FOREWORD

This document supplements the USDA-Forest Service (FS), National Aviation Management and Safety Plans. Information presented in this document is a critical component of the Southern Region's Aviation Program.

Questions regarding this plan should be directed to the Regional Aviation Officer (RAO).

Southern Region

Prepared By:	/s/Dave Broadnax DAVE BROADNAX Regional Aviation Officer	01/13/2005 Date
Reviewed By:	(Vacant) Regional Aviation Safety Manager	Date
Reviewed By:	/s/Dan Olsen DAN OLSEN Acting, Regional Director, Fire and Aviation	01/14/2005 Date
Reviewed By:	/s/Jack Gregory JACK GREGORY Special Agent In Charge	01/18/2005 Date
Reviewed By:	/s/Wesley A. Nettleton WESLEY A. NETTLETON Regional Director, Forest Health Protection	01/18/2005 Date
Approved By:	/s/Ken Arney KEN ARNEY Acting, Regional Forester	01/25/2005 Date

TABLE OF CONTENTS

CHAPTER 1 – ORGANIZATION 1
Scope 1
Purpose 1
Objectives 1
Overview 1
Organization and Responsibilities 1
Regional Aviation Officer (RAO) 1
Aviation Operations Officer (AOO) 1
Aviation Program Assistant 1
Regional Aviation Safety Manager (RASM) 1
Airplane Inspector Pilots 1
Helicopter Inspector Pilot (HIP) 1
Helicopter Operations Specialist (HOS) 2
Aircraft Maintenance Specialist (AMS) 2
Geographic Area Coordination Center (GACC) Manager 2
GACC Aircraft Coordinator 2
Regional Aviation Contracting Officer 2
Forest/Unit Aviation Officer (FAO/UAO) 2
Chief-of-Party (COP) 2
Other Personnel 2
Program and Resources 2
Programs 2
Resources 3
CHAPTER 2 – OPERATIONS 5
General 5
Procedures 5
Aircraft and Pilots 5
Pilot Authority and Responsibilities 6
Passenger and Cargo Loading 6
Interim Pilot Duty Limitations 6
Night/IFR 6

TABLE OF CONTENTS

Low-Level Flight (Airplane) 7
Fuel Reserves 7
Temporary Flight Restrictions 7
Temporary Air Traffic Control Tower 7
Animal Transport (Internally) 7
Free-Fall Delivery (Airplanes) 7
Exemption for Transportation of Hazardous Materials 7
Forest Service Employees Piloting Non-Government Aircraft 8
Flight Hazard Maps 8
Dispatch 9
Ordering Flights 9
Flight Plans 9
Passenger Manifest 9
Passengers (Federal) 9
Passengers (Non-Federal) 9
Resource Tracking 10
Flight Following 10
Overdue Aircraft 10
Law Enforcement 10
Search and Rescue 10
Wilderness Areas 10
Aerial Detection 10
Special Projects 10
State Cooperators 11
Military ..... 11`
Pilot Briefing 11
Helicopter Operations 11
General 11
Limited Type 2 11
Limited Type 3 11
Bucket Operations (Extended) 11

TABLE OF CONTENTS

External Loads 12
Initial Attack and Fire Support Transport 12
Load Calculations 12
Wilderness Areas 12
Military Rappel/STABO 12
Cargo-Letdown/Toe-in 12
Airtanker Operations 12
General 12
Multi-Engine 12
Single-Engine 13
Contracts 13
Aviation Services Procurement 13
End Product Contract 13
Safety 13
General 13
Aircraft Mishap Response Plan 13
Passenger Briefings 13
Shoulder Harness/Seat Belts 14
Smoking 14
Sterile Cockpit 14
Personal Protective Equipment 14
General 14
Helmets (Helicopter) 14
Clothing (Helicopter) 15
Ground Personnel (Helicopter) 15
Personal Flotation Devices 15
Chief-of-Party 16
Aviation Training 16
Avionics 16
CHAPTER 3 – RECORDS AND REPORTS 17
Flight Plans 17

TABLE OF CONTENTS

Daily Flight Report 17
Annual Air Operations Report 17
Exclusive Use Helicopter Report 17
Administrative Flight Package 17
Senior Federal/Congressional/Non-Federal Travel Report 17
CHAPTER 4 – LAW ENFORCEMENT 19
General 19
Procedures 19
Aircraft 19
Altitude 19
Animal Transport (Internally) 19
Briefing Requirements 19
Cooperative Agency Aviation Operations 20
Emergency/Covert and Undercover Operations 20
Flight Hazard Maps 20
Exemption for Transportation of Hazardous Materials 21
Flight Following 21
Flight Minimums 21
Landing Areas (Helicopter) 22
Load Calculations (Helicopter) 22
Manifests 22
Military Helicopters 22
Military Rappel/STABO 22
Night 22
Personal Protective Equipment 22
Pilots 23
Planning/Coordination 23
Project Aviation Safety Plans 23
Project Helicopter Manager or Helicopter Manager 23
Supplemental Oxygen 23
Survival Equipment 23

TABLE OF CONTENTS

Wilderness Areas 24
Unapproved Aircraft/Pilots 24
CHAPTER 5 – SEARCH AND RESCUE 25
General 25
Aircraft 25
Persons 25
Procedures 25
Aircraft/Pilot Approvals 25
Altitude 25
Animal Transport (Internally) 26
Briefing Requirements 26
Flight Following 26
Flight Minimums 27
Hazardous Materials (HAZMAT) Transport 27
Landing Areas (Helicopter) 27
Load Calculations (Helicopter) 27
Manifests 27
Personal Protective Equipment 28
Project Helicopter Manager or Helicopter Manger 28
Military Helicopters 28
Night 28
Supplemental Oxygen 28
Survival Equipment 28
Wilderness Areas 28
CHAPTER 6 – AIRCRAFT MAINTENANCE AND SECURITY 30
Maintenance 30
FS Owned Aircraft 30
Vendor Aircraft 30
Security 30
Aircraft 30
Hangar Facility 30

TABLE OF CONTENTS

Key Control 30
CHAPTER 7 – SAFETY 31
Purpose 31
Objectives 31
Awareness 31
Risk Management 31
Hazards 31
Exposure 31
Probability 31
Prevention 32
Identifying Hazards 32
Human Factors 32
Aviation Mishap Response Plan 33
Hazard, Incident, and Mishap Reporting 33
Aviation Safety Communiqués 33
Submission (Electronic) 33
Submission (Hardcopy) 34
Processing 34
Dissemination 34
Access (Protected Area) 34
CHAPTER 8 – SINGLE ENGINE AIRTANKER OPERATIONS 35
General 35
Procedures 35
Safety 35
Drops 35
Sterile Cockpit 35
Dispatch 35
Flight Following 36
Facilities 36
General 36
Retardant 36

TABLE OF CONTENTS

Testing 36

APPENDIX A - DEFINITIONS AND ABBREVIATIONS 37

APPENDIX B - REFERENCES 45

APPENDIX C - PROJECT AVIATION SAFETY PLAN (PASP) 47

APPENDIX D - REQUEST FOR PILOT AND AIRCRAFT AUTHORIZATION 49

APPENDIX E – CHIEF-OF-PARTY DUTIES AND RESPONSIBILITIES 51

APPENDIX F – REGIONAL AVIATION ORGANIZATION CHART 53

APPENDIX G – TEMPORARY FLIGHT RESTRICTIONS CHECKLIST 55

APPENDIX H – INTERAGENCY REQUEST FOR TEMPORARY FLIGHT RESTRICTIONS 57

APPENDIX I – FLIGHT REQUEST/JUSTIFICATION FOR ADMINISTRATIVE USE OF AIRCRAFT 59

APPENDIX J – INFRARED AIRCRAFT SCANNER REQUEST 61

APPENDIX K – DAY TRIP AUTHORIZATION 63

APPENDIX L – PILOT BRIEFING CHECKLIST 65

APPENDIX M – AVIATION SAFETY AND TECHNICAL ASSISTANCE TEAM (STAT) 67

APPENDIX N – EXCLUSIVE USE HELICOPTER REPORT 69

APPENDIX O – EMERGENCY CONTRACT LIST 71

Chapter 1

ORGANIZATION

Scope

The scope of this document is the Regional Forests and Units and employees, cooperators, and users of the Region.

Purpose

The purpose of the plan is to identify Regional aviation management objectives, programs and activities, and to provide strategic and operational guidance to users as appropriate. This plan is supplemental to the National Aviation Management and Safety Plans (FSM 5704.3 and 5711) and shall serve as the Regional Aviation Management and Safety Plan. Forests/Units plans shall be supplemental to the Regional Plan.

Objectives

- Provide emphasis on aviation safety.
- Provide for safe, effective, and economical use of aviation resources to efficiently meet the needs of land management activities.
- Describe regional aviation management programs and activities.

Overview

Regional aviation resources include contract, rental, and Forest Service (FS) owned aircraft. The primary mission of these aircraft is wildland fire suppression. Mission support aircraft include airtankers, lead-planes, air attack platforms, aerial supervisory modules (ASM), helicopters, fire-detection aircraft, passenger/cargo 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.

Organization and Responsibilities

Refer to Appendix F, Aviation Organizational Chart.

Regional Aviation Officer (RAO)

Provides direction, leadership, and management of the Regional Aviation Program.

Aviation Operations Officer (AOO)

Coordinates aviation activities with other staffs, agencies, groups, units, and forests.

Aviation Program Assistant

Manages the Aircraft Management Information System (AMIS) for fleet aircraft and provides administrative assistance to the regional aviation program.

Regional Aviation Safety Manager (RASM)

Provides direction, leadership, and management of the Regional Aviation Safety Program. This includes policy development, safety awareness, training and mishap prevention, risk and trend analysis, mishap reporting and investigation.

Airplane Inspector Pilots

Performs contract airplane inspections and pilot approvals.

Helicopter Inspector Pilot (HIP)

Provides technical oversight and performs contract helicopter inspections and pilot approvals. Establishes agency helicopter standards and flight procedures.

Chapter 1

ORGANIZATION

Helicopter Operations Specialist (HOS)

Provides direction, leadership, and management of the regional helicopter program. Coordinates development of policies, standards and operational procedures. Provides technical support and training for the regional helicopter programs.

Aircraft Maintenance Specialist (AMS)

Provides direction, leadership, and management of the aircraft fleet maintenance program. Performs fleet, Federal Excess Personal Property (FEPP), and contract aircraft inspections.

The regional aviation staff is supported by:

Geographic Area Coordination Center (GACC) Manager

Manages the ordering, scheduling, dispatching, and tracking of regional aircraft. Coordinates resource orders for aircraft received from local dispatch offices, Geographical Area Coordination Centers and from the National Interagency Coordination Center (NICC). Coordinates Temporary Flight Restrictions (TFR) and Notices to Airmen (NOTAM) with the Federal Aviation Administration (FAA).

GACC Aircraft Coordinator

Coordinates, schedules, tracks regional aircraft to provide for safe, cost effective utilization of aviation resources. Processes resource orders for aircraft received from within the geographical area and from NICC. Serves as the primary contact for aviation dispatch related questions.

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.

Forest/Unit Aviation Officer (FAO/UAO)

Provides direction, leadership, and management of the forest/unit aviation program. Coordinates aviation activities with other staffs, agencies, and groups.

Chief-of-Party (COP)

A COP shall be designated for all passenger airplane flights other than scheduled airline flights. The unit scheduling the flight will make this designation. On those flights with only one passenger, that passenger will become the COP. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a COP need not be designated.

Other Personnel

Helicopter Managers, Airtanker Base Managers, Project Managers, Dispatchers, etc.

Program and Resources

Programs

- Aviation Contracting. Regional/Forest contract specialists develop, issue, and administer aviation contracts and rental agreements, with aviation personnel serving as contracting officer's representatives and inspectors.

- Aviation Training. Regional aviation trainers provide specialized training in many aviation job skills i.e. helitack, aerial attack, and helicopter manager.

Chapter 1

ORGANIZATION

- Equipment Development. Regional aviation staff provides technical expertise for aviation equipment improvement and development.

- Pilot and Aircraft Approval. Regional aviation staff evaluates vendor pilots and aircraft. The FS maintains a database of approved aircraft and pilots.

- Aviation Safety and Technical Assistance Teams (STAT). These teams provide assistance to field units and aviation managers during times of heavy use of aviation resources to help identify aviation related issues that may increase during more complex activity periods. This includes clarifying policy, providing assistance in approving aircraft and pilots, aviation safety and accident prevention, and assisting with maintenance issues. Team composition depends on the complexity and type of aviation activities involved with the incidents. (Refer to Appendix M)

Resources

- Administrative/Project Aircraft. Aircraft used to support agency activities.

- Aerial Tactical Supervisory Module. These aircraft are national resources used to assist airtankers in the dropping of retardant/suppressants on wildland fires. They are crewed by a pilot, ATGS, and payload specialist (optional).

- Aircraft (All Risks). Contracted (Exclusive Use and Call-When-Needed) aircraft used in support of the FS Fire and Aviation Program (i.e. wildland fire, disasters, emergency relief).

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

- Large Airtankers. These aircraft are national resources used to drop retardant/suppressants on wildland fires. Contract administration of airtankers is the responsibility of the national contracting group. Aircraft inspections and pilot approvals of airtankers are the responsibility of the national fixed wing, and national maintenance specialists. However, certain designated regional inspectors and base managers provide additional management expertise for the airtankers.

- Leadplanes. These aircraft are national resources used to assist airtankers in the dropping of retardant/suppressants on wildland fires.

- Observation/Reconnaissance. These aircraft are typically local resources used for fire detection, thermal imagery, aerial attack, forest health surveys, resource surveys, and other projects.

- Single-Engine Airtankers (SEAT). SEAT aircraft may be national, regional, or local resources. They are used to drop retardant/suppressants on wildland fires.

- Smokejumper/Paracargo. These aircraft are national resources used to provide rapid response parachute delivery of firefighters and cargo.

Chapter 2

OPERATIONS

General

Forest Service aviation activities include both "civil" and "public" operations. Civil aircraft operations shall comply with applicable sections of 14 CFR as well as Forest Service (FS) policy. Public aircraft operations shall comply with applicable sections of 14 CFR (control of air traffic, use of airspace, and aircraft registration) as well as FS policy. Life-threatening emergencies may require deviation from policy. The pilot-in-command (PIC) is responsible for the safety of the aircraft, its occupants, and cargo. The PIC shall comply with federal aviation Regulations (FARs), and FS Aviation policies or contract specifications to the maximum extent practical. The PIC shall refuse any flight considered unsafe. These situations shall be reported by the pilot and documented on Aviation Safety Communiqué (SafeCom, Form FS-5700-14).

Aviation operations shall comply with the Federal Aviation Regulations (FAR), Forest Service Health and Safety Code, Forest Service Manual (FSM), and Forest Service Handbooks (FSH) as supplemented by the Region and Forest. The following activities, procedures, and services shall be guided by the stated policy. When a more detailed explanation is required the appropriate reference is cited.

Procedures

The following activities and procedures shall be guided by the stated policy. In some cases a more detailed explanation is required. In those cases, the appropriate reference is shown. Any activity involving aircraft or aviation resources also becomes an aviation project. Employees shall contact local aviation managers prior to planning any aviation activity. Involvement of local aviation personnel is necessary at the earliest possible planning stage. Employees shall review applicable aviation and safety plans before planning aviation projects.

Aircraft and Pilots

Forest Service employees shall use only aircraft and pilots that have been properly approved (FSM 5703.1 and 5720.3.4). Aircraft shall display an Interagency Aircraft Data Card or letter of authorization in the aircraft. Pilots are required to present a Pilot Qualification Card, or letter of authorization listing the missions for which they are approved to fly. The COP has the responsibility to check these documents to confirm the aircraft/pilot authorizations have not expired and authorized to perform the intended mission.

Forest Service and Office of Aircraft Services (OAS) do not inspect point-to-point only aircraft. These aircraft are not approved for special mission use. They will be issued a yellow card valid for 2-years, which also identifies aircraft that are authorized for use. Pilots shall also be issued a yellow card valid for 1-year that identifies the vendor and the aircraft type if they do not already possess a FS or OAS pilot qualification card.

The authorization of non-FS approved aircraft for transportation of FS employees allows for transporting only those employees intimately involved with cooperator projects. This limits FS use of cooperator aircraft to personnel whose direct on-site presence is required.

Line and staff officers determining that FS employees cannot use existing approved aircraft and also need to be transported in a cooperator's or third party aircraft, shall observe the following:

- Allow adequate advance notice.
- Confirm cooperator's willingness to fly non-revenue FS employees.
- Contact the Unit Aviation Officer (UAO) to request regional aviation management to inspect and/or authorize both the aircraft and pilot in accordance with FSM 5712.14 and FSM 5713.43.
- The requesting unit shall pay all expenses incurred while approving the aircraft and pilot.
- Plan the flight through normal dispatch channels.
- Authorization shall be contingent upon providing a level of safety identified by applicable FSM 5700 standards. This includes:

Chapter 2

OPERATIONS

- FS employees participating in helicopter flights shall wear the PPE as required by Interagency Helicopter Operations Guide (IHOG).
- Low-level flights in airplanes are not authorized.
- Notwithstanding FSM 5713.52 (Unplanned Flights), when FS employees find it necessary to fly with other groups or individuals within Southern Region 8, authorization shall be requested in accordance with the procedures above.

Pilot Authority and Responsibilities

The Pilot-In-Command (PIC) is responsible for the safety of the aircraft, its occupants, and cargo. The pilot shall comply with the directions of the Government, except when in the pilot's judgment compliance will violate applicable Federal or State regulations or Contract provisions. The pilot shall refuse any flight or landing which is considered hazardous or unsafe.

The pilot is responsible for computing the weight and balance for all flights and assuring that the gross weight and center of gravity do not exceed the aircraft's limitations. Pilots shall be responsible for the proper loading and securing of passengers and cargo.

The pilot shall use a current cockpit checklist, which is accessible from the pilot’s seat location in accordance with 14 CFR 135.

The pilot shall remain at the flight controls while the engines are running/propellers/rotors are turning.

Smoking is prohibited in the aircraft and within 50-feet of fuel servicing equipment/aircraft.

Passenger and Cargo Loading

No equipment such as radios, survival gear, fire tools, etc., shall be located in or on the aircraft in such a manner as to potentially cause damage or obstruct the operation of equipment or personnel. All cargo shall be secured by approved tie-down means.

The pilot shall not permit any passenger to ride in the aircraft or any cargo to be loaded therein unless authorized by the CO.

Loading/unloading of passengers/cargo is prohibited while engines are running/propellers are turning.

Interim Pilot Duty Limitations

Interim flight and duty limitations can be found in Chapter 20 of the National Mobilization Guide and in FSH 5709.16. When Phase 2 and 3 Duty Limits are anticipated, notification within 48-hours of effective date and time shall be sent by RAO to the National Interagency Coordination Center (NICC), Washington Office (WO) Contracting, and the Geographic Area Coordination Centers (GACC), dispatchers will then forward notification to local aviation managers, COs, and Incident Management Teams.

Night/IFR

Notwithstanding the FAA definition of night in 14 CFR Part 1; for operational purposes night shall mean: 30-minutes after official sunset to 30-minutes before official sunrise, based on local time of appropriate sunrise/sunset tables nearest to the planned destination.

Single-engine aircraft operations shall not be conducted during Instrument Meteorological Conditions (IMC) and/or night conditions as defined in 14 CFR with Government personnel on board.

Pilots flying night missions shall not land at an airport unless it meets FAA lighting standards.

Single-engine aircraft flights at night may be authorized by a FS dispatch office/coordination center only for ferry when:

Chapter 2

OPERATIONS

- Requested by the pilot;
- No occupants other than pilot(s) are aboard;
- The flight is conducted in accordance with 14 CFR Part 91; and
- Agency flight and duty limitations are observed.

The following FS operations in the Southern Region are authorized to be conducted only between 30-minutes before official sunrise to 30-minutes after official sunset:

- Single-engine aircraft missions, other than ferry flights.
- Dropping of retardant/suppressants.

Low-Level Flight (Airplane)

Low-level (below 500-feet) flight is prohibited except for operations approved by FSM 5716.3.

Fuel Reserves (Airplane)

To provide adequate fuel reserve all operations shall comply with 14 CFR 91 for VFR (30-minute airplane/20-minute helicopter) and IFR (45-minute).

Temporary Flight Restrictions

Request for Temporary Flight Restrictions (TFR) over an area shall be initiated through the appropriate dispatch center. (Refer to Appendix G, Temporary Flight Restrictions Checklist)

Temporary Air Traffic Control Tower

A resource order should be placed with the appropriate dispatch center for a temporary air traffic control tower when the volume of aircraft operations at an airport or field site are anticipated to exceed the ability of pilots to maintain adequate traffic separation; or when operating in the vicinity of congested airspace.

Animal Transport (Internally)

The pilot shall be notified and shall approve the transportation of animals before they are loaded aboard an aircraft. Animals shall be confined, restrained; or when necessary, sedated, accompanied by a trained handler, and transported in the rear of the aircraft.

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 in the procedures and with aircraft at least 500-feet above ground level (AGL). All other free-fall or paracargo dropping from airplanes shall be done by a qualified smokejumper spotter and with aircraft approved for cargo dropping.

Exemption for Transportation of Hazardous Material

Aircraft may be required to carry hazardous materials in accordance with 49 CFR. Such transportation shall be in accordance with DOT exemption and the DOI or FS Aviation Transport of Hazardous Materials Handbook/Guide (NFES 1068). A copy of the exemption, handbook/guide, and DOT Emergency Response Guide shall be aboard each aircraft operating under the provisions of this exemption.

Chapter 2

OPERATIONS

It is the pilot's responsibility to ensure that each employee that may perform a function subject to this exemption receives training on the requirements and conditions of this handbook/guide. Documentation of this training shall be retained by the company in the employee's records and made available to the Government as required.

The pilot shall ensure that all personnel are briefed as to what specific actions are required in the event of an emergency. The pilot shall be given initial written notification of the type, quantity, and the location of hazardous materials placed aboard the aircraft before the start of any project. Thereafter, verbal notification before each flight is acceptable. For operations where the type and quantity of the materials do not change, repeated notification will not be required.

It is the responsibility of the Contractor to ensure that employees have received training in handling hazardous materials in accordance with 49 CFR 172.

Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:

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, shall be carried in a separate sealed container."

Missoula Technology and Development Center (MTDC) recommends the use of a vented container with foam liner in its information FS pamphlet "Safety Containers for Transporting Bear Repellent Spray Canisters in Vehicles."

Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

FS Employees Piloting Non-Government Aircraft

Upon written authorization by the RAO, which will delineate conditions and restrictions, FS employees may pilot their own or personally rented aircraft to transport themselves point-to-point while in official travel status when a Forest Supervisor, Regional Forester, or Regional/Station Director submits a request for the employee pilot, and:

- Flying shall be consistent with the capability and experience of the pilot.
- Employee pilots and aircraft are in accordance with FSM 5712.15 and 5713.42.
- Flights shall be conducted in accordance with applicable sections of 14 CFR and FSM 5700.
- Either a FAA or FS flight plan shall be filed for each flight.
- Employee pilots are not authorized to transport other employees, passengers, government cargo, or perform special mission flights.

Flight Hazard Maps

Each Forest/Unit shall create Flight Hazard Maps. As a minimum, these maps shall be updated annually and dated. Maps shall be available, displayed, and used at each location where flight planning, flight following, aircraft dispatch, or flight mission briefings occur.

Flight Hazard Maps shall depict known hazards, i.e. towers, cables, congested areas, Military Training Routes (MTR), Military Operations Areas (MOA), restricted areas, airports, and remote airstrips. Flight Hazard Maps should also depict hospitals, schools, helispots, dipsites, and other prominent landmarks.

Specific information about each MTR's location, activity scheduling, and scheduling centers are found in IAMS/CAHIS Software or Department of Defense (DOD) AP/IB charts/publication.

Particular attention shall be placed on hazards that exist in the approach and/or takeoff patterns of helibases, helispots, dipsites, airports, and commonly flown routes.

Chapter 2

OPERATIONS

Temporary hazards shall be marked and noted with legal information, i.e. name of contact, radio frequency, legal location, dates and/or times in effect.

All personnel are responsible for reporting aerial hazards to the FAO/UAO as the designated point-of-contact for inclusion of information on hazard maps.

Dispatch

Ordering Flights

Flights shall be for official business only. Requests for aircraft that involve FS personnel or projects shall be coordinated through the appropriate dispatch center. Administrative flights require FS Form 5710 be completed. (Refer to Appendix I, Flight Request/Justification for Administrative Use of Aircraft)

Requests for airtanker retardant drops shall be placed with the dispatch center. The order should include: fire name, job code, latitude and longitude, air contact and frequency, ground contact and frequency, other aircraft in the vicinity, and any known hazards. A written order shall be prepared and relayed to the air tanker base. The Incident Commander (IC) shall be provided an estimated-time-of-arrival (ETA) of the airtanker.

Infrared flights should be ordered through the appropriate dispatch center. The flights are dispatched on a priority need basis and are limited in number. (Refer to Appendix J, Infrared Aircraft Scanner Request)

Flight Plans

Pilots shall file, open, and operate on a FAA, International Civil Aviation Organization (ICAO), or a FS or Department of the Interior (DOI)-Bureau approved flight plan for all flights. Contractor flight plans are not acceptable. Flight plans shall be filed prior to takeoff when possible.

Passenger Manifest

Prior to any takeoff, the PIC shall provide the appropriate FS or DOI dispatch office/coordination center with current passenger and/or cargo information.

Passengers (Federal)

Federal employees shall be on official duty and have the approval of the FAO/UAO or Helicopter Manager in order to be manifested on a government flight.

Senior Federal Officials and Senior Executive Branch Officials shall be approved, manifested, and documented in accordance with OMB Circular A-126.

Passengers (Non-Federal)

The Regional Forester has the authority to approve non-federal passengers on official government flights. When a decision to approve/disapprove a flight request does not meet the criteria in FSM 5716.4 or the decision maker is unclear regarding any aspect of the request, the request should be elevated to the Regional Forester for resolution.

Aircraft may carry such non-employees as cooperators, persons involved in search & rescue, etc., but only with the approval of the FAO/UAO. (Appendix K, Day Trip Authorization)

News media reporters shall have the approval of the FAO prior to any flight on Type III, IV, V Incidents.

Congressional members shall be approved, manifested, and documented in accordance with OMB Circular A-126.

The following passengers (FSM 5710.5) are approved for transport aboard FS owned, leased, rented, chartered, or contracted aircraft (Day Trip Authorization not required):

- Cooperator wildland fire fighters

Chapter 2

OPERATIONS

- Essential aircraft test flight technicians
- Essential personnel responding to an emergency

Resource Tracking

Dispatch shall provide radio frequencies for mission flights. Airport-to-airport flights may be flight followed by Air Traffic Control (ATC) or Flight Service Station (FSS) when filed on a FAA Flight Plan. When an aircraft is operating on FAA Flight Plan, the aircraft shall be tracked from point-of-origin to destination with the appropriate dispatch centers. It is the responsibility of the COP to contact dispatch to report takeoff and landing times, and passenger manifest information.

Flight Following

Pilots are responsible for flight following with the FAA, ICAO, or in accordance with FS or DOI-Bureau approved flight following procedures.

When performing special missions, pilots are required to flight follow in accordance with the Forest Aviation Plan, normally every 15-minutes.

Overdue Aircraft

If an aircraft fails to report after 15-minutes, dispatch shall initiate overdue aircraft procedures. (Refer to specific Aviation Mishap Response Plan and Appendix O, Emergency Contact List)

Law Enforcement

Refer to Chapter 4 of this plan.

Search and Rescue

Refer to Chapter 5 of this plan.

Wilderness Areas

The Regional Forester or Forest Supervisor shall authorize the initial flight for medical or rescue aircraft missions in wilderness areas. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies when time is critical. Subsequent flights shall require a separate Forest Supervisor approval.

Aerial Detection

Aerial detection aircraft shall not deviate from the assigned route (track) specified in the Forest Aerial Detection Plan. Loitering (orbiting) over a location to pass information without a FS observer aboard is prohibited.

Special Projects

Special projects require a Project Aviation Safety Plan (PASP) reviewed by the RASM or RAO. Consult with the FAO/UAO early in the planning stage for assistance. Examples:

- Seeding, fertilization, spraying, and aerial photography;
- Timber, soil, hydrologic, and wildlife surveys; and
- Law enforcement.

A qualified helicopter manager shall supervise project helicopter operations. If there is no local Helicopter Program Manager or acting, contact the FAO/UAO or Regional HOS. Provide date and location information to the FAO/UAO and the local dispatch center.

Chapter 2

OPERATIONS

State Cooperators

State aviation programs that meet comparable Forest Service aviation safety standards may be used if State pilots and aircraft are approved by the RAO. (Refer to FSM 5712.14).

Military

National Guard (Title 32) helicopters shall be approved for FS use. They shall have a letter on board each helicopter stating that they are authorized for FS use. All FS policies and procedures apply when FS employees are involved (PPE, flight following, etc). Active Duty Military (Title 10) helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis. It is the responsibility of FS employees to verify both pilot and aircraft are authorized for the operation.

Pilot Briefing

Pilot Briefing shall be given to all contract pilots as soon as possible after the contract is activated. It shall cover the items shown in the pilot briefing checklist. (Refer to Appendix L, Pilot Operations Briefing Certificate)

Helicopter Operations

General

The Southern Region HOS shall review a trainee's completed Task Book prior to being signed off as Helicopter Manager.

Limited Type 2

Requires RAO approval in accordance with IHOG.

Limited Type 3

Type 3 Call-When-Need and Exclusive Use helicopters may operate as "Limited Use" within the Southern Region provided adherence to the following guidance.

- Passenger Transport. The helicopter shall be fully staffed with a Helicopter Manager and two crewmembers.
- Suppression. On "very high" or "extreme" class days, the helicopter shall be fully staffed and able to respond to a dispatch within 10-minutes. All other class days, the helicopter may initial attack (IA) (bucket operations only) local agreement area wildfires with only a Helicopter Manager present. When practical, a Helicopter Crewmember (HECM) should be deployed to the dip-site to observe operations.
- Aerial ignition. The minimum personnel required to perform aerial plastic sphere operation are a Helicopter Manager, Burn Boss/Ignition Specialist, and Plastic Sphere Dispenser Operator (PLDO). A HECM shall remain at the departure point when the manager is aboard helicopter. Helitorch operations require a full helitorch module.
- Air-Attack, Helicopter Coordinator, Infrared, and Aerial Observer/Reconnaissance/Surveys. A minimum of one HECM shall remain at the departure point when the helicopter is performing these types of missions.

Bucket Operations (Extended)

Continuous communications capability between the helicopter and the flight following station or another aircraft is required while operating at the dip site. A ground observer able to communicate with the helicopter at the dip site may be used for this purpose.

Chapter 2

OPERATIONS

External Loads

Only pilots approved for external load work shall perform external load operations. Qualified personnel shall conduct long-line/remote hookups. Long-lines utilized for bucket operations shall be a minimum of 50-feet in length to reduce the risk of the bucket/load or line entanglement with the tail boom/tail rotor. Pilots utilizing long-lines shall be carded for vertical reference operations.

Initial Attack and Fire Support Transport

A helicopter manager shall supervise initial flight to a fire when the passengers are other than trained helitack. During fire support, personnel qualified in helicopter use shall supervise the operation at each helicopter-landing site.

Load Calculations

All flights shall be within the limits shown on the Helicopter Load Calculation (Form FS 5700-17 or Form OAS 67) prepared by the pilot and helicopter manager.

Wilderness Areas

Helicopter use in wilderness areas shall first be approved for fire, project, or emergency situations according to each specific Wilderness Plan. Long-line operations require a risk assessment, including consideration of other delivery methods before use. Long-line operations are classified as helicopter landings in some wilderness areas and require approval before use.

Military Rappel/STABO

Other than the WO approved Law Enforcement operation on the Daniel Boone NF; military rappel/STABO operations involving FS employees are prohibited.

Cargo Letdown/Toe-in

These operations are prohibited in the Southern Region.

Airtanker Operations

General

Airtankers in the Southern Region shall drop retardant/suppressants only 30-minutes before official sunrise to 30-minutes after official sunset.

Airtankers, leadplanes, and ASMs in the Southern Region are not assigned to a specific incident, but rather, may be dispatched to any incident as priority dictates.

Airtankers leadplanes, and ASMs shall use the flight-following frequency assigned by local dispatch centers and shall use the same check-in procedures, normally every 15-minutes unless prearranged, used by all aircraft as delineated in the Regional Mobilization Guide.

An Air Tactical Group Supervisor (ATGS) is required for complex aviation operations (FSM 5716.32).

Mobile Airborne Fire Fighting System (MAFFS) is designed for use in military C130 aircraft. This system is capable of delivering 3,000-gallons of retardant. Washington Office (WO), Boise is directly responsible for the MAFFS Program.

Multi-Engine

Contracting of multi-engine airtankers is done by the NIFC contracting group in Boise, Idaho. Inspection and approval of pilots and airtankers is the responsibility of the National Fixed Wing Specialist and the Maintenance Specialist/Aircraft Inspector respectively. However, designated Regional Pilot Inspectors and Maintenance Inspectors may be called upon to provide assistance throughout the contract periods.

Chapter 2

OPERATIONS

Single-Engine

Refer to Chapter 8 of this plan.

Contracts

Aviation Services Procurement

Obtaining aviation services utilizing a Blanket Purchasing Agreement (BPA) is prohibited in the Southern Region. Forests shall obtain these services through Regional Call-When-Needed (CWN) or Exclusive Use Aviation Contracts.

End Product Contract

Prior to the issuance of any procurement document for projects where there is a possibility that aircraft may be used, procurement officials shall first be in receipt of a Project Aviation Safety Plan (PASP) reviewed by the RASM. Refer to WO letter dated July 21, 2000 for FS policy requirements and Table 1-1 for minimum standards.

Table 1-1
End Product Minimum Standards

Mission Profiles	Ldg Areas	Commo	PPE	Opns Period	Flt Planning	Mgn't Oversight	Requirements
	#1	#2	#3	#4	#5	#6	7
* Aerial Application	X	X	X	X	X		FAR 137
Passenger Flights							
Airplane	X	X	X	X	X	X	FAR 135
Helicopter	X	X	X	X	X	X	FAR 135
Altitude (> 500')		X		X	X		FAR 91
Altitude (< 500')	X	X	X	X	X	X	FAR 91
External Loads	X	X	X	X	X	X	FAR 133

Notes: * Excluding Aerial Ignition

1. Landing locations identified.
2. Communications/flight following established.
3. Personal protective equipment required.
4. Specific hours for flight operations identified.
5. Flight planning/hazard identification.
6. Identify if a helicopter manager is necessary on the site and their responsibilities.
7. Minimum Federal Aviation Regulations (FAR) to be followed.

Safety

General

All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.45.2). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Unsafe conditions shall be corrected on-the-spot when possible and documented on a SafeCom. If the unsafe condition raises a serious safety concern, it shall be immediately reported through channels to the RASM or RAO.

Aircraft Mishap Response Plan

This plan shall be updated annually for posting in each helibase and dispatch center. The FAO/UAO is responsible for local supplementation of the plan.

Passenger Briefings

Before each takeoff, the PIC shall ensure that all passengers have been briefed in accordance with the briefing items contained in 14 CFR 135 including (as applicable):

Chapter 2

OPERATIONS

- Use of seat belts and/or shoulder harness;
- Ingress / Egress procedures;
- Emergency Locator Transmitter (ELT);
- Oxygen system;
- Smoking (prohibited in the aircraft and within 50-feet of fuel servicing equipment/aircraft);
- First Aid Kit;
- Survival Kit;
- Personal Protective Equipment; and
- Location of Fire Extinguisher.

In those instances where short flights are made, the briefing does not need to be repeated unless new passengers are boarded.

Shoulder Harness/Seat Belts

All front seat occupants shall wear shoulder harness and seat belts. All occupants shall wear seat belts for takeoffs and landings, and as directed by the PIC.

Smoking

Smoking is prohibited aboard and within 50-feet of an aircraft or flammable/chemical storage area (FSH 5709.16).

Sterile Cockpit

During ground operations, takeoff/landing, and flight within 10-nautical miles of an airport, passengers shall refrain from talking with the pilot.

Personal Protective Equipment

General

The intent of this requirement is to equip individuals with the best PPE to the extent possible for all helicopter flights. Personal protective equipment (PPE) includes approved flight helmet, fire resistant flightsuit, gloves, and leather boots. It is the responsibility of each Forest Supervisor/Unit Manager to provide FS helicopter flight crewmembers with an aviator flight helmet and other necessary PPE. Personal protective equipment shall be operable and maintained in serviceable condition as per appropriate manufacturer's specifications.

All aircraft flights below 500' (i.e. Leadplane) require PPE as specified in FM 5716.31. Individuals aboard helicopters shall wear as a minimum PPE required for a firefighter as specified in the IHOG. Any deviation from this requirement shall be specified in the Project Aviation Safety Plan.

Helmets (Helicopter)

Personnel flying aboard helicopter shall wear a protective flight helmet with chinstrap fastened.

A hardhat maybe substituted for a flight helmet of wildland firefighter being transported during fire suppression operations between an established and managed helisport/helibase, and an established and managed helispot/helibasee.

Chapter 2

OPERATIONS

Aviators flight helmet, consisting of a one-piece hard shell made of polycarbonate, Kevlar, carbon fiber, or fiberglass, shall cover the top, sides (including the temple area and to below the ears), and the rear of the head. The helmet shall be equipped with a chinstrap and shall be appropriately adjusted for proper fit. Flight helmets for helicopter usage shall conform to a national certifying agency standard, such as DOT, Snell, SFI, or an appropriate military standard, or appropriate equivalent standard, and be compatible with required avionics. “Shorty” (David Clark style) helmets are not approved.

Flight helmets currently meeting this requirement are known to include:

- SPH-3, 4, 5, 8
- HGU-56, 84

Helmets designed for use in fixed wing aircraft do not provide adequate protection for helicopter occupants and are not approved for helicopter use.

Clothing (Helicopter)

In lieu of flightsuit, firefighters approved fire resistant pants and shirt may be worn. In accordance with Chapter 9 of the IHOG, rubber/synthetic boots may be worn if the environmental situation warrants; otherwise leather boots are required.

Personnel shall wear long-sleeved shirt and trousers (or long-sleeved flight suit) made of fire-resistant polyamide or aramid material, leather boots and leather, polyamide, or aramid gloves. A shirt with long-sleeves overlapping gloves, and long-pants overlapping boots by at least 2-inches shall be worn by the pilot(s). Personnel shall not wear clothing made of non fire-resistant synthetic material under the fire-resistant clothing described herein.

Nomex® or other material proven to meet or exceed specifications contained in MIL-C-83429A may be worn. Currently, the following "other" materials meet this specification:

- FRT Cotton Denim Cloth, MIL-C-24915
- FRT Cotton Chambray Cloth, MIL-C-24916

Clothing not containing labels identifying the material either by Brand Name or MIL-Spec will not be acceptable.

Ground Personnel (Helicopter)

While within the safety circle of a helicopter with engine(s) running and/or rotor(s) turning, all Contractor personnel shall wear the following personal protective equipment (PPE):

- Shirt with long-sleeves overlapping gloves, long-pants, hardhat/flight helmet with chinstrap, appropriate footwear, hearing and eye protection.
- Maintenance personnel working on running aircraft are exempt from gloves, eye protection (eye protection may be worn at the option of maintenance personnel or company policy), long sleeves, and hardhat requirements.

During all fueling operations, fuel service personnel shall wear a shirt with long-sleeves and long-pants made of 100% cotton/natural fiber, or labeled non-static, boots, and gloves.

Personal Flotation Devices

A personal flotation device (PFD) required by 14 CFR 91 or life preserver (TSO-C13) required by 14 CFR 135 shall be onboard all aircraft operated over water and beyond power-off gliding distance to shore, and during all hovering flight operations conducted over water sources such as ponds, streams lakes and coastal waters. Automatic inflation (water activated) personal flotation devices are prohibited.

When performing water takeoffs and landings, all occupants shall wear a PFD.

Chapter 2

OPERATIONS

Anti-exposure suits shall be worn in all single-engine aircraft and readily available to occupants of multiengine aircraft when conducting extended over water flight (as defined in 14 CFR 1.1) and when the water temperature is estimated to be 50°F or below.

Chief-of-Party (COP)

Refer to Appendix E of this plan.

Aviation Training

An individual with aviation management responsibilities for a local unit or forest level (i.e. FAO) and serves as the focal point for aviation services and management should attend training courses listed (www.iat.nifc.gov) for aviation managers.

Avionics

The pilot-in-command (PIC) shall be capable of operating and performing basic programming functions of VHF/AM radios, VHF/FM radios and Global Positioning System (GPS) installed in the aircraft. This includes the ability to enter and utilize newly assigned frequencies and tones by selected channel position. The PIC shall be able to instruct a FS observer in how to perform basic programming and operation of VHF/AM radios, VHF/FM radios and GPS installed in the aircraft.

Chapter 3

RECORDS AND REPORTS

Flight Plans

When a pilot files a flight plan with dispatch, a record shall be kept in the Dispatcher's Log.

Daily Flight Reports

The Daily Flight Report (FS 6500-122) shall be used to record all flights where a payment is required. Flight cost shall be provided to the user.

Annual Air Operations Report

The FAO or their designee shall complete this report by using the AMIS database program. (Refer to FSM 5717)

Exclusive Use Helicopter Report

This report is to be completed by the FAO or their designee for all Exclusive Use RX and Suppression helicopters and returned to the Regional HOS by November the 1st of each year. (Refer to Appendix N, Exclusive Use Helicopter Report)

Administrative Flight Package

In order to comply with FSM 5711.2 each FAO shall forward, on the first day of each month, the previous month's completed "Administrative Flight Packages", to the Southern Area Coordination Center (SACC) Aircraft Desk. This package shall include the Administrative Flight Request/ Schedule (BLM 9400-1a), Flight Use Report (FS-6500-122) and Flight Request/ Justification for Administrative Use of Aircraft (FS-5700-10).

Senior Federal/Congressional/Non-Federal Travel Report

This report is due to the SACC Aircraft Desk semiannually. Record on this form administrative (non-mission) travel by Senior Federal Officials, non-Federal passengers, and Congressional members aboard Forest Service owned or contract/rental agreement aircraft for any purpose. (Senior Federal Travel Form GSA-3641)

Chapter 4

LAW ENFORCEMENT

General

The Supervisory Special Agent (SSA) or Zone Patrol Commander (ZPC) is responsible for coordinating with the Special Agent in Charge (SAC) and the Regional Aviation Officer (RAO) on any requests for use of aircraft and pilots in law enforcement activity.

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 USDA Forest Service (FS) aviation safety policies.

Law enforcement operations using FS owned, contracted, or leased aircraft require the mission approval of the SAC and the concurrence of Pilot-in-Command (PIC). 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.)

The Contracting Officer (CO) or Contracting Officer Representative (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

Aircraft

Law enforcement aviation missions may be accomplished utilizing agency-owned, contracted, rented, or other-government agency or military aircraft approved or authorized in accordance with FS policy.

Altitude

Helicopters shall maintain a minimum operational flight altitude of 500-feet above the terrain, except for takeoffs and landings. The only exception is when providing aerial coverage for ground crew and officer safety. A high and low reconnaissance of the area, looking for hazards, shall be performed prior to descent below 500-feet.

Airplanes shall maintain a minimum operational flight altitude of 500-feet above the terrain, except for takeoffs and landings.

Animal Transport (Internally)

The pilot shall be notified and shall approve the transportation of animals before they are loaded aboard an aircraft. Animals shall be confined, restrained; or when necessary, sedated, accompanied by a trained handler, and transported in the rear of the aircraft.

Briefing Requirements

As a minimum, the following areas shall be discussed with all flight participants prior to each mission.

- Mission/Flight Hazards
- Personnel Responsibilities/Authorities
- Flight/Duty Limitations
- Flight Plan/Flight Following
- Pilot/Aircraft Data Card
- Personal Protective Equipment

Chapter 4

LAW ENFORCEMENT

- Five Steps To A Safe Flight (Form FS 5700-16)
  - ✓ Aircraft Hazards
  - ✓ Seat Belt/Harness
  - ✓ ELT/Survival Kit
  - ✓ Oxygen Equipment
  - ✓ Fire Extinguisher
  - ✓ Fuel/Electrical Shut-off
  - ✓ Gear/Cargo Security
  - ✓ Emergency Egress
  - ✓ First Aid Kit
  - ✓ Smoking
- Communications
- Firearms Safety
- Radios
- Landing Areas (Note: Wilderness landing areas require Forest Supervisor or Regional Forester approval.)
- Load Calculations/Manifests
- Mishap Notification Procedures
- Weather
- External Load Procedures
- HazMat Procedures
- Explosive Ordinance Demolition (EOD) Procedures

Cooperative Agency Aviation Operations

Cooperative agencies conducting law enforcement operations on National Forest System lands shall be encouraged to notify the appropriate Unit Aviation Officer (UAO) of missions over National Forest System Lands.

Emergency/Covert and Undercover Operations

The FAO shall be notified of emergency/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/ZPC/Patrol Captain (PC) or assigned Project Aviation Manager. The FAO shall be given the information the day of the mission and shall ensure that the mission security is maintained. Undercover aviation operations shall be coordinated between the SAC and RAO, so that confidentiality will be ensured.

Flight Hazard Maps

Each Forest/Unit shall create Flight Hazard Maps. As a minimum, these maps shall be updated annually and dated. Maps shall be available, displayed, and used at each location where flight planning, flight following, aircraft dispatch, or flight mission briefings occur.

Flight Hazard Maps shall depict known hazards, i.e. towers, cables, congested areas, Military Training Routes (MTR), Military Operations Areas (MOA), restricted areas, airports, and remote airstrips. Flight Hazard Maps should also depict hospitals, schools, helispots, dipsites, and other prominent landmarks.

Specific information about each MTR's location, activity scheduling, and scheduling centers are found in IAMS/CAHIS Software or Department of Defense (DOD) AP/IB charts/publication.

Particular attention shall be placed on hazards that exist in the approach and/or takeoff patterns of helibases, helispots, dipsites, airports, and commonly flown routes.

Temporary hazards shall be marked and noted with legal information, i.e. name of contact, radio frequency, legal location, dates and/or times in effect.

Chapter 4

LAW ENFORCEMENT

All personnel are responsible for reporting aerial hazards to the FAO as the designated point-of-contact for inclusion of information on hazard maps.

Exemption for Transportation of Hazardous Material

Aircraft may be required to carry hazardous materials in accordance with 49 CFR. Such transportation shall be in accordance with DOT exemption and the DOI or FS Aviation Transport of Hazardous Materials Handbook/Guide (NFES 1068). A copy of the exemption, handbook/guide, and DOT Emergency Response Guide shall be aboard each aircraft operating under the provisions of this exemption.

It is the pilot's responsibility to ensure that each employee that may perform a function subject to this exemption receives training on the requirements and conditions of this handbook/guide. Documentation of this training shall be retained by the company in the employee's records and made available to the Government as required.

The pilot shall ensure that all personnel are briefed as to what specific actions are required in the event of an emergency. The pilot shall be given initial written notification of the type, quantity, and the location of hazardous materials placed aboard the aircraft before the start of any project. Thereafter, verbal notification before each flight is acceptable. For operations where the type and quantity of the materials do not change, repeated notification will not be required.

It is the responsibility of the Contractor to ensure that employees have received training in handling hazardous materials in accordance with 49 CFR 172.

Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:

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, shall 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."

Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

Flight Following

Forest Service flight following of law enforcement operations shall take place either through the appropriate Forest Dispatch Office (FDO), mission center, or by using FS law enforcement personnel that are in the field. Flight following shall be accomplished as per FS policy. If the FDO is not used for flight following then the FDO shall be notified of the mission, area of mission, frequencies, date and timeframe of the mission. During covert and undercover operations where the need for secure communications is essential, one of the following procedures shall be utilized:

- Grid map reference check-ins
- Flight following through another agency
- Flight following utilizing a dedicated command and control aircraft
- Satellite flight following

Flight Minimums

The departure, enroute, and destination flight visibilities shall be equal to or greater than 3-statute miles (Airplane) and 1-statute mile (Helicopter). The pilot shall maintain a minimum distance from clouds of 500-feet below, 1,000-feet above, and 2,000-feet horizontal. Over-the-top Visual Flight Rules (VFR) operations are not authorized.

Chapter 4

LAW ENFORCEMENT

Landing Areas (Helicopter)

Use of helispots shall be in accordance with IHOG requirements.

Load Calculations (Helicopter). It is the responsibility of the pilot to complete a load calculation for each flight. A copy of the load calculation shall be kept with someone on the ground until the flight has been terminated. When utilizing a military aircraft, use of the military Performance Planning Card (PPC) is an acceptable substitute for the FS load calculation requirement.

Passenger Manifest

Prior to any takeoff, the PIC shall provide the appropriate FS or DOI dispatch office/coordination center with current passenger and/or cargo information. Helicopter passenger manifest shall be on file with the Helicopter Manager or departure location. Names and weights shall be documented on the passenger/cargo manifest.

Military Helicopters

National Guard (Title 32) helicopters shall be approved for FS use. They shall have a letter on board each helicopter stating that they are authorized for FS use. All FS policies and procedures apply when FS employees are involved (PPE, flight following, etc). Active Duty Military (Title 10) helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis. It is the responsibility of FS employees to verify the pilot and aircraft are authorized for the operation.

Military Rappel/STABO

Only Law Enforcement Officers and Agents assigned to the Kentucky Marijuana Strike/Task Force Eradication Program are approved for military Rappel/Stability Operations (STABO) operations on the Daniel Boone National Forest. Approval is contingent on the following requirements being met:

- Minimum helicopter platform shall be multi-engine UH-60 Blackhawk or better.
- The FS Law Enforcement Officers/Agents involved shall be under the direction and control of the military Rappel/STABO program.
- All equipment (to include harness, ropes, decent devices, and head and eye protection) shall be the same as the Kentucky Marijuana Strike/Task Force has approved and used.
- All Officers and Agents shall complete the training and currency requirements that the military imposes.
- The Daniel Boone Operating Plan should reflect the addition of Rappel/STABO operations.
- The Rappel/STABO shall be confined to the Daniel Boone NF.

Night

Law enforcement operations are only authorized between 30-minutes before official sunrise to 30-minutes after official sunset, unless authorized by RAO.

Personal Protective Equipment

Personal protective equipment (PPE) shall 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.

Chapter 4

LAW ENFORCEMENT

Pilots

FS, contractor, and cooperator aircraft used to fly FS law enforcement personnel shall 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 Memorandum of Understanding (MOU). Table 3.1 shows the basic pilot approval flight hour requirements. All categories of flight time apply to total pilot experience. PIC flight hours shall be in the category aircraft being flown. Detailed pilot requirements are found in FSM 5700 policy. Exceptions to pilot flight hour requirements shall be approved by the RAO.

Table 3-1
Basic Pilot Experience

Agency	Total Hours	PIC Hours
State/Local Government	1,500	1,200
National Guard (Title 32)	1,500	1,200
Military Reserves	1,500	1,200
Active Duty Military (Title 10)	N/A	500

Planning/Coordination

Subject to the provisions of paragraph F of this chapter, the SSA/ZPC or PC shall notify the appropriate FAO of any FS law enforcement aviation missions on the Forest with planned dates and times.

Project Aviation Safety Plans

The SAC shall approve LEI Project Aviation Safety Plans (PASP) after review and submission by the appropriate ZPC/SSA and FAO.

Project Helicopter Manager or Helicopter Manager

A qualified Project Helicopter Manager (PHM) or Helicopter Manager (HM) shall be assigned to law enforcement helicopter operations involving FS personnel (IHOG, Chapter 2). The PHM/HM is responsible for ensuring the helicopter operation involving FS personnel is conducted in accordance with FS policy and safety standards. Dependent upon the complexity of the operation this may demand that the PHM/HM be present during the entirety of the operation. 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. Qualification requirements are outlined in IHOG, Chapter 2.

The PHM training program is a 32 to 40-hour S-372 course tailored to the LEI mission. LEI Project Helicopter Managers shall attend refresher training on the following subject areas every two years: aviation safety, aircraft performance, and aviation policy. Additional initial and recurrency training requirements shall be met to be qualified as a "Red Carded" Helicopter Manager.

Supplemental Oxygen

All occupants shall use supplemental oxygen in accordance with 14 CFR Part 135 or military requirements.

Survival Equipment

There shall be sufficient survival equipment suitable for the environment aboard the aircraft to sustain life of all occupants for 2-days.

Chapter 4

LAW ENFORCEMENT

Wilderness Areas

The Regional Forester or Forest Supervisors shall authorize the initial flight for medical, or rescue aircraft missions in wilderness areas. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies in which speed is critical. Subsequent flights require a separate Forest Supervisor or Regional Forester approval.

Unapproved Aircraft/ Pilots

In certain emergency situations, it may be necessary for personnel to ride in unapproved aircraft/or with unapproved pilots. In these situations the SSA/ZPC shall inform the FDO as soon as reasonably possible (when the operation and officer safety is not in jeopardy). A written justification shall be prepared, attached to an agency SafeCom, and submitted to the SAC and the FAO within 24-hours of the completion of the mission.

Chapter 5

SEARCH AND RESCUE

General

Aircraft

Overdue aircraft shall be reported immediately to Federal Aviation Administration (FAA) Flight Service Station (FSS). An aircraft is considered "Overdue" when the pilot fails to check in within the timeframe 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 Estimated Time Arrival (ETA), and its location cannot be established.

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.

FAA Flight Service Station
Dial 1-800-992-7433 or 1-800-WXBRIEF

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:

Persons

The County Sheriff or designee is usually responsible for search and rescue of overdue or missing persons, 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 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 Search and Rescue (SAR) operations unless approved by the FAO and/or FDO. 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.

Procedures

Aircraft/Pilot Qualifications

FS, contractor, and cooperator aircraft used to fly FS personnel shall 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 shall be approved by the appropriate RAO. (See IHOG, Chapter 17 Search & Rescue Operations, page 17-2.)

Altitude

Helicopters shall maintain a minimum operational flight altitude of 500-feet above the terrain, except for takeoffs and landings. The only exception is when providing aerial coverage for ground crew and officer safety. A high and low reconnaissance of the area, looking for hazards, shall be performed prior to descent below 500-feet.

Airplanes shall maintain a minimum operational flight altitude of 500-feet above the terrain, except for takeoffs and landings.

Chapter 5

SEARCH AND RESCUE

Animal Transport (Internally)

The pilot shall be notified and shall approve the transportation of animals before they are loaded aboard an aircraft. Animals shall be confined, restrained; or when necessary, sedated, accompanied by a trained handler, and transported in the rear of the aircraft.

Briefing Requirements

As a minimum, the following areas shall be discussed with all flight participants prior to each mission.

- Mission/Flight Hazards
- Personnel Responsibilities/Authorities
- Flight/Duty Limitations
- Flight Plan/Flight Following
- Pilot/Aircraft Data Card
- Personal Protective Equipment
- Five Steps To A Safe Flight (Form FS 5700-16)
    - ✓ Aircraft Hazards
    - ✓ Seat Belt/Harness
    - ✓ ELT/Survival Kit
    - ✓ Oxygen Equipment
    - ✓ Fire Extinguisher
    - ✓ Fuel/Electrical Shut-off
    - ✓ Gear/Cargo Security
    - ✓ Emergency Egress
    - ✓ First Aid Kit
    - ✓ Smoking
- Communications
- Firearms Safety
- Radios
- Landing Areas (Note: Wilderness landing areas require Forest Supervisor or Regional Forester approval.)
- Load Calculations/Manifests
- Mishap Notification Procedures
- Weather
- External Load Procedures
- HazMat Procedures
- Explosive Ordinance Demolition (EOD) Procedures

Flight Following

Forest Service flight following of SAR aviation operations shall take place either through the appropriate FDO or other agencies. Flight following shall be accomplished as per FS policy. If the FDO is not used for flight following then the FDO shall be notified of the mission, area of mission, frequencies, date, and timeframe of the mission.

Chapter 5

SEARCH AND RESCUE

Flight Minimums

The departure, enroute, and destination flight visibilities shall be equal to or greater than 3-statute miles (Airplane) and 1-statute mile (Helicopter). The pilot shall maintain a minimum distance from clouds of 500-feet below, 1,000-feet above, and 2,000-feet horizontal. Over-the-top VFR operations are not authorized.

Exemption for Transportation of Hazardous Material

Aircraft may be required to carry hazardous materials in accordance with 49 CFR. Such transportation shall be in accordance with DOT exemption and the DOI or FS Aviation Transport of Hazardous Materials Handbook/Guide (NFES 1068). A copy of the exemption, handbook/guide, and DOT Emergency Response Guide shall be aboard each aircraft operating under the provisions of this exemption.

It is the pilot's responsibility to ensure that each employee that may perform a function subject to this exemption receives training on the requirements and conditions of this handbook/guide. Documentation of this training shall be retained by the company in the employee's records and made available to the Government as required.

The pilot shall ensure that all personnel are briefed as to what specific actions are required in the event of an emergency. The pilot shall be given initial written notification of the type, quantity, and the location of hazardous materials placed aboard the aircraft before the start of any project. Thereafter, verbal notification before each flight is acceptable. For operations where the type and quantity of the materials do not change, repeated notification will not be required.

It is the responsibility of the Contractor to ensure that employees have received training in handling hazardous materials in accordance with 49 CFR 172.

Pressurized irritants, such as Oleoresin Capsicum (OC) or pepper spray, aboard an aircraft present two types of risk to employees:

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, shall 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."

Such items are treated as weapons by airport security if passengers attempt to board scheduled airlines with them in possession.

Landing Areas (Helicopter)

Use of helispots shall be in accordance with IHOG requirements.

Load Calculations (Helicopter)

It is the responsibility of the pilot to complete a load calculation for each flight. A copy of the load calculation shall be kept with someone on the ground until the flight has been terminated. When utilizing a military aircraft, use of the military Performance Planning Card (PPC) is an acceptable substitute for the FS load calculation requirement.

Passenger Manifest

Prior to any takeoff, the PIC shall provide the appropriate FS or DOI dispatch office/coordination center with current passenger and/or cargo information. Helicopter passenger manifest shall be on file with the Helicopter Manager or departure location. Names and weights shall be documented on the passenger/cargo manifest.

Chapter 5

SEARCH AND RESCUE

Personal Protective Equipment

Personal protective equipment (PPE) shall 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.

Project Helicopter Manager or Helicopter Manager

A qualified Project Helicopter Manager (PHM) or Helicopter Manager (HM) shall manage all SAR helicopter operations involving FS personnel (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 the aircraft and pilot is approved by the RAO. Only minimum essential (Authorized Passengers) personnel shall be allowed aboard SAR aircraft (media, political officials, and family members are not considered essential to the mission). The PHM training program is a 32 to 40-hour S-372 course tailored to mission. Additional training requirements shall be met to be qualified as a “Red Carded” Helicopter Manager.

Military Helicopters

National Guard (Title 32) helicopters shall be approved for FS use. They shall have a letter on board each helicopter stating that they are authorized for FS use. All FS policies and procedures apply when FS employees are involved (PPE, flight following, etc.). Active Duty Military (Title 10) helicopters can be used, but only with prior approval from the RAO and only on a case-by-case basis. It is the responsibility of FS employees to verify the pilot and aircraft are authorized for the operation.

Night

Search and rescue operations are only authorized for Forest Service use, between 30-minutes before official sunrise to 30-minutes after official sunset.

Supplemental Oxygen

All occupants shall use supplemental oxygen in accordance with 14 CFR Part 135 or military requirements.

Survival Equipment

There shall be sufficient survival equipment suitable for the environment onboard SAR aircraft to sustain life of all occupants for 2-days.

Wilderness Areas

The Regional Forester or Forest Supervisors shall authorize the initial flight for medical or rescue aircraft missions in wilderness areas. The advance approval for initial missions in wilderness is only applicable to life-threatening emergencies in which speed is critical. Subsequent flights require a separate Forest Supervisor approval.

Chapter 6

AIRCRAFT MAINTENANCE AND SECURITY

Maintenance

FS Owned Aircraft

All maintenance on FS owned aircraft shall be performed by a facility that complies with 14 CFR Part 145 standards. Aircraft shall 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 shall 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, Southern Region 8 shall operate in accordance with the following procedures:

All discrepancies shall 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.

Pilots shall write up all airworthiness and operational mission item discrepancies at the end of each flight. Write-ups shall be concise and descriptive, identifying necessary parameters to aid in trouble-shooting discrepancies. Pilots shall initial and date each write-up.

Pilots need to exercise discretion on items that are not airworthiness or essential operational mission items. These discrepancies shall be discussed with the Aircraft and Powerplant (A&P) Mechanic or Avionics Technician before entering them on the FS 5700E.

Pilots shall review each write-up with the A&P Mechanic or Avionics Technician as soon as practical.

The pilot and A&P Mechanic or Avionics Technician shall jointly determine if the item can be deferred. Once the decision to defer the item is made, it shall be transferred to the Delayed Discrepancy List on the cover of FS 5700E.

The Maintenance File Copy (white page) shall remain in the log and shall 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) shall remain in the log kept with the aircraft. Completed logs shall be given to the Aircraft Maintenance Inspector (AMI), who will prepare a replacement Aircraft Maintenance Log for the aircraft.

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, before the aircraft performs under the contract. A SafeCom shall be submitted within 5-days to the appropriate Regional Aviation Safety Office.

Security

Aircraft

Government owned aircraft shall be secured at all times when left unattended. Prop lock(s) shall be installed on airplanes (except when having to meet a 15-minute emergency fire response time) and the cabin doors shall be locked; helicopter doors shall be locked.

Hangar Facility

Government leased hangar facility shall be secured at all times when left unattended.

Key Control

Keys to the government leased hangar facility located at Gwinnett County Airport shall only be issued to Forest Service employees approved by the Regional Aviation Officer.

Aircraft and prop lock keys shall be contained in a key box located in a secure area. A key control sign out/in form shall be maintained adjacent to the key box.

Chapter 7

SAFETY

Purpose

The primary purpose of the Aviation Safety Program is to eliminate mishap occurrences.

Objectives

- Increase safety awareness through aviation training.
- Eliminate human exposure to hazards through implementation of effective risk management techniques.
- Eliminate loss of life, suffering from injury of permanent impairment, and the anguish and suffering of family and friends.
- Eliminate the costs associated with mishaps.

Awareness

Safety awareness is a mental attitude and individual commitment fostered by proper management and supervisory procedures. Forest Service management shall be a partner in aviation safety to ensure that the standards and procedures established are understood and followed. It means that where operational decisions shall by made, they are made prudently, with safety given priority over mission accomplishment. This requires individuals to know how to do a job or mission properly, applicable FS policies, approved operating procedures, and how to 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.

Risk Management

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

Risk = Hazards x Exposure x Probability

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.

Exposure

The frequency of occurrence and the number of people or aircraft placed against a hazard.

Probability

The likelihood that considering the hazard and exposure, a mishap is likely to occur. It is important to note that similar missions accomplished without mishap does not mean that you have a no-risk mission.

The process of managing risks makes operations safer without compromising the mission accomplishment with a mishap. The purpose of managing risks 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.

Chapter 7

SAFETY

- Accept no unnecessary risk
- Make risk decisions at the proper level
- Accept risks only if benefits outweigh the potential safety costs

Successful outcomes can be achieved by applying the following steps of risk management to each flight or aviation mission:

- Identify Risks. Identify specific risks associated with all specified and implied tasks. Determine the hazards, exposures, and probabilities causing these risks.
- Assess Risks. Determine the magnitude of each risk.
- 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 decision to be made is to cancel the mission. More often the benefits justify the mission, but only if the risks 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.
- Identify Controls. Appropriate controls may be in the areas of individual qualifications, 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.
- 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.
- Approval. Decision to perform the mission and approval made at appropriate level.
- Monitor Operations. Review mission performance, suitability of controls, adherence to controls, and mission progress. Take prompt and appropriate corrective actions.

Prevention

The moving force driving aviation safety and training efforts is “Safety through Prevention.” Risk management is a key component in successful mishap prevention.

Identifying Hazards

Steps shall 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, foremen, crewpersons, etc.) associated with aviation operations.

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.

Chapter 7

SAFETY

Human Factors

Human error is the single area that if possible to eliminate or reduce, would pay the greatest dividends in mishap prevention since it touches every operation. Human behavior is so complex that it is unrealistic to think that human error can be eliminated. 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 shall provide appropriate training and meaningful experience to individuals who are placed in positions requiring them to manage risk effectively.

Management or supervisory errors that directly or indirectly exert pressure on individuals to act against their judgment, stretch or ignore policy and standard operating procedures, or complete the mission regardless of risk is another form of human error that causes many mishaps.

Aviation Mishap Response Plan

Aviation personnel shall familiarize themselves with the local Forest Aviation Mishap Response Plan. The plan's Emergency Contact List shall be kept current (Refer to Appendix O). Mishap response training shall be conducted annually and include the following:

- Review of the Aviation Mishap Response Plan
- Conduct equipment familiarization and emergency flight procedures
- Conduct a crash response simulation

Hazard, Incident, and Mishap Reporting

Each individual and 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 5700-14).

Aviation Safety Communiqués

Aviation Safety Communiqués (SafeCom) are used to report any condition, observance, act, maintenance problem, or circumstance, which has potential to cause an aviation-related mishap. Submitting a SafeCom is not a substitute for "on-the-spot" correction(s) to a safety concern, rather it is a tool used in the documentation, tracking, and follow-up corrective action(s) related to safety issues. Categories of reports include aircraft mishaps, aviation hazards, aircraft maintenance deficiencies, and airspace intrusions.

If a mishap involves damage or injury notify the Regional Aviation Office immediately by the most expeditious means available.

Non-scheduled aircraft maintenance or repairs require that the Regional Aircraft Maintenance Inspector be notified before the aircraft is returned to service. A SafeCom is required to be submitted to the Regional Aviation Safety Manager (RASM) within 5-days of the return to service.

All employees have the responsibility to initiate action to stop any unsafe aviation operation (FSM 5720.45.2). Anyone may refuse or curtail a flight or operation when an unsafe condition may exist. Unsafe conditions shall be corrected on-the-spot when possible and documented on a SafeCom. If the unsafe condition raises a serious safety concern, it shall be immediately reported through channels to the RASM or RAO.

Submission (Electronic)

Access the FS Aviation Web Site at: www.fs.fed.us/fire/av_safety

From the Home page click on the "SafeCom" button.

From the SafeCom page, click on "Submit a SafeCom" and complete the form. Once submitted, the SafeCom shall reside in the FS Aviation Management Information System (AMIS) database and designated aviation managers shall be notified by email that a SafeCom has been submitted within the selected region.

Chapter 7

SAFETY

Submission (Hard Copy)

Fill out the SafeCom form and provide a copy to the FAO/UAO.

Upon receipt, the FAO/UAO shall submit the SafeCom electronically.

Processing

Once a SafeCom comes to the attention of the FAO, when necessary, corrective action(s) and comments should be documented on the form. It is incumbent on the FAO to quickly process SafeComs for distribution and dissemination to aviation users and managers.

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. The RASM and RAO 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 staff aviation program managers and FAOs.

Chapter 8

SINGLE ENGINE AIRTANKER OPERATIONS

General

The use of single-engine airtankers (SEATs) is limited to those airtankers based in the vicinity of FS protected lands under the "closest forces" concept. The use of single-engine airtankers on FS incidents may supplement, but not substitute for, planned coverage by FS and cooperator multi-engine airtankers (FSM 5713.43a).

Situations may occur (i.e., terrain limitations) where maneuverability makes it ineffective to use the large airtankers, but safe to use the SEAT. When this condition is determined by the large airtanker pilot, Airtanker Coordinator, or Air Tactical Group Supervisor, SEATs may be ordered. The pilot shall make the final determination on the safety of any drop conditions for which they are requested.

When SEATs are used on an incident concurrently with more than one other aircraft, aerial supervision is required.

Single Engine Air Tanker (SEAT) aircraft may be located at any airport/airstrip, and airtanker bases within the Southern Area. SEATs shall not be operated on roads/highways.

Procedures

SEAT operations shall comply with agency policy. (See IABOG, ISOG, and CWN SEAT Contract). A SEAT Manager shall be assigned to all SEAT operations. SEAT Manager duties are described in the Interagency Single Engine Air Tanker Operations Guide (ISOG). SEAT Managers may be assigned the duties of a ramp manager. However, if the operation involves 3 or more SEATS then a Fixed Wing Base Manager should be requested.

As a minimum, SEAT Managers assigned to an incident shall be provided the following information:

- Aviation Plans;
- Aviation Mishap Response Plan;
- HazMat Plan;
- Flight Following and Fire Traffic Procedures;
- Airspace;
- Maps;
- Radio Frequency List;
- Phone/Frequency/Location Lists; and
- Local Issues/Concerns.

Safety

Drops

The Missoula Technology & Development Center determined the minimum safe drop height for an Airtractor 802 is 92-feet. Retardant drops normally should be made 300-feet away from any waterway to mitigate possible harm to the environment.

Sterile Cockpit

It is necessary for pilots to inform dispatch when sterile cockpit procedures will be implemented.

Dispatch

SEATs shall be ordered in accordance with the Southern Area Mobilization Guide. Only turbine powered SEATS with a minimum of a 500-gallon suppressant tank capacity shall be dispatched to Southern Region incidents.

Chapter 8

SINGLE ENGINE AIRTANKER OPERATIONS

A SEAT Manager shall be in place prior to conducting operational mission. Dispatch shall provide the following information to the SEAT Manager/Pilot:

- Fire Location.
- Other resources committed (especially other aircraft).
- Fire Name/P# or Agency Billing #;
- Contacts/Frequencies;
- Known Hazards; and
- Base Location(s).

Flight Following

SEATs shall use the flight-following frequency assigned by local dispatch centers and shall use the same check-in procedures, normally every 15-minutes unless prearranged, used by all aircraft as delineated in the Regional Mobilization Guide.

SEATs shall use transponder code #1255 when firefighting or their assigned Air Traffic Control (ATC) code. The flight shall be terminated if flight following can not be maintained. Pilots switching frequency shall establish contact with the next flight following facility prior to switching changing frequency.

Facilities

General

When a SEAT base is established, the SEAT Manager shall ensure that base is adequately equipped to support the mission (i.e. toilets, waste disposal, rest area, etc.)

Loading and mixing equipment will be provided by the vendor unless operating from a FS airtanker base capable of providing SEAT services.

Water tenders shall be made available to shuttle water to the base if needed. The aircraft vendor is responsible for providing the proper fittings, hose and wrenches for utilization of these water sources.

Retardant

Retardants generally used are Fire-Trol LCA-F or LCA-R, which are Liquid Concentrate (LC) and Phos-Check D75-F or D75-R. When loading retardant into a SEAT, follow OAS Operational Procedures memorandum No. 02-46 dated July 12, 2002.

Testing

The SEAT Manager shall send retardant samples to Wildland Fire Chemical Systems at Missoula Technology and Development Center to the Lot Acceptance/Quality Assurance Program to assure all retardant is meeting proper specifications. Detailed procedures for sampling and testing are found in the LA/QA publication.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Definitions

Additional Personnel. Additional personnel specifically ordered by the CO where it is to the Government's advantage to have additional availability of the aircraft (not to be confused with a relief crew furnished by Contractor to replace primary crew).

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.

Aircraft Make and Model. A specific make and basic model of aircraft, including modification; e.g., a Bell 206

Aircraft Make, Model, and Series. A specific make, model, and series of aircraft including modification (e.g., a Bell 206B is not the same make, model, and series as a Bell 206L).

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

Alert Status. A status subject to flight and duty limitations, in which the Contractor has 1 hour to return to standby if ordered by the CO to do so.

Anchor. The Interagency approved device manufactured to be the fixed point attached to the helicopter for rappel and cargo letdown operations.

Assigned Work Location. The location designated by the CO from which an ordered flight will originate.

Authorized Crewmember. Those individuals specified in the “Schedule of Items” unless designated otherwise by the CO.

Authorized Flight or Flying Time. The actual time that a helicopter is off the ground for the purpose of the task or tasks to which assigned under an ordered flight when such time is recorded by the pilot and approved by a designated Government Official as having been properly performed.

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

Base Cost. The portion of the flight rate that is constant throughout the contract period and not affected by changes in fuel prices. Adjustments to the base cost will be made annually by the CO.

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 Contractor is not obligated to accept any orders. However, once an order is placed and the Contractor takes steps to perform, both sides are bound by the terms and conditions of the Contract.

Cargo. Any material thing carried by the aircraft.

Chief-of-Party. Designated Government representative for all passengers on a flight.

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

Contractor. An operator being paid by the Government for services.

Cruising Speed, Service Ceiling, and Cruising Range. Shall be the same as applied by the CAB and FAA, United States Department of Transportation and the aircraft manufacturer.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Duty. That period that includes flight time, ground duty (pre- and post- flight inspections) of any kind, and standby or alert status at any location.

Empty Weight. The last weight and moment entry on the aircraft weight and balance record. Empty weight is determined using weight and balance data which was determined by actual weighing of the aircraft within 24-calendar months preceding the starting date of the contract, or renewal period, and following any major repair or major alteration or change to the equipment list which significantly affects the center of gravity of the aircraft.

Equipped Weight. Equipped weight equals the Empty Weight (as listed in the Weight and Balance Data) **plus** the weight of lubricants and onboard equipment required by contract (i.e., survival kit, rappel anchor).

The helicopter's contracted equipped weight is determined using weight and balance data which was determined by actual weighing of the aircraft within 24-calendar months preceding the starting date of the contract, or renewal period, and following any major repair or major alteration or change to the equipment list which significantly affects the center of gravity of the aircraft.

Helicopter contracted equipped weight shall not exceed 1% above the awarded contracted equipped weight during the Contract period, unless the Government requires additional equipment after award. Aircraft that fail to meet helicopter contracted equipped weight minimums, including the plus 1% allowance, shall be made unavailable under the terms of this Contract.

External Load. A load that is carried or extends outside of the aircraft fuselage either in an external cargo basket or attached to the cargo hook.

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

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

Ferry Flight. Movement of helicopter under its own power from point-to-point.

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 Crew. Those Contractor personnel required by the Federal Aviation Administration to operate the aircraft safely while performing under contract to the Government.

Flight Rate. The contract unit price per hour of flight time as found in the Table of Flight Rates or Schedule of Items. (Includes base cost plus fuel costs.)

Flight Time. Begins when the aircraft leaves the ground in takeoff for a given flight and ends when the aircraft has landed.

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

Fuel Cost. The variable portion of the flight rate that is subject to change due to fuel price change.

Fuel Endurance. Fuel required including a 20-minute reserve.

Fully Operational. Helicopter, pilot(s), other personnel, repairs, operating supplies, service facilities, and incidentals necessary for the safe operation of the helicopter both on the ground and in the air.

Fully Rated Capacity. The number of passenger seats or pounds of cargo load authorized in the applicable Type Certificate Data Sheet.

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

Appendix A

DEFINITIONS AND ABBREVIATIONS

Ground Mishap, Aircraft. An aircraft mishap in which there is no intent to fly; however, the power plants and/or rotors are in operation and damage incurred requiring replacement or repair of rotors, propellers, wheels, tires, wing tips, flaps, etc., or an injury is incurred requiring first aid or medical attention.

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

Helitanker. An aerial delivery system that is a helicopter configured for the dispensing of fire retardant or fire suppressant material. Airtanker Board criteria shall apply to helicopters with a minimum capacity of 700 gallons or more.

Hover-in-ground-effect (HIGE). Maximum pressure altitude and temperature at which a helicopter can hover (at maximum gross weight) using the effects of ground cushion per the Flight Manual/Supplements and STC performance charts.

Hover-out-of-ground Effect (HOGE). Maximum pressure altitude and temperature which a helicopter can hover (at maximum gross weight) without the effects of ground cushion per the Flight Manual/Supplements and STC performance charts.

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

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 agency Aviation Safety Manager.

Instrument Flight Rules (IFR). As defined in 14 CFR 91.

Internal Cargo Compartments. An area within the helicopter specifically designed to carry cargo.

Law Enforcement. Those duties carried out by agency personnel together with personnel from cooperating agencies, to enforce various Federal laws applicable to trespass (those activities relating to timber, grazing, fire, occupancy and others). Other activities can include those that are illegal under the antiquities acts and the manufacturing, production, and trafficking of substances in violation of the Controlled Substances Act (16 U.S.C. 559b-f)) and other illegal activities occurring on agency jurisdictional lands. Specific law enforcement activities can include surveillance (visual, infrared, or photographic), transportation of law enforcement personnel and persons in custody and transportation of property (both internally and externally). All helicopter activities including landings will occur at locations that are secured by law enforcement personnel or are locations removed from law enforcement actions.

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

Limited Use Helicopter. A limited use helicopter is an Interagency term used to denote a standard category helicopter that is designated and utilized in a limited role (not for passenger transport .)

Long-line. A line extended from the cargo hook of a helicopter which is 50-feet or greater in length.

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.

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

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.

Occupant: Any crew or passenger that is aboard an aircraft.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Official Sunset and Sunrise. The times when the upper edge of the disk of the Sun is on the horizon, considered unobstructed relative to the location of interest. Atmospheric conditions are assumed to be average and the location is in a level region on the Earth's surface.

Operational Control. 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 bailee of an aircraft.

Passenger. Any person aboard an aircraft who does not perform the function of a flight crewmember or crewmember.

Passenger Seating Capacity. Number of passenger seats excluding pilot(s).

Payload. The maximum allowable weight (passengers and/or cargo) that can be carried in any one mission.

Pilot-In-Command . The pilot responsible for the operation and safety of the aircraft during the time defined as flight time.

Point-of-Hire. Point-of-Hire shall be the Contractor's Principal Base of Operations as specified in Section B or the location of aircraft at time-of-hire, whichever is closer to the Assigned Work Location

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

Principal Base of Operations. The primary operating location of a 14 CFR 121, 133, 135 or 137 certificate holder as established by the certificate holder.

Rappeller. A person who has been trained and certified to rappel from a helicopter, in accordance with agency specified policy and direction contained in the Interagency Helicopter Rappelling Guide.

Rappel Spotter. A person who has been trained and certified, in accordance with agency-specified policy and direction contained in the Interagency Helicopter Rappel Guide, to direct and manage a rappel operation

Restricted Category. An aircraft that has been manufactured in accordance with the requirements of and accepted for use by an Armed Force of the United States and later modified for special purposes such as agriculture, forest and wildlife conservation, aerial surveying, patrolling, or any the operation specified by the FAA Administrator.

SAFECOM. Use to report any condition, observance, act, maintenance problem, or circumstance, which has potential to cause an aviation related mishap. The purpose of the SAFECOM form is not intended to be punitive in nature. It will be used to disseminate safety information to aviation managers, and also to aid in accident prevention by trend monitoring and tracking. See www.safecom.gov

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% of the body surface.

Sling Load. Jettisonable external load that is lifted free of land or water during the rotorcraft operation.

Special Use Missions:

Air Tactical Coordination (Air Attack). Coordination with other tactical aircraft during fire and other project operations.

Appendix A

DEFINITIONS AND ABBREVIATIONS

Fire Surveillance/Reconnaissance. Patrolling in search of and scouting wildland fires; checking fuel types and fire behavior.

Reconnaissance (Non-Fire). Observation and fact-finding reconnaissance, i.e. wildlife monitoring, snow surveys, search and rescue, timber and range surveys, insect and disease surveys, law enforcement, and aerial photography.

Other. Cooperative use with other agencies, and other purposes mutually agreed upon by the Contractor and the Contracting Officer.

Standard Category Helicopter. A turbine powered helicopter which is certificated in the normal or transport category, operated and maintained in accordance with 14 CFR 135 by an operator holding an Air Carrier Certificate. These helicopters may be used for all types of operations such as passengers, reconnaissance, tank or bucket operations, and cargo.

Substantial Damage. Any 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 rotor or propeller blades, and damage to landing gear, wheels, tires, flaps, engine accessories, brakes, or wing tips are not considered “substantial damage" for the purpose of this part.

Type I Helicopter. No less than 16 seats (including pilot) or 5,000 lbs card weight capacity, and 700 gallons retardant capacity.

Type II Helicopter. Between 9 to 15 seats or 2,500 to 4,999 lbs card weight capacity and 300 to 699 gallons retardant capacity.

Type III Helicopter. Between 5 to 8 seats or 1,200 to 2,499 lbs card weight capacity and 100 to 299 gallons retardant capacity.

Type IV Helicopter. Between 3 to 4 seats or 600 to 1,199 lbs card weight capacity and 75 to 99 gallons retardant capacity.

Vertical Reference/External Load. Direct visual reference, by the pilot, of an external load/cargo being slung from beneath the helicopter with a line attached to the cargo hook and being removed or placed from the earths surface with precision.

Visual Flight Rules (VFR). As defined in 14 CFR 91.

C-49 Abbreviations

A&P	Airframe & Powerplant (Mechanic)
AC	Advisory Circular
AD	Airworthiness Directive
AFAO	Assistant Forest Aviation Officer
AFF	Automated Flight Following
AMIS	Aviation Management Information System
AOBS	Aerial Observer
AOO	Aviation Operations Officer
ARTCC	Air Route Traffic Control Center
ASM	Aerial Supervision Module
ASP	Aviation Safety Plan
ATBM	Airtanker Base Manager
ATC	Air Traffic Control
ATCO	Air Taxi/Commercial Operators
ATGS	Air Tactical Group Supervisor
CAB	Civil Aeronautics Board
CG	Center of Gravity

Appendix A

DEFINITIONS AND ABBREVIATIONS

CI	Contract Inspector
CO	Contracting Officer
COP	Chief-of-Party
CFR	Code of Federal Regulations
COR	Contracting Officer's Representative
COTR	Contracting Officer's Technical Representative
CWN	Call-when-Needed (Contract)
DOI	Department of the Interior
DOT	Department of Transportation
ELT	Emergency Locator Transmitter
EPA	Environmental Protection Agency
ETA	Estimated Time of Arrival
FAA	Federal Aviation Administration
FAO	Forest Aviation Officer
FAR	Federal Acquisition Regulations
FDO	Forest Dispatch Office
FICC	Florida Interagency Coordination Center
FMO	Fire Management Officer
FMSO	Fire Management Staff Officer
FPMR	Federal Property Management Regulations
FSH	Forest Service Handbook
FSM	Forest Service Manual
FSO	Fire Staff Officer
FSS	Flight Service Station
GACC	Geographic Area Coordination Center
GFP	Government Furnished Property
GPM	Gallons-Per-Minute
GSA	General Services Administration
HEB1	Helibase Manager (Type 1)
HEB2	Helibase Manager (Type 2)
HCWN	Helicopter Manager (Call-when-Needed)
HELB	Helicopter Manager (Exclusive Use)
HIP	Helicopter Inspector Pilot
HOS	Helicopter Operations Specialist
IATB	Interagency Airtanker Board
IC	Incident Commander
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
IHOG	Interagency Helicopter Operations Guide
IMC	Instrument Meteorological Conditions
IR	Infrared
KBDI	Keech-Byrum Drought Index
LEO	Law Enforcement Officer
M&IE	Meals and Incidental Expenses
MOA	Military Operations Area
MSDS	Material Safety Data Sheets
MSL	Mean Sea Level
MTR	Military Training Route
MXMS	Mixmaster
NFES	National Fire Equipment System
NFF	National Forest in Florida
NICC	National Interagency Coordination Center
NTSB	National Transportation Safety Board
NOTAM	Notice to Airmen
OMB	Office of Management and Budget
PA	Public Address System
PAB	Portable Airtanker Base
PAO	Project Aviation Officer
PASP	Project Aviation Safety Plan

Appendix A

DEFINITIONS AND ABBREVIATIONS

PFD	Personal Floatation Device
PIC	Pilot-in-Command
PPE	Personal Protection Equipment
PTT	Push-To-Talk
RA	Restricted Area
RAO	Regional Aviation Officer
RAMP	Ramp Manager
RASM	Regional Aviation Safety Manager
RON	Remain-Over-Night
SAC	Special Agent in Charge
SACC	Southern Area Coordination Center
SAFECOM	Safety Communiqué
SAR	Search and Rescue
SIC	Second-in-Command/Co-Pilot
STABO	Stability Operations
STC	Supplemental Type Certificate
TBO	Time Between Overhaul
TCAS	Traffic Collision Avoidance System
TFR	Temporary Flight Restriction
USDA-FS	United States Department of Agriculture-Forest Service
VFR	Visual Flight Rules
VNE	Velocity Never Exceed
VSWR	Voltage Standing Wave Ratio
WO	Washington Office
ZPC	Zone Patrol Commander

Appendix B

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 5706.1
Airtanker Base Operations Guide, Interagency	FSM 5706.1
Aviation Management	FSM 5700
Fireline Handbook	FSH 5109.32a
Flight Operations Handbook	FSM 5709.16
Helicopter Operations Guide, Interagency	FSM 5703.4
Helicopter Rappel Guide, Interagency	N/A
Incident Business Management Handbook, Interagency	FSH 5109.34
Law Enforcement Handbook	FSH 5309.11
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	WO Letter 4/2/98
Smokejumper and Paracargo Handbook	FSH 5709.14
Smokejumper Training Guide, Interagency	FSH 5709.14.1
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
Contract Information for: Airtanker, Helicopter, Large Transport, and Smokejumper Aircraft	NFES 2277
Helicopter Training Guide, Interagency	NFES 1261
Lot Acceptance, Quality Assurance & Field Quality Control of Fire Retardant Chemicals	NFES 1245
Military Use Handbook	NFES 2175

Appendix B

REFERENCES

Retardant Base Planning Guide, Interagency ..... NFES 1259

Single Engine Air Tanker Operations Guide, Interagency ..... NFES 1844
Forms 1413

Appendix C

PROJECT AVIATION SAFETY PLAN (PASP)

(Sample)

Supervision. Linda Martin, SLEO.

Project Name and Objectives. Cherokee National Forest, Marijuana Detection.

Justification. Aerial surveillance of the National Forest is effective method of detection of marijuana gardens on National Forest Lands.

Project Dates. October 7 – 13, 2005.

Location. USDA Forest Service, Cherokee National Forest, Southern Region. Attach map.

Projected Cost of Aviation Resources. Enter cost coding, projected flight hours and cost, projected miscellaneous expenses (overnight charges, service truck mileage, etc.), and total cost of project.

Aircraft. Tennessee National Guard Helicopter, UH-1, Tail # 23567.

Pilot. John Doe, CW-4.

Participants. Bill Myers, LEO; Jack Combs, LEO; Bob Williams, LEO.

Flight Following and Emergency Search-and Rescue. FAA Flight Service (1-800-WXBRIEF) or Cherokee Dispatch Office (704-345-7782). Status reports made at takeoff, arrival and every 15-minutes while airborne.

Aerial Hazard and Risk Analysis. Complete a Hazard Map for operations below 500 feet. Keep a copy at the base of operations and aboard the aircraft. Complete a risk analysis in accordance with IHOG.

Protective Clothing/Equipment. Forest Service approved flight helmet, Nomex flight suit and gloves, and leather boots shall be worn by all personnel during the flight. Aircraft approved inflatable personal flotation devices (PFDs) shall be worn by all occupants when over water.

Load Calculations or Performance Planning Card (PPC) and Weight-and-Balance. The pilot is responsible for the accurate performance and weight and balance calculations for each flight.

Operation. Detailed narrative of how the operation shall be performed.

Aircraft and Pilots Approvals. October 1, 2005, Copy Attached.

Project Helicopter Manager or Helicopter Manager. Robin Anderson, Tel. 404-345-1001.

Prepared By:	_____	_____	**Reviewed By:**	_____	_____
	BILL MYERS LEO	Date		LINDA MARTIN SLEO	Date
Reviewed By:	_____	_____	**Reviewed By:**	_____	_____
	MARY ROBERTS ZPC	Date		JOHN HENDIXS FAO	Date
Reviewed By	_____	_____	**Approved By:**	_____	_____
	Dave Rosen RASM	Date		BILL SUMMERS SAC	Date

APPENDIX D

REQUEST FOR PILOT AND AIRCRAFT AUTHORIZATION
(Sample)

United States Department of Agriculture | **Forest Service** | **SouthernRegion Law Enforcement and Investigations** | **1720 Peachtree Rd., NW Suite 870 S Atlanta, Georgia 30309**

File Code: 5300 **Date:** February 11, 2005
Route To:

Subject: Request for Pilots and Aircraft Authorization

To: Linda Jones, Regional Aviation Officer
Thru Bill Jones, Special Agent In Charge

The Southern Region, Law Enforcement and Investigations (LE&I) will be conducting counter drug operations during October 21 thru November 15, 2003. Marine Reserve Unit No. HML/A 733 will be providing the aviation support for the operation. Request the following assigned pilots and aircraft be authorized for cooperator use.

Pilots and Aircraft

Pilots	Total Hours	PIC Hours (Helicopter)	Aircraft (Type/Tail #)	
MAJ John Hemb	3,314	1,570	UH-1H/158549	UH-1H/158267
MAJ Kent Salt	2,703	1,424	UH-1H/158777	OH-58A/156792
MAJ Dave Quill	3,954	2,006		
LTC John Barghson	4,479	2,636		
MAJ Steve Brown	2,468	1,359		
MAJ Jack Billings	5,075	2,745		

If additional information is needed, please contact LEO Mary Brooks at 404-347-1002 or mbrooks@fs.fed.us.

/s/Dave Bennett
DAVE BENNETT
Zone Patrol Commander

cc:
FAO, Cherokee NF

Appendix E

CHIEF-OF-PARTY DUTIES AND RESPONSIBILITIES

A Chief-of-Party (COP) shall be designated for all passenger airplane flights other than scheduled airline service flights. The unit scheduling the flight shall do this designation. On those flights with only one passenger, that passenger will become the COP. When a flight manager, such as a mission coordinator or helicopter manager, is already assigned, a COP will not need to be designated.

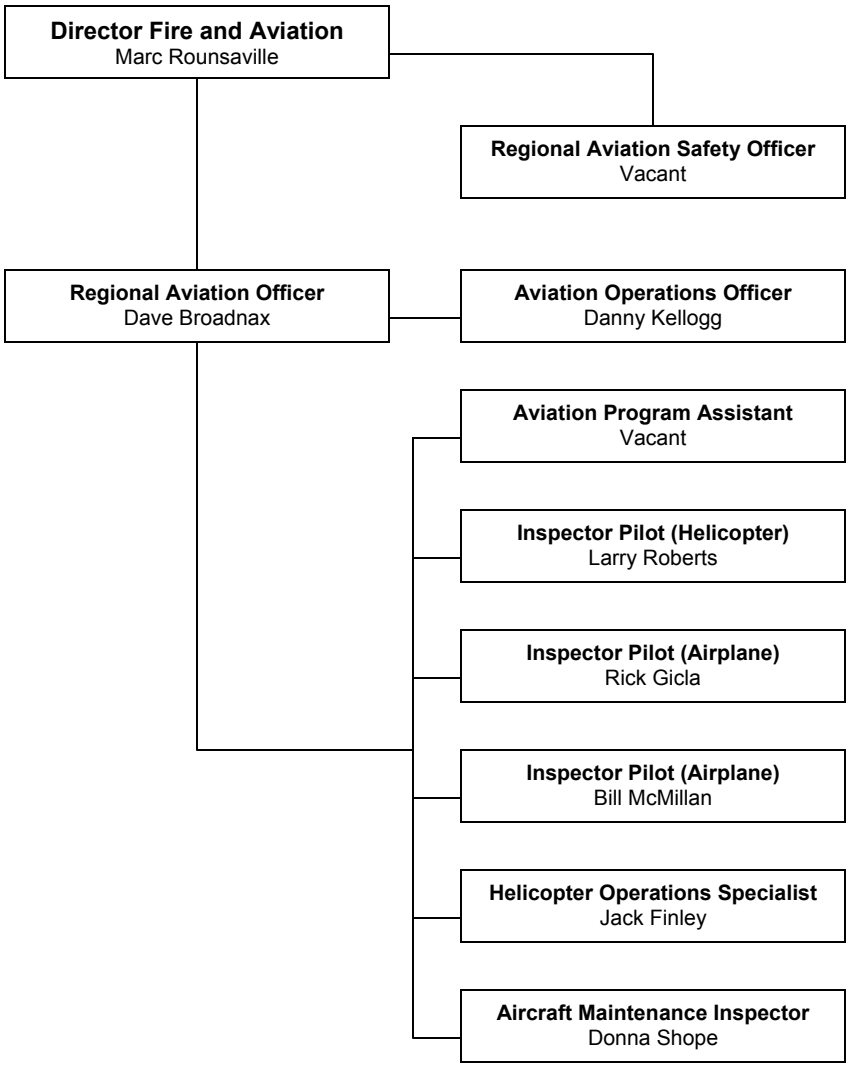
Individuals designated as COP shall have received training in performing COP duties. A FS pilot may be designated as COP. As a minimum this training should include: NFES 2572 COP workbook, NFES 2573 COP Video, NFES 1373 Interagency Aviation User Pocket Guide, and NFES 1399 Five Steps to a Safe Flight.

Chief-of-Party duties and responsibilities are also found in FSH 5709.16 and Chapter 60 of the National Interagency Mobilization Guide, and includes:

- Overview of travel and final destination
- Route of travel, intermediate stops, if applicable, and estimated time(s) of arrival
- Ensure the passenger manifest is accurate and contains the correct names and weights
- Provide one copy of the manifest to the PIC and ensure that additional copies are available for the receiving unit and sending unit dispatcher
- Assist in the stowage of baggage as directed by the PIC
- Assemble the personnel in an orderly manner in the designated staging area
- Ensure the pilot and aircraft are currently authorized for the intended mission and the PIC can verify the aircraft is within the weight and balance limitations
- Ensure that a passenger briefing is provided
- Maintain a current list of telephone numbers for the sending and receiving units, including dispatch numbers for reporting delays of more than 30-minutes. Provide the receiving dispatcher with the reason(s) for the delay and a revised Estimated Time of Arrival (ETA).

Appendix F

REGIONAL ORGANIZATION CHART



Appendix G

TEMPORARY FLIGHT RESTRICTIONS CHECKLIST

- ✓ Receive request for Temporary Flight Restrictions (TFR) from Incident Commander (IC), Project Manager, Air Attack, Leadplane, Aerial Supervision Module (ASM) or Air Operations Branch Director (AOBD).
- ✓ Plot Incident or Project location on map. [If Special Use Airspace or Military Training Routes (MTR) involved pass this information to Air Route Traffic Control Center (ARTCC)]
- ✓ Complete resource order with request for TFR.
- ✓ Request TFR from ARTCC (Tel. ***-***-****). Obtain and document TFR Number.
- ✓ If Special Use Airspace (MOA, RA, MTR) is involved, contact Military Scheduling Agency (Tel. ***-***-****) and request de-confliction of airspace until TFR is granted by FAA). Document military contacts.
- ✓ Notify IC, Project Manager, Air Attack, Leadplane, ASM or AOBD and all aircraft of TFR status. Relay information of activity in Special Use Airspace as applicable.
- ✓ Confirm that the TFR is depicted and the Notice to Airmen (NOTAM) correctly posted by ARTCC.
- ✓ Provide Southern Area Coordination Center (SACC) (Tel. 770-458-2464) with TFR Number.
- ✓ Conduct a daily follow-up with ARTCC of status and continued need for TFR

Appendix H

INTERAGENCY REQUEST FOR TEMPORARY FLIGHT RESTRICTIONS

(TFR request shall be phoned in as per FAA. This form may also be FAXed to provide documentation.)

Resource Order Number: Request #: A -	Date: _____ Time:
To: FAA ARTCC _____ FAA Person Contracted: _____ FAA Phone:	**From**: Dispatch Office _____ Person Requesting TFR: _____ 24 Hr. Phone (No toll Free #s):

[ ] Check if this TFR is a replacement. If so, NOTAM of TFR being replaced. _____
(Existing TFRs cannot be changed, only cancelled and replaced.)

Geographic Location of Incident (nearest town, state): _____

Location (Circular TFR) List nearest NAVAID (distance should be less than 50 NM) – do not use NDB or T-VOR				
VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long of Center Point (use US NOTAM Office Format ddmmssN/dddmmssW)	Radius (NM) (5 NM is standard)
			N **W**	

Or (Polygon TFRs should be rare and only used if circular shape is not adequate.)

Location (Polygon TFR) (List perimeter points in clockwise order) List nearest NAVAID (distance < 50 NM) – do not use NDB or T-VOR.									
Point	VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long (ddmmssNdddmmssW)	Point	VOR ID	Radial (Degrees)	Distance (NM)	Lat/Long (ddmmssNdddmmssW)
1					5				
2					6				
3					7				
4					8				

Altitude restrictions: _____ Feet MSL (do not use AGL – Standard is 2,000' above highest terrain point)

The _____ / _____ at _____ _____
Agency Name Incident Name 24 Hr Phone # VHF – AM Air/Air Frequency

Is in charge of on scene emergency response activities. TFR to provide a safe environment for fire fighting aircraft operations effective immediately, until further notice, 24 hrs/day.

The requested TFR affects the following Special Use Airspace:					
The requested TFR affects the Military Training Routes listed below:					
Route	Scheduling Activity	Segment(s)	Route	Scheduling Activity	Segment(s)

Important Note to FAA: If the TFR affects SUA and/or MTR(s), we request NOTAM distribution to all military bases involved, to the Coordinating Flight Service Station, and, for MTRs, to the Flight Service Station and Air Route Traffic Control Center with responsibility for the airspace at the rout entry point(s).

NOTAM #: _____ **Issued at:** _____ **On:** _____ **(Date)**

Data/Time TFR Cancelled: _____ **By:** _____

Appendix I

USDA Forest Service FS-5700-10 (9/93)

FLIGHT REQUEST/JUSTIFICATION FOR ADMINISTRATIVE USE OF AIRCRAFT
(FSM 5710 & FSH 5709.11 Ch. 10)

User: _____ Date(s) of Use: _____
Agency/ Unit

Purpose of Flight

Service Requested:

Planned travel requires the use of air transportation, and Forest Service operated or charted aircraft will be used because (check a, b, or c. If c is checked, attach a cost comparison).

[ ] a The aircraft is schedule to perform a bona fide mission, training, or proficiency activity compatible with secondary use of the flight for transportation, and the minimum mission, training, or proficiency requirements have not been exceeded.

[ ] b No airline service is reasonable to effectively fulfill the transportation requirement that is within the same calendar day as required.

Explanation:

[ ] c The actual cost of using this aircraft is not more than other suitable and available air transportation. (Use FS-5700-11, Cost Comparison Travel Worksheet.) This cost should be the total cost of the Government; calculations should include per diem, overtime, and lost work time as well as actual transportation costs.

_____
Signature

Appendix J

USDA Forest Service

INFRARED AIRCRAFT SCANNER REQUEST

P Number: _____

Date of Order: _____ Time of Order: _____

Incident Name: _____ Number: _____

Ordering Unit: _____ Telephone: _____

Local Dispatch: _____ Telephone: _____

Regional Coordination Center: _____

National IR Coordinator (Name): _____ Telephone: _____

IR Field Specialist: _____ Telephone: _____

Fax: _____

IR Interpreter Ordered: Yes [ ] No [ ]

Name of Motel/Hotel: _____ Telephone: _____

Fax: _____

Incident Location (Lat/Long): _____

Elevation (Incident): _____ Approximate Size: _____

Weather at Deliver Point: _____

Delivery Point (City or Airport): _____ Time: _____

Alternate Delivery Point: _____

Radio Frequencies: Local Admin Unit _____ Tone: _____Mhz

Air Attack Supervisor _____ Tone: _____Mhz

Remarks:

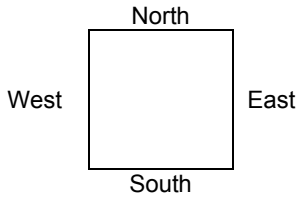
Information Needed For Each Mission

North: _____

South: _____

East: _____

West: _____



Instructions:
1. Write full degrees, minutes, and seconds for each side of the Box.
2. Use area codes on all Telephone and Fax Numbers.
3. Complete all information Blocks. Write large and legible.
4. Add additional pages for Complexes with more than one Box.

Appendix K

USDA Forest Service FS-5700-12 (9/93)

DAY TRIP AUTHORIZATION
(FSM 5710: FSH 5709.11 Ch. 10)

Date: _____/_____/_____

Make/Model of Aircraft: _____ Registration No: _____

Operator: _____

Purpose of Flight

Route of Flight

Passenger Name	Affiliation

Forest Service Sponsoring Unit: _____

I certify that the person(s) listed above has an official purpose for being on this flight and any associated surface transport. I recognize that the Government may incur increased liability exposure under the Federal Tort Claims Act, 28 U.S.C. 2680, and that ownership of the conveyance(s) in question does not alter the Government's liability (Comptroller General Decision B-231814, January 19, 1989). I have determined that the benefits justify the operation.

_____
Signature and Title of Sponsoring Unit Representative (FSM 5716.4)

Appendix L

PILOT BRIEFING CHECKLIST

Pilot Briefing Checklist

- Local Communications Systems
- Transmitter sites and call sign identifiers
- Lead plane communications and communication procedures
- Communications plans
  - ✓ Large fire
  - ✓ Airfield and tanker base
- Dispatching Procedures
  - ✓ Forest fire
  - ✓ State or zone
  - ✓ Regional
- Legal description as well as Lat./Long (Lookouts use true bearings)
- Prominent landmarks
- Forest fuels and fire behavior (Pocket Cards)
- Flight Hazards
- Payment Procedures and Contract Administration
- Submitting flight reports
- Duty limitations and days off
- Maintenance scheduling
- Tanker Base Operations (Refer to local Air Tanker Base Plan)

Appendix M

AVIATION SAFETY AND TECHNICAL ASSISTANCE TEAM

Purpose

The Southern Region utilizes Aviation Safety and Technical Assistance Teams (STAT) to provide assistance to field units during times of heavy use of aviation resources to help identify aviation related issues that may increase during more complex activity periods. This includes clarifying policy, providing assistance in approving aircraft and pilots, aviation safety and accident prevention, and assisting with maintenance issues.

Mobilization

Any activity may request to mobilize a STAT. The RASM or RAO shall approve the request.

Accountability

The STAT is responsible to the RASM or RAO. The team is an extension of the Agency's Aviation organization that is not assigned to Incident Command (IC), Area Command (AC), Multi-agency Coordination Group (MAC) or Agency Administrator (AA).

Composition

Team composition depends on the complexity and type of aviation activities involved with the incidents should be interagency when possible. The team usually includes a Helicopter Operations Specialist, Aviation Maintenance Specialist, Aviation Safety Specialist, however, may include Fixed-wing Specialist, Helicopter Inspector Pilot, Avionics Inspector, and/or Air Tanker Base Specialist.

Objective

Assist field units to enhance:

- Safety/Accident Prevention
- Efficiency and effectiveness of aviation operations
- Technical assistance to aircraft managers, flight crews and Unit/Incident Management Team (IMT) personnel

Team Protocol

- Receive an assignment briefing from RASM or RAO.
- In-brief with IC, AC, and/or Air Ops Branch Director (AOBD) to identify aviation management issues.
- Provide daily feedback to RASM or RAO.
- Out-brief with IC, AC, and/or Air Ops Branch Director (AOBD) to discuss aviation management observations or issues.

Responsibilities

Aviation Safety and Technical Assistance Team should visit aircraft bases to observe and assist aviation operations personnel to ensure compliance with agency standards, assess management staffing levels, review load calculations and other administrative documents, attend briefings, review safety plans, ensure SafeComs are filed, provide recommendations or issue solutions for technical or safety related issues to aviation managers, and approve/re-approve pilots, mechanics, aircraft, and fuel service vehicles.

Appendix N

EXCLUSIVE USE HELICOPTER REPORT

This report is for the following dates. Start: _____ Stop: _____

1. Base name. _____
2. Region and Unit. _____
3. Base contact person. _____
4. Helicopter make/model. _____
5. Number of initial attacks for season. _____
6. Number of large fires. _____
7. Percent of initial attacks supported with helicopter bucket/tank. _____ %
8. Percent of initial attacks demobed by helicopter. _____ %
9. Crew size. _____
10. Number of days helicopter was under contract. _____ days
11. Hours flown for fire management. _____ hrs
12. Hours flown for "Other Users." _____ hrs
13. Hours flown "On" Forest. _____ hrs
14. Hours flown "Off" Forest. _____ hrs
15. Total hours flown. _____ hrs
16. Number of passengers carried. _____ paxs
17. Pounds of cargo carried. _____ lbs (Internal) _____ lbs (External)
18. Gallons of retardant/water/foam delivered (Combined). _____ gals
19. Helicopter daily availability rate. $ _____
20. Helicopter hourly flight rate. $ _____
21. Total contract cost for season. $ _____
22. Is your crew aerial ignition certified (Yes/No) _____
23. Type and number of aerial ignition equipment. (Helitorch/PSD) _____
24. Location of aerial ignition equipment (City and State) _____
25. Number of person days in support of large fires _____ days
26. Number of person days on prescribed fire assignments _____ days
27. Number of acres treated with aerial ignition _____ acres
28. Number of plastic spheres utilized _____
29. Provide an example of a fire suppression effort that resulted in a significant resource or dollar savings, e.g. successful structure protection, decreased exposure to firefighters, multiple use of the helicopter on a wildfire, reduced number of shifts on the fire, etc.

Appendix O

EMERGENCY CONTACT LIST

FAA Flight Service Station	**800-992-7433**
FAA Communication Center	**202-267-3333**
NTSB Communication Center	**202-314-6290**

Primary Response (Emergency Responders)	
Fire Department	
Police	
Ambulance	
Air Ambulance	
Hospital	
Secondary Response (Support Personnel)	
Southern Area Coordination Center	
FAA Flight Service Station	
NTSB	
Photographer	
HazMat Response (County)	
Coroner	
Clergy	
Engineering/Recovery	
Agency Management and Other Agencies (As Required)	
Forest Safety Officer	
Forest Aviation Officer	
Forest Fire Staff Officer	
Forest Public Affairs Officer	
Regional Aviation Safety Manager	
Regional Aviation Officer	
Regional Public Affairs Officer	
Regional Aircraft Maintenance Inspector	
Regional Helicopter Operation Specialist	
Regional Helicopter Pilot Inspector	
Contracting Officer	
Security (LE&I)	
Security (County Sheriff)	
Security (County Sheriff)	
Aircraft Owner	