commonly used in resource management activities. Refer to FSM 5714.2, the Exemption, and the Guide for more specific requirements, but some important provisions are:

- a. The guide applies only to field operations. Hazardous Materials that are not specified in the guide and those transported by aircraft not under the exclusive direction and control of the FS or DOI, must be transported in compliance with 49 CFR Part 175.
  - b. A copy of exemption DOT E-9198, a current Emergency Response Guidebook , and the most current *Aviation Transport of Hazardous Materials Guide* must be carried aboard each aircraft operating under the provisions of the exemption.
  - c. Personnel on aircraft carrying HazMat will be limited to those persons essential to mission accomplishment.
  - d. HazMat will only be carried on aircraft when other means of transportation are impractical.
  - e. The pilot and all personnel aboard an aircraft must be notified of HazMat being transported.
  - f. Any mishap involving HazMat shall immediately be reported to the Regional Ground Safety or Regional Engineering representative.
  - g. Documented training is required in the proper handling of a HazMat for each person who loads or unloads HazMat on an aircraft.
2. Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:
- a. In the event of an accidental discharge within the confines of an aircraft cabin, it is likely that all occupants would be incapacitated. In addition to other HazMat handling requirements, Chapter 9 of the *Aviation Transport of Hazardous Materials Guide* specifies that "Irritants such as bear repellent or tear gas, carried within the cabin of the aircraft, must be carried in a separate sealed container." Missoula Technology and Development Center (MTDC) recommend the use of a vented container with foam liner in its information FS pamphlet "*Safety Containers for Transporting Bear Repellent Spray Canisters in Vehicles.*" Supplement 6700-98-2 provides information for authorization of Region 1 employees to carry this type HazMat in field operations.
  - b. Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

Forest Supplement:  
Reserved

#### **5.14 Invasive Species Control**

Aquatic invasive species are easily transported in a variety of ways (i.e. helicopter buckets, fixed tank helicopters and SEATs utilizing open water sources, engines and tenders, and other water handling equipment). Agency personnel should become knowledgeable in the preventive measures associated with the prevention of the spread of aquatic plants and invertebrates. Aviation managers shall consult with local unit representatives to acquire

information associated with: contaminated water sources, approved water sources, cleaning equipment exposed to contaminated water requirements, and other pertinent information.

Work is underway to develop additional guidance and procedures in the cleaning of equipment that has been exposed to aquatic invasive. Current information concerning cleaning solutions can be found at this web site: <http://www.fs.fed.us/rm/fire/wfcs/documents/watercon.pdf>

Many web sites exist containing information on invasive aquatic species. The following is not an all inclusive list but will provide the user with specifics about aquatic invasive species, guidance surrounding the prevention of spreading invasive, as well as equipment cleaning information:

USDA National Invasive Species Information Center Resource Library

- <http://www.invasivespeciesinfo.gov/resources/orgstate.shtml>

US Forest Service Technology & Development Water-Source Toolkit

- <http://www.fs.fed.us/t-d/programs/wsa/watertoolkit.htm>

Environmental Protection Agency Useful Links to Invasive Species Information

- [http://www.epa.gov/owow/invasive\\_species/links.html](http://www.epa.gov/owow/invasive_species/links.html)

US Forest Service Invasive Species Program

- <http://www.fs.fed.us/invasivespecies/index.shtml>
- <http://www.fs.fed.us/invasivespecies/relatedlinks.shtml>

US Forest Service Region 4 Invasive Species Homepage

- <http://www.fs.fed.us/r4/resources/invasives/>

US Fish and Wildlife Service Western Regional Panel on Aquatic Nuisance Species Homepage

- <http://www.fws.gov/answest/resources.htm>

Global Invasive Species Database

- <http://www.issg.org/database/welcome/>

California Department of Fish and Game Invasive Species

- <http://www.dfg.ca.gov/invasives/>

USDA National Invasive Species Information Center Homepage

- <http://www.invasivespeciesinfo.gov/>

Aquatic Nuisance Species Task Force Homepage

- <http://anstaskforce.gov/default.php>

US Fish and Wildlife Service Invasive Species Homepage

- <http://www.fws.gov/invasives/>

US Geological Survey Non-indigenous Aquatic Species Homepage

- <http://nas.er.usgs.gov/>

Regional Supplement:

Aquatic Nuisance Species. Forests within the region shall establish an Aquatic Nuisance Species mitigation plan within that forest's aviation plan. Any aircraft entering the region or moving from one forest to another shall comply with the individual forest's aquatic nuisance species mitigation plan.

Forest Supplement:

Reserved

### **5.15 Fire Chemicals and Aerial Application Policy near Waterways**

For operational guidelines on use of fire chemicals, refer to Interagency Standards for Fire and Fire Aviation Operations, Chapter 12 in the *Interagency Standards for Fire and Fire Aviation Operations Handbook*.

Interagency policy only allows the use of a product that is qualified and approved for intended use. A Qualified Products List (QPL) is published for each wildland fire chemical type and maintained on the Wildland Fire Chemical Systems (WFCS) web site:  
<http://http://www.fs.fed.us/rm/fire/wfcs/index.htm>

Personnel involved in handling, mixing, and applying fire chemicals or solutions shall be trained in proper safe handling procedures and use the personal protective equipment recommend on the product label and *Material Safety Data Sheet* (MSDS). The MSDSs for all approved fire chemicals can be found on the WFSC web site.

Airtanker bases shall have appropriate spill containment facilities (and equipment) in place.

Products must be blended or mixed at the proper ratio by approved methods prior to being loaded into the aircraft. Inaccurate mixing of fire chemicals may negate the suppressant or retarding properties, which is not cost effective and may be a safety factor.

Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 5.16 Search and Rescue (SAR)

Refer to the FSM 5713.53 regarding search and rescue. Search and rescue operations could lead to actions in conflict with policy. Refer to NASMP 5.4 Emergency Exemptions to Policy.

The county sheriff or designee is usually responsible for search and rescue of overdue or missing person(s), depending on the legislative jurisdiction of National Forest System lands. Pursuant to 16 USC 575, the Secretary of Agriculture is authorized to incur such expenses as maybe necessary in searching for person(s) lost within the National Forests or to provide transportation to person(s) seriously ill, injured, or who die within the National Forests to the nearest place where the sick or injured person(s) may be transferred to interested parties or local authorities.

- All personnel involved with and assisting other agencies with law enforcement or search and rescue operations should remain within the scope of their training, certification, and employment.
- Proper planning, risk assessments, and briefing the mission prior to an event will significantly reduce risk and improve the odds of success.

#### Regional Supplement:

#### SEARCH AND RESCUE

Lost or Injured Persons - The County Sheriff is responsible for search and rescue of overdue or missing persons. Pursuant to 16 USC 575, The Secretary of Agriculture is authorized to incur such expenses as may be necessary in searching for persons lost within the National Forests or to provide transportation to persons seriously ill, injured or who die within the National Forests to the nearest place where the sick or injured person(s) may be transferred to interested parties or local authorities.

Forest Service owned, contracted, or leased aircraft shall not be used in SAR operations unless approved by the Forest Aviation Officer (FAO) and/or Forest Dispatch. The only exception would be if a pilot and aircraft were released from contract obligation and the requesting agency assumes responsibility (Note: Refer to specific contract).

The CO or COR may decline any requests for release of an aircraft from contract if the flight is not in the interest of the FS. The contractor or contractor's representative may also decline any requests for release.

Search and Rescue. When Search and Rescue or body retrieval is performed by the Forest Service utilizing exclusive use or vendor contracted aircraft on Forest Service administered land, expenditure of government funds and resources can be committed only at discretion of the line officer.

When these activities occur outside National Forest administered lands, a use agreement or MOU (with a reimbursement instrument) with the ordering agency, i.e. local county, sheriff, city or town coroner, city police) should be in place before expenditure of government funds and resources can be committed.

#### OPERATIONAL PROCEDURES

- A. Personnel. All SAR helicopter operations involving FS personnel shall be managed by a qualified Helicopter Manager (IHOG Chapter 2). The only exception is when the agency is utilizing other government agency or military aircraft, and the provider of the aircraft is also providing the helicopter and/or helibase management services, such as, flight following, loading/unloading of personnel/cargo, external load operations, etc. and operation is approved by the RAO. Only minimum essential personnel will be allowed aboard SAR aircraft (media, political officials, and family members are not considered essential to the mission).
- B. Flight Following. Forest Service flight following of SAR aviation operations will take place either through the appropriate dispatch/coordination center or incident command. Flight following shall be accomplished as per FS regulations. If the dispatch/coordination center is not used for flight following then the dispatch/coordination will be notified of the mission, area of mission, frequencies, date and time frame of the mission.
- C. Personal Protective Equipment. PPE will be worn as required by this plan. Exemptions are listed in Chapter 16 of the IHOG. Personal Floatation Devices (PFDs) are required to be worn by all occupants when conducting overwater SAR operations.
- D. Survival Equipment. There must be sufficient survival equipment suitable for the environment onboard SAR aircraft to sustain life of all occupants for a minimum of 72-hours.
- E. Aircraft /Pilot Qualifications. FS, contractor, and cooperater aircraft used to fly FS personnel must be flown by pilots who meet agency standards and possess a current Interagency Pilot Qualification Card. Use of other aircraft requires acceptance of that agency's pilot qualifications if operating under a current MOU. Aircraft and pilots not meeting these guidelines must be approved by the appropriate RAO
- F. Use of Military Helicopters. National Guard helicopters used to fly Forest Service personnel involved in the SAR operation must have a letter of approval on board each helicopter stating that they are approved for FS use. All FS rules and procedures apply when FS employees are involved (PPE, flight following, etc). U.S. military helicopters may be used, but only with prior approval from the RAO and only on a case-by-case basis, if FS personnel are on board the aircraft.
- G. Wilderness Areas. In the interest of public safety, Forest Supervisors shall authorize the initial flight for medical, or rescue aircraft missions in National Forest wilderness areas. Advanced approval for initial missions in wilderness is only applicable to life-threatening emergencies in which time is critical. Subsequent flights will require a separate Forest Supervisor approval.
- H. Landing Areas (Helicopter). Use of helispots must be in accordance with IHOG requirements.
- I. Altitude. A minimum operational flight altitude of 500 feet above the terrain will be maintained for fixed wing aircraft except for takeoffs and landings.

- J. Night. Search and rescue operations are only authorized between 30-minutes before official sunrise to 30-minutes after official sunset.
- K. Flight Minimums. Helicopter and fixed-wing aircraft should maintain appropriate VFR flight minimums. Basic weather minimums are found in 14 CFR 91.155.
- L. Load Calculations and Manifests. When utilizing aircraft other than military, load calculations and manifests are required. When utilizing a military aircraft, use of the Performance Planning Card (PPC) is acceptable along with a manifest. Load calculations will be made prior to flight. It is the responsibility of the pilot, however FS personnel must ensure this is done. A copy of the manifest and load calculation is kept on the ground until the flight is terminated. Passenger changes need to be documented.
- M. Briefing Requirements. In addition to a thorough briefing of the SAR operation, the following areas will be discussed with all flight participants prior to each mission.
  - 1. Risk Management and mitigation
  - 2. Personnel Responsibilities/Authorities
  - 3. Flight/Duty Limitations
  - 4. Flight Plan/Flight Following/Communications
  - 5. Load Calculations/Manifests
  - 6. Pilot/Aircraft Data Card
  - 7. Personal Protective Equipment
  - 8. Survival Equipment
  - 9. Weather/Hazards, Other Aircraft
  - 10. External Load Procedures
  - 11. Landing Areas
  - 12. HazMat Procedures
  - 13. Mishap Notification Procedures
  - 14. Military Training Routes/Temporary Flight Restrictions
  - 15. *Five Steps To A Safe Flight (Form FS 5700-16)*
    - Aircraft Hazards
    - Seat Belt & Harness
    - ELT & Survival Kit
    - Fire Extinguisher
    - Fuel & Electrical Shut-off
    - Oxygen Equipment

- First Aid Kit
- Gear & Cargo Security
- Emergency Egress
- Smoking

Forest Supplement:

Reserved

### 5.17 Large Airtanker Operations

Large Airtankers are a national resource and their primary mission is initial attack. Geographic Areas administering these aircraft will make them available for wildland fire assignments when ordered by the National Interagency Coordination Center. In addition to federally contracted airtankers, MAFFS (military) and cooperator aircraft may be utilized to supplement the federal fleet through established agreements.

Operational considerations concerning Large Airtankers can be referenced in the Aerial Supervision Guide.

#### 5.17.1 Very Large Airtanker (VLAT) Operations

VLATs should be used primarily for large fire support. In 2009, the FS contracted with the National Aviation and Space Administration (NASA) to conduct a VLAT Operational Test and Evaluation. NASA recommended several operational parameters including, VLAT use should be in “level or gently rolling terrain” greater than 300 feet above ground level, use “in very steep or rugged terrain is not recommended” and they should be “used to supplement other aerial retardant delivery platforms rather than replace them”. VLATs should be used accordingly.

#### 5.17.2 Airtanker Base Personnel

The airtanker base manager supervises ground operations in accordance with the Interagency Airtanker Base Operations Guide (IATBOG).

Regional Supplement:

### Large Airtanker Operations

- Unless local forests establish more restrictive operational requirements, airtankers in Regions 1 shall drop retardant/suppressants from 30-minutes before official sunrise to 30-minutes after official sunset. (FSM 5709.16.35.32)
- Airtankers and ASM/Leadplanes in Regions 1 are normally not assigned to a specific incident, but rather, may be dispatched to any incident as priority dictates.

- C. Initial attack and suppressing wildfires in urban-interface areas are regional priorities.
- D. Airtankers and ASM/Leadplanes will use the flight-following frequency assigned by local dispatch centers and will use the same check-in procedures established in the National Mobilization Guide.
- E. An Aerial Supervision Module (ASM)/Leadplane will be requested for airtanker operations.
- F. An Air Tactical Group Supervisor is required for complex aviation operations (FSM 5716.32).
- G. Retardant/suppressant drops in congested areas can be supervised by an Air Tactical Group Supervisor if a leadplane is on order (FSM 5714.11, Exhibit 01, Grant of Exemption 392). Also see *Interagency Leadplane Operations Guide* (ILOG).
- H. Modular Airborne Fire Fighting System (MAFFS) is designed for use in military C130 aircraft. This system is capable of delivering 3,000 gallons of retardant.

Forest Supplement:

Reserved

**5.18 SEAT Operations**

SEATs primary mission is initial attack. Mobilization is managed by Dispatch Centers with support by a National SEAT Coordinator and Aviation Managers. Operational considerations concerning SEATs can be referenced in the Interagency SEAT Operations Guide (ISOG) and the Aerial Supervision Guide.

SEAT Manager (SEMG) responsibilities are outlined in the ISOG, and their training and currency requirements are contained in NWCG PMS 310-1.

Regional Supplement:

SEAT OPERATIONS

- A. Single-engine airtankers (SEAT's) may be positioned at designated airtanker bases or SEAT operations may exist at an airport in close proximity to a fire provided appropriate aircraft management is present. The use of single-engine airtankers on FS incidents

may supplement planned coverage by FS and cooperater multi-engine airtankers (FSM 5713.44).

- B. Situations may occur (i.e., terrain limitations) where maneuverability makes it ineffective to use the large airtankers, but safe to use a SEAT. If the large airtanker pilot, Airtanker Coordinator, or Air Tactical Group Supervisor determines that it is appropriate, SEAT's should be ordered. The pilot will make the final determination on the safety of any drop conditions for which they are requested.

Forest Supplement:

Reserved

### **5.19 Aerial Supervision Operations**

Aerial Supervision Module aircraft are national resources. These air tactical resources conduct operations in accordance with the Interagency Aerial Supervision Guide and the policies and procedures prescribed in the Interagency Standards for Fire and Fire Aviation Operations Handbook. Dispatch and ordering are accomplished in accordance with the Geographic Area and National Mobilization Guides.

Air Attack platforms can be considered a local unit, incident, or geographic resource. Air tactical aircraft must meet the avionics typing requirements listed in the Interagency Aerial Supervision Guide and the pilot must be carded to perform the air tactical mission.

#### **5.19.1 Aerial Supervision Personnel**

Personnel associated with aerial supervision will be trained to the standards in [FSH 5109.17](#) and the Interagency Aerial Supervision Guide. Training and qualification requirements for ASM crewmembers are defined in the Interagency Aerial Supervision Guide. Individuals performing duties as an Air Tactical Supervisor (ATS) or Air Tactical Pilot (ATP) must be certified and authorized by the BLM or USFS National Aviation Operations Officer.

Air Tactical Group Supervisors (ATGS) responsibilities are outlined in the IASG, and their training and currency requirements are contained in [FSH 5109.17](#). Personnel who are performing aerial reconnaissance and detection will not perform aerial supervision duties unless they are fully qualified as an ATGS.

Regional Supplement:

Reserved

Forest Supplement:

Reserved

### **5.20 Helicopter Operations**

All helicopter operations shall be accomplished in accordance with the Interagency Helicopter Operations Guide (IHOG), the Aerial Ignition Guide, and the aircraft contract.

The applicable Hover out of Ground Effect (HOGE) chart will be used for initial attack operations, first time into remote landing site, or when the pilot deems that environmental conditions warrant use of HOGE chart

#### **5.20.1 Helitack**

Each unit hosting an exclusive-use helicopter is responsible for providing essential management, overhead, equipment, facilities and the resources necessary to fully support the helitack crew. Minimum crew staffing is contained in the *Interagency Standards for Fire and Fire Aviation Operations*. Helicopter personnel responsibilities are outlined in the IHOG, and their training and currency requirements are contained in [FSH 5109.17](#).

#### **5.20.2 Rappel**

Rappel activities will be conducted in compliance with the Interagency Helicopter Rappel Guide.

#### **5.20.3 Cargo Letdown**

Cargo letdown will be conducted in compliance with the Interagency Helicopter Rappel Guide.

#### **5.20.4 Short-Haul and Hoist (Law Enforcement and Investigations ONLY)**

Short-Haul and Hoist operations are approved for Law Enforcement and Investigations only. Short-Haul and Hoist operations will be conducted in compliance with the Interagency Helicopter Operations Guide and the National LEI Short-Haul and Hoist Operations Guide.

### **5.21 Aerial Ignition Operations**

Aerial ignition operations and projects are accomplished in accordance with the Interagency Aerial Ignition Guide.

Regional Supplement:

Helicopter Operations.

- A. Bucket Operations (Extended). Bucket operations will be in accordance with the bucket manufacturer's operating guide. In order to prevent buckets from contacting the tail rotor, buckets will be hooked directly to the belly hook or be attached to a line no shorter than 50'. Continuous communications capability between the helicopter and the flight following station or another aircraft is required while operating at the dip site. When practical, a ground observer able to communicate with the helicopter at the dip site may be utilized for this purpose.
- B. External Loads (Long-line/Remote Hook). Only pilots approved for external load work will perform external loads. Qualified personnel will conduct long-line/remote hookups.
- C. Free-Fall Delivery. For helicopter free-fall delivery refer to Chapter 11 of the *Interagency Helicopter Operations Guide* (IHOG). The HOS will be responsible for certifying individuals conducting helicopter free-fall delivery.
- D. Initial Attack and Fire Support Transport. A helicopter manager will supervise initial flight to a fire when the passengers are other than trained helitack. During fire support, personnel qualified in helicopter use will supervise the operation at each helicopter-landing site.
- E. Load Calculations. All flights will be within the limits shown on the "Helicopter Load Calculation Form FS 5700-17 or Form OAS 67 prepared by the pilot and signed by both the pilot and helicopter manager.
- F. Manager Qualifications. Helicopter Manager qualifications shall be reviewed annually by the appropriate Forest IQCS Group.
- G. Night Operations. Helicopter operations shall be conducted only from 30-minutes before official sunrise to 30-minutes after official sunset, except as described in FSM 5716.2.
- H. Personal Protective Equipment (PPE) Requirements. The intent of this requirement is to equip individuals with the best PPE to the extent possible for all helicopter flights. Personal protective equipment includes approved fire resistant flight suit, protective headgear, gloves, and leather boots.
- I.
  - 1. As a minimum, individuals shall wear the PPE required for a firefighter as specified in the IHOG, Chart 9-1. Any deviation from this requirement must be approved in accordance with the PASP recommended by the RAO.
  - 2. In lieu of a flight suit, firefighters approved fire resistant pants and shirt can be worn.
  - 3. In accordance with Chapter 9 of the IHOG, rubber/synthetic boots may be worn if the environmental situation warrants; otherwise leather boots are required.
- J. Projects. A qualified helicopter manager will supervise project helicopter operations. The Forest Helicopter Program Manager must be consulted early in the project planning stage. If there is no local Helicopter Program Manager or acting, contact the FAO or Regional HOS.
- K. Rappel/Cargo Letdown. Helicopter missions involving rappel/cargo letdown operations shall be conducted in accordance with the *Interagency Helicopter Rappel Guide* (IHRG).

The HOS will be responsible for reviewing operating plans for those units conducting helicopter rappel and cargo letdown operations. Line officer approves

- L. Short-Haul USDA Forest Service neither conducts nor manages short haul operations. For emergency operations, refer to IHOG Chapter 17, section V.(A.), page 17-2 – 17-3.
- M. Wilderness Areas. Helicopter use in wilderness areas must first be approved for fire, project, or emergency situations according to each specific Wilderness Plan. Longline operations require a risk assessment, including consideration of other delivery methods before use. Longline and rappel operations are classified as helicopter landings in some wilderness areas and require approval before use.
- N. Heli-ski Permit Operations. Flight Operations Policy and requirements for Personal Protective Equipment is clarified in FSM 5716.03, IHOG, and the Regional Heli-skiing Permit Administration Aviation Operations Plan.

To facilitate operational guidelines for Heli-Skiing Operations on National Forest Lands within the Region, the following procedures shall be in place. A copy of the following documents shall be maintained at the Forest and Regional Office.

1. All aircraft and pilots, to be utilized by an operator, conducting heli-skiing operations shall be certified in accordance with CFR Title 14, Federal Aviation Regulations Part 135, and be in full compliance with these regulations to transport passengers for compensation or hire.
2. A copy of the operators Part 135 certificate, along with the operations specifications from the "A" section listing the aircraft Authorization and the "D" section listing the aircraft maintenance requirements. This information shall be provided to the Regional Aviation Staff prior to commencing heli-ski operations.
3. A copy of the Federal Aviation Administration Form 8410-3, or equivalent, for each pilot's competency must be provided to the Regional Aviation Staff, prior to issue of a Forest Service permit to operate on National Forest Lands.
4. A current copy of the Special Use Permit from the Forest for Heli-skiing operations on National Forest Land shall be provided to Regional Aviation Staff.
5. An approved current copy of the Regional Heli-skiing Permit Administration Aviation Operations Plan shall be available prior to heli-ski operations.
6. Letter of Approval (FSM 5713.51) Planned Administrative Flights. *In unusual circumstances when approved aircraft are not available, or their use is not practical, Forest Service personnel may perform their official duties in aircraft lacking prior approval. Regional Foresters may approve these flights provided they approve each flight or series of flights by letter containing a list of authorized employees, appropriate restrictions, and expiration date.*

Typically, helicopters which are being utilized for heli-skiing on National Forest Lands **are not under contract** to the US Forest Service, therefore they are considered Non-Forest Service Approved Aircraft (FSM 5713.5). These aircraft are only authorized to perform heli-skiing operations in conjunction with an approved heli-ski guide service under a Special Use Permit issued by the Forest. Any other aviation activity such as; wildlife surveys, area

reconnaissance, avalanche control while transporting Forest Service personnel, must utilize either an Exclusive Use or Call-When-Needed helicopter contract.

Forest Supplement:

Reserved

## 5.22 Wild Horse & Burro Operations

RESERVED

Regional Supplement:

Reserved

Forest Supplement:

Reserved

## 5.23 Aerial Capture, Eradication and Tagging of Animals (ACETA)

RESERVED

Regional Supplement:

Reserved

Forest Supplement:

Reserved

## 5.24 Smokejumper Operations

Smokejumper dispatch and ordering are accomplished in accordance with the Geographic and National Mobilization Guides and Interagency Smokejumper Operations Guide (ISMOG).

### 5.24.1 Smokejumper Personnel

**Smokejumpers:** Smokejumper operations are performed according to the Interagency Smokejumper Operations Guide (ISMOG), and the policies and procedures prescribed in the *Interagency Standards for Fire and Aviation Operations Handbook*.

**Smokejumper Pilots:** The Interagency Smokejumper Pilot Operations Guide (ISPOG) serves as policy for smokejumper pilots' qualifications, training and operations.

### 5.24.2 Smokejumper Aircraft

Smokejumper aircraft are evaluated and approved by the Smokejumper Aircraft Screening and Evaluation Board.

#### Regional Supplement:

#### Smokejumper Operations

- A. Refer to the *Geographic Area Mobilization Guide* for smokejumper or paracargo requests.
- B. Smokejumper aircraft availability should be consistent with staffing at smokejumper bases and at a level that meets initial attack dispatches.

#### Forest Supplement:

Reserved

### 5.25 Light Fixed Wing Operations

Fixed wing dispatch, ordering, and operations are accomplished in accordance with the Geographic Area and National Mobilization guides. The IAT guide provides the training standards for fixed wing flight managers (FWFM) in charge of point-to-point and FWFM special-use mission flights. A qualified fixed wing flight manager (FWFM) shall be assigned to point-to-point flights and FWFM special-use for mission flights.

#### Low-level Flight Operations (Less than 500' AGL)

The only fixed-wing aircraft missions authorized are:

- Para-cargo.
- Aerial Supervision Module (ASM) and lead profile operations.
- Aerial retardant, water and foam application.
- Aerial Seeding/Spraying

#### 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.
- 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.

### 5.25.1 Reconnaissance or Patrol Flights

The purpose of aerial reconnaissance or detection flights is to locate and relay fire information to fire management. In addition to detecting, mapping and sizing up new fires, this resource may be utilized to provide ground resources with intelligence on fire behavior, provide recommendations to the IC when appropriate, and describe access routes into and out of fire areas for responding units.

Only qualified Aerial Supervisors (ATGS, ASM, HLCO and Lead/ATCO) are authorized to coordinate incident airspace operations and give direction to aviation assets.

Flights with a "Recon, Detection or Patrol" designation should communicate with tactical aircraft only to announce location, altitude and to relay their departure direction and altitude from the incident.

### 5.25.2 Single Engine Instrument Meteorological Conditions and Night Flight

Reference Appendix 10.3.

### 5.25.3 Backcountry Airstrips Operations

Backcountry airstrip operations include flights conducted to and/or from designated backcountry or unimproved landing strips. Only properly endorsed pilots may land at backcountry airstrips. A PASP is required for all non-emergency operations when involving backcountry airstrip landings.

## Regional Supplement:

### A. Free-Fall Delivery (Airplanes)

Airplanes are restricted to dropping of items specifically designed for free-fall, such as standard FS message droppers; when it is necessary to establish contact with ground personnel in the absence of adequate communication by other means. Use of free-fall items, such as message droppers from detection aircraft, shall be done by personnel who have received training from the Regional Aviation Units in the procedures and with aircraft at least 500 feet above ground level (AGL). All other free-fall or paracargo dropping from airplanes will be done by a qualified smokejumper spotter and with aircraft approved for cargo dropping.

### B. Safety

1. Aircraft Mishap Response Plan. This plan will be updated annually for posting in each dispatch center. The Forest/Unit Aviation Officer is responsible for local supplementation of the plan.

2. Passenger Briefings. It is the pilot's responsibility to ensure that a passenger safety briefing is provided. If not given, the FWFM shall request this briefing before each flight.
3. Shoulder Harness/Safety Belts. All front seat occupants shall wear shoulder harness and seat safety belts. All occupants shall wear safety belts for takeoffs and landings, and as directed by the PIC.
4. Personal Protective Equipment (PPE). For all fixed wing flights in the Northern Region, the minimum PPE shall consist of Nomex (Aramid) or natural fiber materials (non-synthetic), shoes that fully cover the feet, and long pants that overlap the shoes when in the seated position. Long sleeve shirts are recommended. Individual Forests may be more restrictive for their own forest personnel.
5. Smoking. Smoking is prohibited aboard and within 50 feet of an aircraft or flammable/chemical storage area (FSH 5709.16).
6. Cell Phones. Cell phone use is prohibited within 50 feet of an aircraft being fueled.
7. Unsafe Conditions.
  - a. All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.46). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist
  - b. Pilots may refuse a flight if hazardous or unsafe flying conditions exist. If a pilot indicates that hazardous or unsafe flying conditions exist, the flight will not occur (does this belong here)

#### C. Backcountry Mountain/Remote Airstrips

FS classified backcountry airstrip operations have unique requirements for both pilot and aircraft. For purposes of pilot and aircraft qualifications/certifications, the Northern and consider flights into backcountry airstrips as special mission flights.

Special Mission; Aviation resource mission in direct support of incidents, such as leadplane and aerial supervision module flights, smokejumper/paracargo flights, reconnaissance, infrared, aerial photo/survey, backcountry mountain/remote airstrips, fire reconnaissance, *and other missions requiring special training and/or equipment.* (FSM 5710.5) Prior to being dispatched to a backcountry airstrip, a pilot must have a mountain airstrip endorsement on their Pilot Qualification Card and meet currency requirements for backcountry airstrips.

1. An initial Backcountry Mountain/Remote Airstrip endorsement for prospective pilots will require a satisfactory landing and takeoff at two backcountry airstrips during the evaluation ride.

2. To maintain a Backcountry Mountain/Remote Airstrip endorsement, pilots must make a minimum of five (5) landings and takeoffs from backcountry airstrips during the previous year. Of the five (5) landings and takeoffs, at least one landing and takeoff must occur at a second backcountry airstrip. To maintain specific airstrip currency, a pilot must conduct an operation (landing or takeoff) into the individual airstrip within the preceding 24 months.
3. Forests will develop and maintain an *Airstrip Management Plan* for each Forest owned and operated airstrip within their responsibility.
4. Forest owned and operated airstrips will be maintained in accordance with FSM 7730.
5. Personal Protective Equipment (PPE) will be worn as required by this plan. Exceptions for the above require specific agency waiver to policy for extreme environmental conditions, i.e. wet, boggy, extreme cold conditions.
6. Pilot and FWFM/crew will conduct a Rapid Risk assessment (RRA) prior to landing at any back country airstrip. Elements of the RRA may include, but are not limited to: weather conditions (including density altitude), pilot currency (see #2 above), aircraft performance, communications, and airstrip complexity (terrain, one way in/out).

#### D. Fixed-Wing Flight Manager (FWFM)

For other than scheduled airline service flights, a qualified and current FWFM will be designated for all airplane passenger flights. The FWFM must be an agency employee. The unit scheduling the flight will provide this designation. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a FWFM will not need to be designated.

1. Individuals designated as FWFM shall have received training in performing FWFM duties. A FS pilot may be designated as FWFM. Training requirements are found in the IAT Aviation Use and Management Qualifications Guide at <http://www.iat.gov>.
2. FWFM duties and responsibilities are found in FSH 5709.16.31.22 and Chapter 60 of the *National Interagency Mobilization Guide*.

Forest Supplement:

Reserved

## **5.26 Law Enforcement and Investigations (LEI) Operations**

The LEI personnel shall follow the FSH 5309.11, Chapter 50, FSM 5700, and FSH 5709.16 for all aviation operations.

Local LEI personnel that are required to utilize aircraft to support aviation operations should discuss all aspects of the operation with the FAO or UAO well in advance of operations.

### **5.26.1 Special Law Enforcement Aviation Projects**

Occasionally there are "special" law enforcement aviation missions that are not covered in a standard PASP. If any proposed flights are not covered by an appropriately established aviation plan, then a PASP will be prepared. This includes the use of aviation resources for Flight Service Contracts. The responsible individual will prepare a PASP and submit the plan for review and approval. All LEI operations will have a PASP prior to commencing operations. Line officers shall be informed of law enforcement and investigator non-covert aviation activities within their area of responsibility.

### **5.26.2 Rapid Assessment and Initial Detection (RAID)**

Occasionally helicopters cross jurisdictional boundaries to seize goods or valuables. LEI may be armed during a raid situation, which requires several additional precautions to be followed. When law enforcement personnel carry firearms in a helicopter, the following safety precautions must be addressed:

- Brief the pilot(s) on the weapons and safety policy.
- Ensure long guns do not have a round in the chamber and are under the control of law enforcement personnel at all times. Handguns may be loaded but must be holstered. Fully automatic weapons must have an empty chamber and must be bolt locked in the safe position.
- Point all weapons in a safe direction as determined by the pilot during preflight briefings.
- Consult with the appropriate law enforcement personnel in charge and the pilot to determine which emergency situations may necessitate carrying weapons with a round chambered. Ensure that all agency guidelines and requirements are followed.

### **5.26.3 LEI Training**

LEI personnel involved with aviation activities shall receive and be current in required aviation training (NWCG and/or IAT) commensurate with the aviation position they will fill, prior to any aviation operations.

### **5.26.4 Civil Air Patrol (CAP)**

The Civil Air Patrol (CAP) can transport USFS employees in accordance with the WO Amendment 1534.12 (WO Amendment 1534.12) MOU; however, there shall to be written operating procedures established.

LEI personnel will utilize aircraft and pilots that have been approved for use by a letter of approval from the Regional Aviation officer. Not all CAP pilots and/or aircraft will be approved for use. Aircraft contracted for fire/resource operations are not mandated to participate in LEI

operations. Aircraft companies must agree to participate in LEI operations. Missions outside of the scope of the contract require a contract modification.

Certain LEI operations could lead to actions in conflict with Forest Service policy; reference National Aviation Management Plan 5.4 Emergency Exception to Policy.

#### **5.26.5 Department of Homeland Security (DHS)**

The Chief issued a letter that permits LEI employees on official duty to fly aboard DHS owned and operated aircraft while performing joint law enforcement operations and coordinating missions with DHS agencies.

#### **5.26.6 LEI Personal Protective Equipment (PPE) During Tactical Operations**

Follow the direction on the use of personal protective equipment (PPE) described in the Interagency Helicopter Operations Guide (IHOG) ([NFES 1885](#)). Approved PPE must be prescribed by the incident commander, operations supervisor, or their designee per FSM 5300. Law enforcement personnel are authorized to wear the following for special tactical operations, for emergency flights, or on flights that are short in duration:

- Battlefield dress uniform (BDU),
- Forest Service uniform, or
- Approved utility uniform.

#### **5.26.7 Emergency Operations**

The LEI personnel shall follow the [FSH 5309.11, Chapter 52.15 – Emergency Operations](#)

#### **5.26.8 LEI Short-Haul and Hoist Operations**

Reference 5.20.4.

Regional Supplement:

### **LAW ENFORCEMENT**

#### **GENERAL**

- A. The Supervisory Special Agent (SSA) or Supervisory Law Enforcement Officer (SLEO) is responsible for coordinating with the RAO on any requests for use of aircraft in law enforcement activity.
- B. Confidentiality is often a consideration in mission planning. It is essential that law enforcement and aviation managers coordinate mission requirements. With advance planning, missions can be accomplished effectively within FS aviation safety policies.
- C. Forest Service owned, contracted, or leased aircraft shall not be used in law enforcement missions without specific prior approval of the Special Agent In-Charge (SAC) and documented concurrence of the vendor and the contracting officer as

appropriate. Requests for use of FS operated aircraft by other law enforcement agencies shall be referred to the SAC. The only exception would be if a pilot and aircraft were released from contract obligation and the requesting agency assumes responsibility (Note: Refer to specific contract).

- D. The CO or COR may decline any requests for release of an aircraft from contract if the flight is not in the interest of the FS. The contractor or contractor's representative may also decline any requests for release.

#### PROCEDURES

- A. Dispatch Notification. It is the responsibility of the SSA/SLEO to notify the Center Manager or assistant of any FS law enforcement aviation missions on the Forest with planned dates and times.
- B. Personnel. All law enforcement aviation operations shall be conducted by either a qualified Project Helicopter Manager or by a Project Flight Manager, depending on the mission complexity (IHOG Chapter 2). The only exception is when the agency is utilizing other government agency or military aircraft, and the provider of the aircraft is also providing the helicopter and/or helibase management services, such as, flight following, loading/unloading of personnel/cargo, external load operations, etc. and operation is approved by the RAO.
- C. Aircraft. Law enforcement aviation missions may be accomplished utilizing agency-owned, contracted, rented or other-government agency or military aircraft (IHOG Chapter 5-3, 16-3). ***See WO Letter Dated May 20, 2008 Flight Authorization on Department of Homeland Security Aircraft.***
- D. Flight Following. Forest Service flight following of law enforcement operations will take place either through the appropriate center or by using FS law enforcement personnel that are in the field. Flight following shall be accomplished as per FS regulations. If the GACC is not used for flight following then the GACC will be notified of the mission, area of mission, frequencies, date and time frame of the mission. During covert operations where the need for secure communications is essential, one of the following procedures shall be utilized:
  - 1. Grid map reference check-ins
  - 2. Flight following through another agency
  - 3. Automated Flight Following (AFF)
- E. Personal Protective Equipment. PPE will be worn as required by this plan. Exemptions are listed in Chapter 16 of the IHOG. Personal Floatation Devices (PFDs) are required to be worn by all occupants when conducting overwater operations.
- F. Survival Equipment. There must be sufficient survival equipment suitable for the environment onboard the aircraft to sustain life of all occupants for a minimum of 24-hours.

Comment [BG3]: WO LTR 5/20/08

- G. Aircraft /Pilot Qualifications. FS, contractor, and cooperater aircraft used to fly FS law enforcement personnel will be flown by pilots who meet agency standards and possess a current Interagency Pilot Qualification Card. Use of other law enforcement agency, Department of Defense, National Guard, or Coast Guard aircraft requires acceptance of that agency's pilot qualifications if operating under a current MOU. Aircraft and pilots not meeting these guidelines must be approved by the appropriate RAO (FSM 5712.41, 5713.4).
- H. Use of Military Helicopters. National Guard helicopters and pilots must be approved for FS use. They will have a letter of approval on board each helicopter stating that they are approved for FS use. All FS rules and procedures apply when FS employees are involved (PPE, flight following, etc). Regular Army helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis.
- I. Landing Areas (Helicopter). Use of helispots must be in accordance with IHOG requirements.
- J. Altitude. A minimum operational flight altitude of 500 feet above the terrain must be maintained except for takeoffs and landings.
- K. Night. Search and rescue operations are only authorized between 30-minutes before official sunrise to 30-minutes after official sunset.
- M. Flight Minimums. All VFR flights must meet 14 CFR Part 91 visibility requirements. Over the top operations are not authorized.
- N. Load Calculations and Manifests. When utilizing aircraft other than military, load calculations and manifests are required. When utilizing a military aircraft, use of the Performance Planning Card (PPC) is acceptable along with a manifest. Load calculations will be made prior to flight. It is the responsibility of the pilot, however FS personnel must ensure this is done. A copy of the manifest and load calculation is kept on the ground until the flight is terminated. Passenger changes need to be documented.
- O. Emergency and Covert Operations. The Center Manager or assistant shall be notified of emergency and covert FS Law Enforcement aviation missions (to include flights benefiting FS law enforcement missions, but where FS employees are not on board the aircraft) on the Forest by the SSA, duty officer or assigned aviation manager. The GACC Manager will be given the information the day of the mission and will ensure that the mission security is maintained. Undercover operations will be coordinated through the Regional Office, Law Enforcement and Investigation (LE&I) so that confidentiality will be ensured. It is the responsibility of the Regional LE&I to coordinate with the RAO when missions are of this nature.
- P. Unapproved Aircraft/ Pilots. In certain emergency situations (special investigations, or undercover operations), it may be necessary for personnel to ride in unapproved aircraft/or with unapproved pilots. In these situations the flight(s) may be authorized by the Regional Aviation Officer (FSM 5712.34) as appropriate. The Special Agent in Charge, Supervisory

Special Agent, Regional Patrol Commander and all Special Agents will be qualified as FWFM. Any such occurrence shall have a written justification prepared and attached to an agency SafeCom, and submitted to the Special Agent in Charge within 24-hours of the completion of the mission.

- Q. Cooperative Agency Aviation Operations. Cooperative agency conducting law enforcement operations on the Forest shall be encouraged to notify the Dispatch Center Manager or SSA of missions over FS Lands.
- R. Briefing Requirements. As a minimum the following areas will be discussed with all flight participants prior to each mission.
1. Risk management and mitigation
  2. Mission/Flight Hazards
  3. Personnel Responsibilities/Authorities
  4. Flight/Duty Limitations
  5. Flight Plan/Flight Following
  6. Pilot/Aircraft Data Card
  7. Personal Protective Equipment
  8. *Five Steps To A Safe Flight (Form FS 5700-16)*
    - Aircraft Hazards
    - Seat Belt & Harness
    - ELT & Survival Kit
    - First Aid Kit
    - Gear & Cargo Security
    - Fire Extinguisher
    - Fuel & Electrical Shut-off
    - Oxygen Equipment
    - Emergency Egress
    - Smoking
  9. Communications
  10. Firearms Safety
  11. Radios
  12. Landing Areas  
**Note:** Wilderness landing areas require Forest Supervisor/Regional Forester approval(s).
  13. Load Calculations/Manifests
  14. Mishap Notification Procedures

- 15. Weather/Hazards
- 16. External Load Procedures
- 17. HazMat Procedures
- 18. Explosive Ordinance Demolition (EOD) Procedures.
- 19. Military Training Routes/Temporary Flight Restrictions

Forest Supplement:

Reserved

### **5.27 Unmanned Aerial Systems (UAS)**

All requests to utilize UAS must be routed through the Assistant Director, Aviation.

### **5.28 Forest Health/resource aviation**

#### **FOREST HEALTH AERIAL DETECTION SURVEY**

##### **General**

Forest Health Protection (FHP) is part of the State and Private Forestry staff in the Region. FHP uses aerial detection surveys (ADS) as an economical and efficient method of detecting, monitoring and evaluating recognizable insect, disease and other disturbances to forest ecosystems. Comprehensive aerial sketch mapping surveys ensure early detection of epidemic infestations, provide current and historical documentation of insect and disease impacts, and provide land managers with important information about forest health symptoms and conditions. FHP annually flies an overview survey over most of the Region's forested lands, on all ownerships. Insect and disease surveys are a cooperative effort with:

1. Idaho Department of Lands
2. Montana Department of Natural Resources and Conservation, Forestry Division

##### **Procedures**

- A. Program. The aerial survey program is managed by a R1/R4 aerial survey coordinator located in Boise, Idaho with FHP aerial surveyors based at the Missoula, Boise, and Ogdan Field Offices. State Cooperators are based in Coeur d'Alene, Idaho.
- B. Personnel. Qualified FHP aerial observers are IAT Qualified "fixed-wing managers for special use" and would be proficient anywhere in the United States. The primary FHP aerial observer (Fixed-Wing Flight Manager) is responsible for the management of the

aircraft and crew resources. To be considered fully qualified, all FHP aerial observers will have completed the task book for Fixed Wing Flight Manager – Special Use Aerial Survey Observer (FHTET-02-08).

C. Aircraft:

Northern Region - The Northern Rockies Coordination Center (NRCC) and FHP share on- demand contract/s for three single engine fixed wing aircraft contracted by the Regional Office in Missoula. All requests for aircraft from this contract will be made through the NRCC.

D. Ordering Procedures - Aerial surveys during the summer survey season will be conducted using these contracts, unless helicopters are necessary. Call When Needed (CWN) contract aircraft may be utilized if normal contract aircraft are deemed unavailable. FHP aerial observers may order aircraft by tail number in order to insure the appropriate aircraft is available for the specific mission. Procurement of a helicopter for a special aerial survey will be done through the Forest Dispatcher where the special survey will occur.

E. State Cooperators - The Idaho Department of Lands (IDL) staff conducts aerial detections surveys annually in Idaho. IDL flies approximately 75 to 100 hours each summer covering approximately 4 million acres of forest lands of all ownerships. They procure Call When Needed (CWN) fixed wing aircraft from the Idaho Panhandle National Forests. The IDL aerial observers meet FHP training and experience minimums.

F. Survey Schedules - Prior to summer field season, a proposed aerial survey schedule will be sent to each Forest Aviation Officer and Forest FHP contact. This schedule should include such information as the date the Forest is to be flown, the town the aerial survey crew will overnight in, the name and phone number of the motel; along with the name of the aerial observer and their cell phone number and the intended dispatch center who is expected to do the flight following. It should be understood that this schedule is tentative and can easily change due to weather, fires or other scheduling challenges. Each observer will usually attempt to be on the scheduled Forest through the summer, and then conduct make-up flights after the regular schedule.

G. Communication with Dispatch - The Aerial Observer will notify the appropriate Forest Dispatcher by phone and/or electronic message of intent to fly survey on the Forest prior to the actual flight. This should occur several days prior to the survey and such things as time, location, automated flight following, radio frequencies, and other aviation activities should be discussed. Notification of scheduled aerial surveys should be made in a timely manner to help dispatch center anticipate flight following workload.

H. Flight Following. Flight following shall be in accordance with Regional and National Mobilization Guidelines.

1. Automated Flight Following (AFF) is the primary method of flight following. AFF by FHP aerial observers will conform to National and Regional direction.
  2. If AFF is lost or unavailable, dispatch will immediately contact the aircraft by radio. Flight following will continue via 15-minute radio check-ins until AFF contact is re-established. If radio contact is lost for 15 minutes after the next scheduled check-in, the survey will be terminated and the crew will ensure positive communication is made by landing at an airport and calling from a telephone or by contacting a third party, who can immediately relay a message to Dispatch regarding current status of the survey crew. The Aerial Observer will have at their disposal all current primary and secondary radio frequencies and tones.
- I. Aircraft / Pilot Qualifications. All aircraft used to conduct FHP aerial surveys will be inspected and approved for Special Mission Use by Forest Service and/or AMD. All aircraft used for the aerial survey will have a high wing, large windows for visibility and adequate engine power; aircraft performance, safety history and cost per hour should be evaluated prior to use. All contract pilots who fly FHP aerial surveys must be Forest Service/AMD approved for reconnaissance missions and will carry a Pilot Qualification Card. They should also have demonstrated expertise in mountain flying because of the special nature of FHP aerial survey flying. For landings and take-offs on backcountry airstrips, pilots must be individually approved by the Forest Service for each specific airstrip on a case-by-case basis.
- J. Altitude / Survey Flight Pattern. Most of the survey work is conducted from 500 feet to 2,000 feet AGL, using either a grid or contour/drainage flight pattern technique.
- K. Electronic Sketch mapping Equipment. When utilizing the electronic sketch map equipment, aerial observers and their pilots should ensure all equipment is fastened down in a safe manner such as on a rack mounted system that attaches to the seat rails or can be strapped in with the seatbelts. Power should be connected through a hardwired accessory power source per contract specifications and should be tested at initial use to ensure correct wiring so as not to damage aircraft or electronic sketch map equipment.
- L. Briefing Requirements. As a minimum the following areas will be discussed with all flight participants prior to each mission.
1. Risk Management and mitigation
  2. Personnel Responsibilities/Authorities
  3. Flight/Duty Limitations
  4. Flight Plan/Flight Following/Communications
  5. Pilot/Aircraft Data Card

- 6. Survival Equipment
- 7. Weather/Hazards
- 8. Mishap Notification Procedures
- 9. Aircraft performance capability (density altitude)

### 5.29 Animal Transport (Internally)

Authorization shall be requested and approved by the Unit/Forest Aviation Officer (UAO/FAO) before the flight is scheduled. The pilot shall be notified and must approve the transportation of animals before they are loaded aboard an aircraft. Animals must be confined, restrained, or, when necessary, sedated.

### 5.30 AIRCRAFT MAINTENANCE

#### PROCEDURES

##### A. FS Owned Aircraft

Aircraft will be maintained in accordance with 14 CFR Parts 39, 43 and 91 or equivalent standards approved by the National Aviation Maintenance Manager (FSH 5709.16, 41.1). Dependent upon the type of operation (VFR, VFR Night, IFR, etc) to be conducted, aircraft must meet the instrument and equipment requirements in 14 CFR Part 91.205. In order to assure the Working Capital Fund (WCF) fleet is maintained to the highest standards possible, the Regions will operate in accordance with the following procedures:

1. All discrepancies will be logged on Form FS 5700E. Aircraft times shall be kept up to date in the aircraft maintenance log. Pilots who complete a page shall total the times and carry them over to the next page.
2. Pilots shall write up all airworthiness and operational mission item discrepancies at the end of each flight. Write-ups will be concise and descriptive, identifying necessary parameters to aid in trouble-shooting discrepancies. Pilots shall initial and date each write-up.
3. All aircraft discrepancies should be discussed with the Regional Aviation Maintenance Inspector/Program Manager (or designee). Pilots will review each write-up with the Regional Aviation Maintenance Inspector/Program Manager (or designee), as soon as practical after flight.
4. The pilot and A&P Mechanic or Avionics Technician will jointly determine if the item can be deferred. Once the decision to defer the item is made, it will be transferred

to the Delayed Discrepancy List on the cover of FS 5700E, and procedures outlined in the FS Maintenance and Operations procedures, latest revision.

5. The Maintenance File Copy (white page) shall remain in the log and will be pulled by the AMI after all discrepancies are specifically addressed in the corrective action column. The copy shall be filed by the AMI and retained for 24-months. The Aircraft Copy (yellow page) will remain in the log kept with the aircraft. Completed logs will be given to the Aircraft Maintenance Inspector (AMI), who will prepare a replacement Aircraft Maintenance Log for the aircraft.

#### B. Vendor Aircraft

When any non-scheduled maintenance or repairs are performed due to mechanical or equipment deficiencies, a government AMI and the CO shall be notified for return-to-contract availability approval, before the aircraft performs under the contract. A SAFECOM must be submitted within 5 days to the appropriate Regional Aviation Safety Office. Contractor aircraft involved in an incident/accident (notify dispatch immediately) need to remain contractually unavailable for mission work (employees don't fly on aircraft) until the AMI has approved the aircraft for contract availability.

#### 5.31 Supplemental Oxygen

At cabin pressure altitudes above 10,000 feet (MSL) for more than ½ -hour or above 12,000 feet (MSL) (14 CFR 135.89), the minimum required flight crew must use supplemental oxygen. All occupants must use supplemental oxygen above 15,000 feet (MSL). 14 CFR Part 135.157

## 6.0 Aviation Training

### 6.1 Aviation Training for All Flight Activities and Positions

Aviation training is essential to aircraft pilots (both contract and employee), aviation users, supervisors, and managers to ensure that they are knowledgeable of the inherent hazards of aviation operations. The Forest Service Aviation Training Program is a “fire” and “non-fire” system. The [National Wildland Coordinating Group’s \(NWCG\)](#) guides the fire qualifications ([FSH 5109.17](#)), while the [Interagency Aviation Training Guide](#) regulates the “non-fire” qualifications. Personnel serving in NWCG positions need only meet the qualification and currency requirements required in [PMS 310-1/ FSH 5109.17](#) or other interagency guidance as appropriate (Smokejumper Spotter, Interagency Aerial Supervision Guide, etc). For a functional crosswalk from fire aviation positions (NWCG) to resource related aviation positions refer to the Interagency Aviation Training Guide ([Appendix 1 FS Requirements](#)).

The objectives of selection, recruitment, development and training are to improve safety, quality and efficiency by placing employees in jobs to which they are suited and qualified. Although this concept is obvious, it is fundamental at all levels within an agency and worthy of emphasis. The appropriate experience and training requirements for safety-related posts much be defined, monitored and recorded.

#### Regional Supplement:

Aviation Training. Managers, supervisors and employees who are pursuing new or additional qualifications shall use the Interagency Aviation Training Guide to determine minimum course and currency requirements at the full performance level for Forest Service personnel involved in aviation operations. Course requirements, computer-based training, and guides may be found at [www.iat.gov](http://www.iat.gov).

Training is clearly one of the most important factors in safe and successful aviation operations. It is essential that, in addition to aircraft pilots, aviation users, supervisors, and managers be knowledgeable of the inherent hazards and risks of aviation operations.

Forest Service management is dedicated to conducting or providing for professional and technical training of employees in all levels of the organization that use and/or influence the use of aviation resources. Each operating unit develops and implements plans for the identification of initial and recurrent aviation training needs specific to its mission

#### Forest Supplement:

Reserved

## 6.2 Responsibility

The Washington Office, Branch Chief, Aviation Safety and Training Systems is responsible for national oversight of the aviation safety education program and aviation accident prevention efforts (FSM 5720.45).

It is management's responsibility to provide training and career development opportunities to personnel under its control, to expand, improve, correct deficiencies, or meet job performance requirements.

It is every employee's responsibility to take advantage of aviation training opportunities and to notify their supervisor of any aviation training they believe they require for accomplishing their jobs safely and efficiently.

### Regional Supplement:

Reserved

### Forest Supplement:

Reserved

## 6.3 Instructor Standards

Aviation trainers provide specialized training in many aviation job skills i.e. helitack, aerial attack, SEAT manager, aerial ignition, rappel and helicopter management. The Interagency Aviation Training (IAT) guide identifies position training requirements for non-fire aviation functions. Specialized training courses can be accessed on the IAT website at: <http://iat.nifc.gov/online.asp>.

Personnel serving in NWCG instructor positions need to meet the qualification and currency requirements in FSH 5109.17 Ch 30, part 31 which refers to the PMS 901-1 Field Manager's Course Guide.

### Regional Supplement:

Reserved

### Forest Supplement:

Reserved

#### 6.4 Records Management

All employee training records shall meet the requirements stated in the [FSH 5109.17](#) for all NWCG qualifications. All training records for non-fire qualifications (IAT) shall either reside with the Training Officer or the Forest Aviation Officer.

Each operating unit needs to develop and implement plans for the identification of initial and recurrent aviation training needs specific to its missions.

Areas of aviation training are:

- Orientation and basic aviation safety for all users
- Flight Manager Training
- Dispatching and flight-following procedures
- Management of aviation operations and equipment
- Planning, risk assessment and execution of projects using aviation resources
- Proficiency and special mission training for pilots
- Technical training on aviation equipment and aircraft maintenance
- Advanced safety management systems (SMS) and quality assurance for aviation professionals and specialists

Regional Supplement:

Reserved

Forest Supplement:

Reserved

#### 6.5 Tuition and Travel

Forest Service management is dedicated to conducting or providing for professional and technical training of employee or contract personnel at all levels of the organization that use and/or influence the use of aviation resources. Regions are provided with appropriate levels of funding for the tuition and travel to attend training that will maintain aviation personnel currency and advance their skills.

Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 6.6 Development

The Forest Service encourages development of interested personnel who desire to pursue an aviation career path. Developmental positions (i.e. Regional Aviation Management Specialists) and all positions that have aviation operations responsibility are advised to attend [System Safety Leadership for Aviation Managers \(SSLAM\)](#). Completion of the 5 week SSLAM curriculum results in the issuance of a Certificate of Completion from UC Davis, and a GSA Federal Aviation Safety Officer Certificate. All Regional Aviation Safety Managers are required to complete this course requirement.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 6.7 IAT/NWCG Crosswalk

NWCG/ FSH 5109.17 Qualifications	IAT Resource Qualifications
HECM	Aircrew Member
ACDP	Aircraft Dispatcher
AOBD, ASGS, ATGS	Aviation Manager
AOBD, ASGS, ATGS, HLCO	Fixed-Wing Flight Manager –Special Use
HMGB	Helicopter Manager-Resource
AOBD, ASGS, HEB1/2	Project Aviation Manager
AOBD	Supervisor

The positions listed in the NWCG/[FSH 5109.17](#) Qualifications column will crosswalk into the non-fire IAT Resource Qualifications.

If individuals do not meet the NWCG/[FSH 5109.17](#) Qualifications (above), they shall follow the training requirements found in the [IAT Guide](#) in order to conduct/oversee non-fire resource aviation operations.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### **6.8 Aviation Contracting Officer Representative (COR) Requirements**

Employees working as Aviation CORs must obtain a minimum of 56 initial training hours and 16 hours of training every two years to remain active participants in the USDA Acquisition Workforce (AW) Career Management certification program. Failure to meet the maintenance requirements may result in the termination of a COR certification, or an inability to meet the GS-1102 (Contracting Specialist Series) qualification standard. COR training requirements can be found in DR 5001-1.

#### **Regional Supplement:**

Reserved

#### **Forest Supplement:**

Reserved

## 7.0 Airspace Coordination

### 7.1 Interagency Airspace Coordination

Interagency airspace coordination is accomplished through the Interagency Airspace Steering Committee (IASC) chartered under the National Interagency Aviation Council (NIAC). Guidance and education is provided through the [Interagency Airspace Coordination Guide](#).

**Regional Supplement:**

#### Airspace Restrictions

1. Temporary Flight Restrictions (TFRs) and Notices to Airmen (NOTAM) shall be coordinated through the appropriate dispatch centers to the Geographic Area Coordination Centers
2. Deconfliction of local airspace operations (military training routes, MOA's, Agricultural air operations) will be completed by the local coordination center.

**Forest Supplement:**

Reserved

### 7.2 Fire Traffic Area (FTA)

The FTA provides a standardized initial attack sequence structure to enhance air traffic separation over wildfire or all risk incidents. The structure emphasizes established communications, clearances and compliances. The FTA process will be used by all tactical aircraft. See the [Interagency Aerial Supervision Guide \(IASG\)](#) for details.

**Regional Supplement:**

The Fire Traffic Area (FTA) will be in effect during initial, extended attack, and large fire. In some cases, the FTA may be coincident with a TFR. Coordination of the FTA will be the responsibility of the agency with fire protection responsibility. The local dispatch center will be the point of contact for aviation resources approaching and departing the FTA when no aerial supervision is in place.

**Forest Supplement:**

Reserved

### 7.3 Temporary Flight Restriction (TFR)

In order to enhance safety during an incident, the FAA may be requested to issue a TFR that closes the airspace to non-participating aircraft (with some exceptions). While there are currently nine different types of TFR's, the most commonly issued TFR for wildfire is 14 CFR 91,137 (a) 2 which is explicit as to what operations are prohibited, restricted, or allowed. Aviation Managers requesting a TFR should be familiar with the ordering procedures, coordination protocol and exceptions that are outlined in [Chapter 6](#) of the [Interagency Airspace Coordination Guide](#).

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 7.4 Aircraft Transponder Code (Firefighting)

The FAA has provided the 1255 Transponder code as the national designation for firefighting aircraft. It is not agency specific. The code should be utilized by aircraft responding to and operating over fire incidents supporting suppression operations (unless otherwise directed by Air Traffic Control (ATC)). It is not to be used for repositioning or during cross-country flights.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 7.5 Airspace Boundary Plan

When resources are dispatched by more than one unit to an incident that shares a common boundary, care should be taken to ensure safe separation and communication of responding aircraft.

Boundary Plans should be prepared that focus on a 10 NM wide “neutral airspace” corridor for mutual or exchanged initial attack area’s or zones. Agencies conducting flight activity within the boundary corridors should implement notification procedures to adjoining agencies and cooperators.

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

**7.6 Airspace Deconfliction**

Airspace de-confliction can occur for both emergency response and non-emergency aviation activities.

De-confliction can be accomplished through the following measures.

- Pilots must obtain all information pertinent to flight before flying. This is accomplished by obtaining a briefing from the FAA through the Flight Service Stations. This is the official source of NOTAM information.
- Dispatching units may obtain scheduling information from DOD units that have Special Use Airspace or Military Training Routes and share this information as “hazards” information on the Resource Order when the aircraft is dispatched. For non emergency flights, information may be shared through common communication protocol.
- Aviation Internet websites are prolific on the internet. When used for obtaining airspace information, the user must be aware of any disclaimers regarding the timeliness of the information posted. The FAA’s US NOTAM office provides current TFR information through DINS (DOD Internet NOTAM Service) at <https://www.notams.faa.gov>.

**Regional Supplement:**

Reserved

**Forest Supplement:**

Reserved

### 7.7 Airspace Conflicts

Aviation personnel have a responsibility to identify and report conflicts and incidents through the [Interagency SAFECOM \(Safety Communication\) System](#) to assist in the resolution of airspace conflicts. When a conflict or incident occurs, it may indicate a significant aviation safety hazard. Conflicts may include Near Mid Air Collisions (NMAC), TFR intrusions, and FTA communication non-compliance. Further guidance is available in [Chapter 8 of the Interagency Airspace Coordination Guide](#).

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

### 7.8 Airspace Agreements – Memorandums of Understanding

When Special Use Airspace (SUA's), Military Training Routes (MTR's), Slow Routes (SR's), or Aerial Refueling Routes (AR's) are located over lands within an agency's jurisdiction or within their area of normal flight operations (fire or non-fire), the agency should consider instituting an agreement with the appropriate Department of Defense (DoD) entity that schedules the airspace. Airspace agreements establish protocol for emergency and non-emergency contacts. They provide local level leadership a tool that defines protocols to address recurring activities, coordination of time critical responses, deconfliction and resolving issues in a timely manner. Initiation of an agreement can begin by contacting the Military Representative to the FAA located at FAA Service Centers, Air Force Representative, Navy Representative, and Department of Army Representative. A template and sample format is provided in [Chapter 12 of the Interagency Airspace Coordination Guide](#).

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

## 8.0 Aviation Security

### 8.1 Aviation Security

The policies and procedures in this chapter when implemented are intended to make the theft of FS aircraft more difficult and time consuming and therefore reduce the threat to our facilities from criminal elements.

The FS will provide an aviation security program that will include:

- Aviation facilities and aircraft security standards
- Aviation security adjustment plans that respond to changes in the Homeland Security Advisory System (HSAS) threat levels
- Quick response emergency procedures

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 8.2 FS Facilities Security Risk Assessments

Each Forest Service aviation facility must complete a yearly risk assessment to determine the security standard.

The risk assessment must include an analysis of:

- The vulnerability level of the facility, which is any weakness in the design or operation of a facility that can be exploited by an adversary.
- The probability of threat, or the likelihood of an undesirable event occurring over time.
- The severity of event consequences, which is the level, duration, and nature of the loss resulting from an undesirable event.

Reference the [5709.16 Chapter 50](#) for the FS Risk Assessment. After completion, the risk assessments, including the self-assessments must be submitted and reviewed by the Fire and Aviation Management Staff, Washington Office.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### **8.3 FS Security Response Actions**

The objective is to ensure that the FS is prepared to increase security standards at agency aviation facilities in response to increases in the Homeland Security Advisory System (HSAS) threat levels.

It is FS policy to immediately adjust the level of aviation security any time an HSAS threat level changes.

#### **Regional Supplement:**

Reserved

#### **Forest Supplement:**

Reserved

### **8.4 Regional Homeland Security Advisory System Response Plan**

Each Region must develop a HSAS Response Plan that details the security actions that the Region will implement, based upon the HSAS threat level. The Regional HSAS Response Plan must be reviewed by the Fire and Aviation Management staff, Washington Office.

#### **Regional Supplement:**

Reserved

#### **Forest Supplement:**

Reserved

### **8.5 Facility Homeland Security Advisory System Response Plan**

Each FS aviation facility must develop a Facility HSAS Response Plan that is specific to that aviation facility and details the security actions the facility will take for each HSAS threat level. The Facility HSAS Response Plan must be reviewed by the Fire and Aviation Management staff, Washington Office.

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**8.6 General Aviation Security Awareness Programs**  
RESERVED

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**8.7 Aircraft Security Information (Cooperators)**

The security of cooperator/contractor provided aircraft and equipment is the responsibility of the cooperator/contractor.

Aircraft shall be electrically and/or mechanically disabled by two independent security systems whenever the aircraft is unattended. Deactivating security systems shall be incorporated into preflight checklists to prevent accidental damage to the aircraft or interfere with safety of flight.

Examples of Unacceptable disabling systems are:

- Locked door/windows
- Fenced parking areas

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**8.8 TSA Commercial Airport Security**

Commercial airport security requirements can be found at the [Transportation Security Administration \(TSA\)](#) web site.

## 9.0 Aviation Facilities

### 9.1 General

All facilities managers are responsible for providing aviation facilities, within their respective area, that are safe, adequate, and are in compliance with applicable Forest Service regulations.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 9.2 Permanent Aviation Facilities

These facilities (helibases, retardant bases, and airport facilities) are permanent installations (owned and leased) and are used on a continuous or seasonal basis for aviation operations. These include aviation facilities on Forest Service property and facilities on non-Forest Service land where Forest Service has primary responsibility for operations, maintenance, and oversight.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 9.3 Temporary Aviation Facilities

Temporary bases are sites that are used on a temporary or intermittent basis (helispots and remote airstrips). Sites not located on Forest Service land must be pre-approved and use shall be documented in an Agreement. Each site should be cataloged as to location, description, local hazards, use procedures, agreements, and contacts. Preseason inspection and maintenance should be completed as necessary to meet agency safety requirements.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 9.4 Safety

Aviation facilities must comply with safety regulations outlined in Forest Service manuals, guides, handbooks, and the [Occupational Safety and Health Act \(OSHA\)](#). Building equipment and landing surfaces will be inspected by FOAs annually to identify any maintenance or safety deficiencies.

#### Regional Supplement:

Reserved

#### Forest Supplement:

Reserved

### 9.5 Agency Owned/ Operated Facilities

Refer to the [Building and Facilities Related Handbook FSH 7309.11](#) for information regarding:

Planning

Development

Management

Special-Use Facilities

Records and Reports

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**9.6 Agency Owned/ Operated Airstrips**

Forest Service owned and operated airstrips will be maintained in accordance with FSM 7709.58, Chapter 30.

**Regional Supplement:**

Reserved

Forest Supplement:

Reserved

**9.7 Leasing**

Leased facility needs can be met through the Acquisition Management (AQM) organization, either via lease or grants and agreements. These are more fully described on the AQM website: <http://fsweb.wo.fs.fed.us/aqm/>. Facilities can also be acquired on Government-owned land by means of land exchanges.

**9.8 Funding**

**9.9 Land Use Agreements**

Simplified acquisition procedures should be used to acquire the use of property or facilities for emergency incidents. Emergency incident agreements do not require special leasing authority. Procurement officials with warrant authority may enter into these agreements. More detailed information is available in the Interagency Incident Business Management Handbook, Chapter 20. [http://www.nwccg.gov/pms/pubs/iibmh2/pms902\\_iibmh.pdf](http://www.nwccg.gov/pms/pubs/iibmh2/pms902_iibmh.pdf).

### 9.10 Facilities Security

All sites will be provided with appropriate physical security measures commensurate with the risk of loss of operating capability, irreplaceable data, or expensive property ([FSH 7309.11, 41.2](#)).

- Equip all buildings with locks. The keys shall be managed by the facility manager or other individual designated by the line officer. Where emergency access by non-unit personnel is necessary for fire management and other common occurrences, use master locks.
- Install signs and fences and/or provide other physical deterrents to warn and retard entry to all remote sites containing vulnerable operations such as telecommunications and research projects. Consider maintainability in the design of fences in areas subject to heavy snow, ice, and wind conditions.
- Restrict entry of unauthorized personnel into operations such as flammable, chemical and pesticide storage rooms or buildings, explosive storage facilities, computer rooms, biologically sensitive and controlled-environment areas, and others as the facility manager and policy deem necessary.

Refer to Chapter 8 in the National Aviation Management Plan and [FS Manual 5709.17 Chapter 50, Aviation Security](#) for additional facilities security.

#### Regional Supplement:

Reserved

Forest Supplement:

Reserved

## 10.0 Appendix

10.1 IAT Appendix 1 Forest Service Requirements

10.2 Day Trip Authorization

10.3 Policy Change - FSM 5700 and 5709.16, Instrument Flight Conditions and Night Flying

### Regional Supplement:

10.4 Definitions

10.5 Abbreviations

10.6 References

### Forest Supplement:

Forest Plans Non National Format:

### Appendix 10.3

**File Code:** 5700

**Date:** October 13, 2010

**Route To:**

**Subject:** Policy Change - FSM 5700 and 5709.16, Instrument Flight Conditions and Night Flying

**To:** Regional Foresters, Station Directors, Area Director, Director, Law Enforcement and Investigations, Regional Fire Directors, Regional Aviation Officers

Current Forest Service (FS) policy prohibits single-engine flight in Instrument Meteorological Conditions (IMC) and at night except for ferry and cargo- carrying flights. Technology has made single-engine turbine airplanes and helicopters as safe to fly in IMC and at night as multi-engine aircraft when equipped to do so.

All Federal Aviation Regulations (FAR) which address IFR and night flight will be required for these flights.

**Effective on this date, FSM 5716.12 and 5716.2 will read as follows:**

FSM 5700

5716.12 – Instrument Flight Conditions

Use only multi-engine or turbine powered single-engine aircraft for flights in Instrument Meteorological Conditions (IMC) that meet the applicable Instrument Flight Rules (IFR) requirements in Federal Aviation Regulations (FAR) Part 135, Part 91 and Part 61 as referenced in FSH 5709.16 or applicable contracts.

Low-level (FSM 5716.3) fixed-wing flight operations will be conducted only in daylight Visual Flight Rules (VFR) conditions (30 minutes prior to official sunrise until 30 minutes after official sunset).

5716.2 - Night Flying

Use only multi-engine or turbine powered single-engine aircraft for night flights that meet the applicable requirements in FAR Part 91 and Part 61 as referenced in FSH 5709.16 or applicable contracts.

Pilots flying night missions shall land at airports or heliports that meet Federal Aviation Administration (FAA) lighting standards, except:

1. This restriction does not apply to helicopter flights utilizing Night Vision Goggles (NVG).

Low-level helicopter flight operations will only be conducted using NVG. Helicopters will be approved for such an operation.

Reciprocating engine powered single-engine aircraft flights at night are authorized only for ferry and cargo-carrying missions at pilot-in-command discretion and in accordance with FAR Part 91.

Low-level (FSM 5716.3) fixed-wing flight operations will be conducted only in daylight Visual Flight Rules (VFR) conditions (30 minutes prior to official sunrise until 30 minutes after official sunset).

Regional Foresters, Station Directors, Area Director, Director, Law Enforcement and Investigations, Regional Fire Directors, Regional Aviation Officers

2

**Effective on this date, FSH 5709.16, 11.26 will read as follows.**

FSH 5709.16

11.26 – Operational Requirements – All Pilots

Requirements for all pilots flying Forest Service missions are as follows:

1. Instrument Flight Conditions. Use only multi-engine or turbine-powered single-engine aircraft for flights in Instrument Meteorological Conditions (IMC) that meet the applicable Instrument Flight Rules (IFR) requirements in Federal Aviation Regulations (FAR) Part 135, Part 91 and Part 61 as referenced in FSH 5709.16 or applicable contracts.

Low-level (FSM 5716.3) fixed-wing flight operations will be conducted only in daylight Visual Flight Rules (VFR) conditions (30 minutes prior to official sunrise until 30 minutes after official sunset).

2. FSM 5716.2 - Night Flying. Use only multi-engine or turbine-powered single-engine aircraft for night flights that meet the applicable requirements in FAR Part 91 and Part 61 as referenced in FSH 5709.16 or applicable contracts.

Pilots flying night missions shall land at airports or heliports that meet Federal Aviation Administration (FAA) lighting standards, except:

1. This restriction does not apply to helicopter flights utilizing Night Vision Goggles (NVG).

Low-level helicopter flight operations will only be conducted using Night Vision Goggles (NVG). Helicopters will be approved for such an operation.

Reciprocating engine powered single-engine aircraft flights at night are authorized only for ferry and cargo-carrying missions at pilot-in-command discretion and in accordance with FAR Part 91.

Low-level (FSM 5716.3) fixed-wing flight operations will be conducted only in daylight Visual Flight Rules (VFR) conditions (30 minutes prior to official sunrise until 30 minutes after official sunset).

This policy change will be in effect until rescinded.

Questions regarding this policy change should be directed to Paul Linse, 202-205-0974.

***/S/ JAMES E. HUBBARD***

JAMES E. HUBBARD

Deputy Chief, State and Private Forestry

cc: Karyn L Wood, Wm C Waterbury, Ron Hanks, Pat Norbury, John A Nelson, Richard Kvale, Patricia Hiram, Tom Harbour, Paul Linse

## APPENDIX 10.4

### DEFINITIONS

#### - A -

Aircraft - The term "aircraft" is used to refer to both airplanes and helicopters.

Aircraft Accident - An occurrence associated with the operation of an aircraft, which takes place between the time any person boards the aircraft with the intention of flight and all such persons have disembarked, and in which any person suffers death or serious injury, or in which the aircraft receives substantial damage.

Aircraft Incident - An occurrence other than an accident, associated with the operation of an aircraft, which affects or could affect the safety of operations.

Airspace Conflict - A near mid-air collision, intrusion, or violation of airspace rules

Airtanker - An aircraft used for the dispensing of a substance (normally fire retardant or water) on a wildfire.

Automated Flight Following - A satellite-based tracking system used to flight follow aircraft equipped with appropriate equipment. Dispatchers/coordinators may use the web-based computer-tracking program to flight follow aircraft instead of the traditional radio check-in procedures per Regional and/or National MOB Guide direction.

Aviation Hazard - Any condition, act, or set of circumstances that exposes an individual to unnecessary risk or harm during aviation operations.

#### - B -

Backcountry Airstrips **Remote Mountain** - Airstrips located in remote, rugged, usually mountainous terrain which are maintained to lower standards than FAA funded airports. These airstrips are generally surfaced with sand, sod and/or gravel and may contain hazards that may include one-way-in/one-way out access with the runway not visible to the pilot until the aircraft is committed to landing. Often unattended, wild or domestic animals, washouts, overgrowth, humps, swells, and side slopes may be encountered with landing areas that are rarely straight and level. Mountain winds, high density altitudes, short runways, turbulence, and mountain obstacles are additional hazards that may challenge the capabilities of the aircraft and pilot.

Comment [UFS4]: Add remote mountain

#### - C -

Call-When-Needed - A term used to identify the furnishing of services on an "as needed bases" or "intermittent use" in government procurement contracts. There is no guarantee the Government will place any orders and the vendor is not obligated to accept any orders. However, once an order is placed and the vendor takes steps to perform, both sides are bound by the terms and conditions of the contract.

Causes - Causes are those findings, which singly or in combination with other causes, resulted in the damage, or injury that occurred. A cause is a deficiency, the correction, elimination or avoidance of which would likely have prevented or mitigated the mishap damage or significant injuries. A cause is an act, an omission, a condition, or a circumstance, and it either starts or sustains the mishap sequence. A cause may be an element of human or mechanical performance. An environmental condition may be a cause if it was not reasonably avoidable. Findings which sustained the mishap sequence, but were normal to the situation as it developed, are not causes. These are often unavoidable effects of a preceding cause. Apply the 'reasonable person' concept when determining the causes. If a person's performance was reasonable, considering the mishap circumstance, do not assign cause. It is not appropriate to expect extraordinary or uniquely superior performance in activities.

Civil Aircraft - Aircraft other than public aircraft.

Civil Twilight - Begins in the morning, and ends in the evening when the center of the sun is geometrically 6 degrees below the horizon.

Cooperator Aircraft - An affiliated, military or other Government agency aircraft.

**- F -**

Fatal Injury - Any injury which results in death within 30 days of the accident.

Federal Aviation Regulations - Rules and regulations contained in Title 14 or the Code of Federal Regulations.

Findings - Findings are the conclusions of the investigation team. They are based on the weight of evidence, the investigation teams professional knowledge and their best judgment. They are statements of significant events or conditions leading to the mishap or event. They are arranged in the order in which they occurred. Each finding is an essential step in the event sequence, although each finding is not necessarily a causal factor.

First Aid - Any medical attention that involves no medical bill. If a physician prescribes medical treatment for less than serious injury and makes a charge for this service, that injury becomes "medical attention."

Flight Crewmember - A pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time that holds a valid Federal Aviation Administration (FAA) Airman's Certificate and flight physical.

Fleet Aircraft - Aircraft bailed, owned, or leased by the Forest Service with intent to purchase.

Forced Landing - A landing necessitated by failure of engines, systems, or components which makes continued flight impossible, and which may or may not result in damage.

**- G -**

General Aviation - That portion of civil aviation that encompasses all facets of aviation except air carriers.

Government Aircraft - Aircraft owned, leased, contracted, rented, or chartered, and used by a Federal Government agency. Commercial airline aircraft operating on their scheduled routes are not government aircraft.

Government Agency Aircraft - Other Aircraft of U.S. registry which are owned, leased or operated by a Government agency at the Federal, state or local levels other than Forest Service. This does not include "military aircraft," but does include bailed/loaned or excess/surplus military aircraft under the control of a Government agency. Foreign government aircraft are not included.

**- H -**

Hazard Aviation - Any condition, act or set of circumstances that exposes an individual to unnecessary risk or harm during aviation operations.

Human Factors - A multidisciplinary effort to generate and compile information about human capabilities and limitations; and apply that information to equipment, systems, facilities, procedures, jobs, environments, training, staffing, and personnel management for safe, comfortable, effective human performance.

**- I -**

Incident-With-Potential - An incident that narrowly misses being an accident and in which the circumstances indicate significant potential for substantial damage or serious injury. Final classification will be determined by the Forest Service (FS), National Aviation Safety and Training Manager.

**- L -**

Life-Threatening - A situation or occurrence of a serious nature, developing suddenly and unexpectedly and demanding immediate action to prevent loss of life.

**- M -**

Maintenance Deficiency - An equipment defect or failure which affects or could affect the safety of operations, or that causes an interruption to the services being performed.

Medical Attention - An injury, less than serious, for which a physician prescribes medical treatment and makes a charge for this service.

Military Aircraft - An aircraft maintained and operated by an active or reserve component [all Reserve forces, as well as Army National Guard and Air National Guard] of the Department of Defense (DOD) or by any active or reserve component of the U.S. Coast Guard (USCG). All references to military aircraft include both DOD and USCG aircraft.

Mission Use - The use of an aircraft that in itself constitutes discharge of official Forest Service responsibilities and duties. Mission flights may be either routine or emergency, and may include such activities as ASM/leadplane, smokejumper/paracargo, aerial photography, remote sensing, mobilization or demobilization of emergency support resources, reconnaissance, survey, backcountry

**DEFINITIONS** (Continued)

flights/airstrips, and project support. Mission flights do not include official travel to make speeches, attend conferences or meetings, or make routine site visits.

Mishap, Aviation - Mishaps include aircraft accidents, incidents-with-potential, aircraft incidents, aviation hazards, and aircraft maintenance deficiencies.

Mountainous Terrain - That terrain as identified in 14 CFR 95.11 and depicted in the Aeronautical Information Manual Figure 5-6-2 ADIZ Boundaries and Designated Mountainous Areas.

**- N -**

Night - The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

Non-chargeable Accidents - Those accidents in which the Forest Service (FS) was not exercising operational control over the aircraft at the time of the accident but in which FS employees or FS procured aircraft were involved.

**- O -**

Operational Control, Aircraft - The condition existing when an entity exercises authority over initiating, conducting or terminating a flight.

Operating Agency. - An executive agency or any entity thereof using agency aircraft which it does not own.

Operator - Any person who causes or authorizes the operation of an aircraft, such as the owner, lessee, or other.

**- P -**

Point-to-Point - Aircraft operations between any two geographic locations operationally suitable for take-off and landing (airport-to-airport). Point-to-point does not include flights to and from backcountry airstrips.

Precautionary Landing - A landing necessitated by apparent impending failure of engines, systems, or components which makes continued flight inadvisable.

Privately Owned Aircraft - Any aircraft piloted by a Forest Service employee on official business which has an FAA registration and the Forest Service employee is an owner(s), renter/lessee, or member of a club which owns the aircraft.

Public aircraft - **(See FSH 5709-11.21b Operations as Public Aircraft and FAA 8900.1 Chapter 14 Public Aircraft)** Means any of the following aircraft when not being used for a commercial purpose or to carry an individual other than a crewmember or qualified non-crewmember:

(1) An aircraft used only for the United States Government; an aircraft owned by the Government and operated by any person for purposes related to crew training, equipment development, or demonstration; an aircraft owned and operated by the government of a State, the District of Columbia, or a territory or possession of the United States or a political subdivision of one of these governments;

or an aircraft exclusively leased for at least 90 continuous days by the government of a State, the District of Columbia, or a territory or possession of the United States or a political subdivision of one of these governments.

(i) For the sole purpose of determining public aircraft status, *commercial purposes* means the transportation of persons or property for compensation or hire, but does not include the operation of an aircraft by the armed forces for reimbursement when that reimbursement is required by any Federal statute, regulation, or directive, in effect on November 1, 1999, or by one government on behalf of another government under a cost reimbursement agreement if the government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation is necessary to respond to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator is reasonably available to meet the threat.

(ii) For the sole purpose of determining public aircraft status, *governmental function* means an activity undertaken by a government, such as national defense, intelligence missions, firefighting, search and rescue, law enforcement (including transport of prisoners, detainees, and illegal aliens), aeronautical research, or biological or geological resource management.

(iii) For the sole purpose of determining public aircraft status, *qualified non-crewmember* means an individual, other than a member of the crew, aboard an aircraft operated by the armed forces or an intelligence agency of the United States Government, or whose presence is required to perform, or is associated with the performance of, a governmental function.

(2) An aircraft owned or operated by the armed forces or chartered to provide transportation to the armed forces if—

(i) The aircraft is operated in accordance with title 10 of the United States Code;

(ii) The aircraft is operated in the performance of a governmental function under title 14, 31, 32, or 50 of the United States Code and the aircraft is not used for commercial purposes; or

(iii) The aircraft is chartered to provide transportation to the armed forces and the Secretary of Defense (or the Secretary of the department in which the Coast Guard is operating) designates the operation of the aircraft as being required in the national interest.

(3) An aircraft owned or operated by the National Guard of a State, the District of Columbia, or any territory or possession of the United States, and that meets the criteria of paragraph (2) of this definition, qualifies as a public aircraft only to the extent that it is operated under the direct control of the Department of Defense. (14 CFR 1.1)

**- S -**

**Serious Injury** - Any injury which: (1) requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second or third degree burns, or any burns affecting more than 5 percent of the body surface.

**Special Mission Aircraft** - Aircraft approved for other than point-to-point only missions. Transportation is limited to personnel required to carry out the special mission of the aircraft.

**Statistically Accountable Accidents** - Those accidents in which Forest Service exercised operational control of the aircraft.

Substantial Damage - Damage or failure which adversely affects the structural strength, performance, or flight characteristics of the aircraft, and which would normally require major repair or replacement of the affected component. Engine failure or damage limited to an engine if only one engine fails or is damaged, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, ground damage to rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered "substantial damage".

System Safety - The application of special technical and managerial skills in a systematic, forward-looking manner to identify and control hazards throughout the life cycle of a project, program, or activity.

- V -

Vendor - An operator being paid by the Forest Service for services.

## APPENDIX 10.5

### ABBREVIATIONS

A&P	Airframe & Powerplant (Mechanic)
ACO	Administrative Contracting Officer
ACCO	Air Carrier/Commercial Operator
ADIZ	Air Defense Identification Zone
AFF	Automated Flight Following
AGL	Above Ground Level
ALSE	Aviation Life Support Equipment
AMD	Aviation Management Directorate (Formerly OAS)
AMI	Aviation Maintenance Inspector
AMIS	Aviation Mishap Information System
ARA	Aircraft Rental Agreement
ASI	Aviation Safety Inspector, Airworthiness
ASM	Aerial Supervision Module
ATCO	Airtanker Coordinator
AFF	Automated Flight Following
CO	Contracting Officer
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
CWN	Call when Needed (Contract)
DOI	Department of the Interior
DOD	Department of Defense
DOT	Department of Transportation
ELT	Emergency Locator Transmitter
EOD	Explosive Ordnance Demolition
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAO	Forest Aviation Officer
FAR	Federal Aviation Regulation
FARS	Federal Aviation Regulations
FHP	Forest Health Protection
FMO	Fire Management Officer
FS	Forest Service
FSDO	Flight Standards District Office
FSM	Forest Service Manual
FSS	Flight Service Station
FTA	Fire Traffic Area
FWFM	Fixed Wing Flight Manager
GACC	Geographical Area Coordination Center
GIS	Geographical Information System
GPS	Global Positioning System
HAZMAT	Hazardous Material
HOS	Helicopter Operations Specialist
IFR	Instrument Flight Rules
IHOG	Interagency Helicopter Operations Guide

IMC	Instrument Meteorological Conditions
ISOG	Interagency Smokejumper Operations Guide
LE&I	Law Enforcement and Investigation
MTDC	Missoula Technology & Development Center
MTR	Military Training Route
NASMPP	National Aviation and Safety Mishap Prevention Plan
NICC	National Interagency Coordination Center
NIFC	National Interagency Fire Center
NOTAM	Notice to Airmen
NTSB	National Transportation Safety Board
OAS	Office of Aircraft Services (Now AMD)
PASP	Project Aviation Safety Plan
PIC	Pilot in Command
PPE	Personal Protective Equipment
RAO	Regional Aviation Officer
RASM	Regional Aviation Safety Manager
SAC	Special Agent-in-Charge
SAFECOM	Aviation Safety Communiqué
SEAT	Single-Engine Airtanker
SLEO	Supervisory Law Enforcement Officer
SSA	Supervisory Special Agent
TFR	Temporary Flight Restriction
UAO	Unit Aviation Officer
VFR	Visual Flight Rules
WO	Washington Office
WOW	Washington Office West-Forest Service (Boise)

## APPENDIX 10.6

### REFERENCES

1. Procedural Publications. Forest Service employees are required to comply with the following documents:

Aerial Ignition Guide, Interagency	FSM 5703.4
Airspace Coordination Guide, Interagency	FSM 5715
Air Tactical Group Supervisor's Guide, Interagency	FSM 5703.5
Airtanker Base Operations Guide, Interagency	FSM 5706.6
Aviation Management	FSM 5700
Fireline Handbook	FSH 5109.32a
Flight Operations Handbook	FSH 5709.16
Helicopter Operations Guide, Interagency	FSM 5703.4
Helicopter Rappel Guide, Interagency	FSM 5703.4
Incident Business Management Handbook, Interagency	FSM 5109.34
Leadplane Operations Guide, Interagency	FSM 5703.5
National Mobilization Guide, Interagency	FSM 5108
Transport of Hazardous Materials Guide, Aviation	FSM 5714.2
Smokejumper Operations Guide, Forest Service	FSM 5706.14
Smokejumper and Paracargo Handbook	FSH 5709.14
Smokejumper Training Guide, Interagency	FSH 5709.14, 14.1
Wildland Fire Qualifications Subsystem Guide	FSH 5109.17

2. Other Publications. Listed below are some additional interagency aviation guides that Forest Service employees may wish to consult. (Note: Some of these publications may be incorporated by Forest Service directives in the future, and would then move to the list above.)

Airtanker Base Directory, Interagency	NFES 2537
Aircraft Identification Guide	NFES 2393
Aviation Technical Assistance Directory, Interagency	NFES 2512

Aviation User Pocket Guide, Interagency	NFES 1373
Call When Needed Helicopters, Interagency	NFES 2168
Helicopter Training Guide, Interagency	NFES 1261
Lot Acceptance, Quality Assurance & Field Quality Control of Fire Retardant Chemicals	NFES 1245
Military Use Handbook	NFES 2175
Retardant Base Planning Guide, Interagency	NFES 1259
Single Engine Air Tanker Operations Guide, Interagency	NFES 1844 Forms 1413

-----END-----