

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45

Chapter 17 Aviation Operations/Resources

Purpose and Scope

Aviation resources are one of a number of tools available to accomplish fire related land management objectives. Their use has value only if that use serves to accomplish the mission.

Aviation use must be prioritized based on management objectives and probability of success.

The effect of aviation resources on a fire is directly proportional to the speed at which the resource(s) can initially engage the fire, and the effective capacity of the aircraft. These factors are magnified by flexibility in prioritization, mobility, positioning, and utilization of the versatility of many types of aircraft.

Risk management is a necessary requirement for the use of any aviation resource. That risk management process must include the risk to ground resources, and the risk of not performing the mission, as well as the risk to the aircrew.

Organizational Responsibilities

National Office

Aviation Management Directorate

The Aviation Management Directorate (AMD), of the National Business Center, is responsible for aviation policy development, aircraft acquisition, financial services, and maintenance management within the agencies of the Department of the Interior (DOI). AMD has no operational responsibility. AMD provides aviation safety program oversight, accident investigation, and aircraft and pilot inspection and approval for DOI use.

- *BLM - National Aviation Office (NAO) - NAO develops BLM policy, procedures, standards, and maintains functional oversight and facilitates interagency coordination for all aviation activities. The principal goals are safety and cost-effectiveness. The NAO supports BLM aviation activities and missions, including fire suppression, through strategic program guidance, managing aviation programs of national scope, coordination with AMD and interagency partners. National Office of Fire and Aviation Management (OF&A) has the responsibility and authority, after consultation with State FMOs, for funding and acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a national basis, and approving State Office requests to acquire supplemental aircraft resources. Refer to BLM Manual 9400 for aviation policy and guides. (Refer to 112 DM 12 for a list of responsibilities.)*

- 1 • *FS - The US Forest Service has responsibility for all aspects of its aviation*
2 *program, including aviation policy development, aircraft acquisition, and*
3 *maintenance management. In addition, the USFS has operational*
4 *responsibility including development of aviation procedures and*
5 *standards, as well as functional oversight of aviation assets and facilities,*
6 *accident investigation, and aircraft and pilot inspection.*
- 7 • *FS - The National Aviation Officer (NAO) is responsible to the Director of*
8 *Fire and Aviation Management (Aviation) for the management and*
9 *supervision of the National Headquarters Office in Washington DC, and*
10 *the detached Boise Aviation Unit. The NAO provides leadership, support*
11 *and coordination for national and regional aviation programs and*
12 *operations. (Refer to FSM 5704.22 for list of responsibilities.) The*
13 *National Aviation Operations Officer (NAOO) reports to the NAO, and*
14 *oversees the detached Boise Aviation Unit, and is responsible for all*
15 *operational aspects of the aviation program.*

16 **State/Regional Office**

- 18 • *BLM/FWS/NPS - A State/Regional Aviation Manager (S/RAM) is located*
19 *in each state/regional office. S/RAMs implement aviation program*
20 *objectives and directives to support the agency mission and state/region*
21 *objectives. Several states/region's have additional support staff, and/or*
22 *pilots assigned to support aircraft operations and to provide technical*
23 *expertise. A state/regional aviation operations and management plan is*
24 *required to outline the state/region's aviation program objectives and to*
25 *identify state/region-specific policy and procedures.*
- 26 • *FS - Regional Aviation Officers (RAOs) are responsible for directing and*
27 *managing Regional aviation programs in accordance with the National*
28 *and Regional Aviation Management Plans, and applicable agency policy*
29 *direction. (Refer to FSM 5720.47c for list of responsibilities.). RAOs*
30 *report to Director of Fire and Aviation for their specific Region. Regional*
31 *Aviation Safety Managers (RASMs) are responsible for aviation safety in*
32 *their respective Regions, and work closely with the RAO to ensure aviation*
33 *safety is an organizational priority. Most Regions have additional aviation*
34 *technical experts and pilots who help manage and oversee the Regional*
35 *aviation programs. Most Regions also have Aviation Maintenance*
36 *Inspectors, Airtanker Program Managers, Helicopter Program Managers,*
37 *Helicopter Operations Specialists, Inspector Pilots, etc.*
- 38 • *BLM - State FMOs are responsible for providing contract oversight*
39 *Contracting Officers Representative (COR) for aircraft hosted in their*
40 *state, this duty is delegated to the State Aviation Manager. State FMOs*
41 *have the authority and responsibility to approve, with National Office*
42 *concurrence, acquisition of supplemental aircraft resources within their*
43 *state. State FMOs have the authority to prioritize the allocation, pre-*
44 *positioning and movement of all aircraft assigned to the BLM within their*
45 *state. State Offices will coordinate with the National Office on movement*
46 *of their aircraft outside of their State.*

1 Local Office

2 Some areas have interagency aviation programs that utilize an Aviation Manager
3 for multiple units. Duties are similar as other local level managers.

- 4 • **BLM** - *Unit Aviation Managers (UAMs) serve as the focal point for the*
5 *Unit Aviation Program by providing technical expertise and management*
6 *of aviation resources to support Field Office/District programs.*
7 *Field/District Offices are responsible for hosting, supporting, providing*
8 *daily management, and dispatching all aircraft assigned to their unit.*
9 *Field/District Offices have the authority to request additional resources;*
10 *and to establish priorities, and make assignments for all aircraft assigned*
11 *to the BLM within their unit or zone.*
- 12 • **NPS** - *Organizational responsibility refer to DO-60, RM-60.*
- 13 • **FS** - *Unit Aviation Officers (UAOs)/Forest Aviation Officers (FAOs) have*
14 *the responsibility for aviation activities at the local level, including*
15 *aviation mission planning, safety measures, supervision, and evaluation.*
16 *UAOs/FAOs assist Line Officers with risk assessment/management and*
17 *cost analysis. (Refer to FSH 5709.16_10.42)*

19 Aviation Information Resources

20 Aviation reference guides and aids for agency aviation management are listed
21 for policy, guidance, and specific procedural requirements.

- 22 • **BLM** - *9400 Manual Appendix 1, BLM Fixed Wing Standard Operations*
23 *Procedures, National Aviation Plan. State and Unit Aviation Plans (In all*
24 *cases DOI policy Department Manuals [DMs], Operational Procedural*
25 *Memoranda [OPMs], and BLM policy will take precedence.)*
- 26 • **FWS** - *Service Manual 330-339, Aviation Management and IHOG.*
- 27 • **NPS** - *RM-60 Aviation Management Reference Manual and IHOG.*
- 28 • **FS** - *FSM 5700, ISMOG, FSH 5709.16 and IHOG.*

30 Safety alerts, operational alerts, instruction memoranda, information bulletins,
31 incident reports, and other guidance or information are issued as needed.

33 An up-to-date library with aviation policy and procedural references will be
34 maintained at all permanent aviation bases, dispatch, and aviation management
35 offices.

37 Aviation Safety

39 Risk Assessment and Risk Management

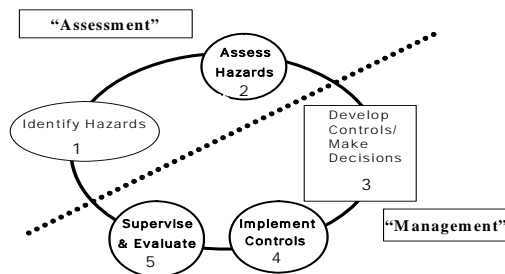
40 The use of Risk Management will help to ensure a safe and successful operation.
41 Risk is the probability that an event will occur. Assessing risk identifies the
42 hazard, the associated risk, and places the hazard in relationship to the mission.
43 A decision to conduct a mission requires weighing the risk against the benefit of
44 the mission and deciding whether the risks are acceptable.

45

- 1 Aviation missions always have some degree of risk. The four sources of hazards
 2 are methods, medium, man, and machine. Managing risk is a 5-step process:
- 3 • Identify hazards associated with all specified and implied tasks for the
 4 mission.
 - 5 • Assess hazards to determine potential of occurrence and severity of
 6 consequences.
 - 7 • Develop controls to mitigate or remove risk, and make decisions based on
 8 accepting the least risk for the best benefit.
 - 9 • Implement controls - (1) education controls, (2) physical controls, and (3)
 10 avoidance controls.
 - 11 • Supervise and evaluate - enforce standards and continuously re-evaluate
 12 their effectiveness in reducing or removing risk. Ensure that controls are
 13 communicated, implemented, and enforced.

14

THE RISK MANAGEMENT PROCESS



15

16 Aviation Safety Support

17 During high levels of aviation activity it is advisable to request an Aviation
 18 Safety Assistance Team (ASAT). An ASAT's purpose is to assist and review
 19 helicopter and/or fixed wing operations on ongoing wildland fires. They should
 20 be requested through the agency chain of command and operate under a
 21 Delegation of Authority from the appropriate State/Regional Aviation
 22 Manager(s) or Multi Agency Coordinating Group. Formal written reports will
 23 be provided to the appropriate manager(s). A team should consist of the
 24 following:

- 25 • Aviation Safety Manager
- 26 • Operations Specialist (helicopter and/or fixed wing)
- 27 • Pilot Inspector
- 28 • Maintenance Inspector (optional)
- 29 • Avionics Inspector (optional)

30

31

32

33

1 Military or National Guard Aircraft and Pilots

2 The *Military Use Handbook* (NFES 2175) will be used when planning or
3 conducting aviation operations involving regular military aircraft. Ordering
4 military resources is done through National Interagency Coordination Center
5 (NICC); National Guard resources are utilized through local or state
6 Memorandum of Understanding (MOU).

8 Aviation Safety Briefing

9 Every passenger must receive a briefing prior to each flight. The briefing is the
10 responsibility of the Pilot in Command (PIC) but may be conducted by the pilot,
11 flight manager, helicopter manager, fixed-wing base manager, or an individual
12 with the required training and experience to conduct an aviation safety briefing.
13 Refer to the *Incident Response Pocket Guide* (IRPG) and IHOG Chapter 10.

15 Aviation Hazard

16 An aviation hazard is any condition, act, or circumstance that compromises the
17 safety of personnel engaged in aviation operations. All personnel are
18 responsible for hazard identification and mitigation. This includes pilots, flight
19 crew personnel, aviation managers, incident air operations personnel, and
20 passengers. Aviation hazards include the following:

- 21 • Deviations from policy, procedures, regulations, and instructions.
- 22 • Improper hazardous materials handling and/or transport.
- 23 • Airspace conflicts/flight following deviation.
- 24 • Deviation from planned operations.
- 25 • Failure to utilize PPE or Aviation Life Support Equipment (ALSE).
- 26 • Failure to meet qualification standards or training requirements.
- 27 • Extreme environmental conditions.
- 28 • Improper ground operations.
- 29 • Improper pilot procedures.
- 30 • Fuel contamination.
- 31 • Unsafe actions by pilot, air crew, passengers, or support personnel.

32
33 Aviation hazards also exist in the form of wires, low-flying aircraft, and
34 obstacles protruding beyond normal surface features. Each office will post,
35 maintain, and annually update a “known aerial hazard map” for the local
36 geographic area where aircraft are operated, regardless of agency jurisdiction.
37 This map will be posted and used to brief flight crews. Unit Aviation Managers
38 are responsible for ensuring the development and updating of Known Aerial;
39 Hazard Maps (IHOG Ch 3.V.J.1.c page 3-20)

41 SAFECOM

42 The Department of the Interior (DOI) and the US Forest Service (FS) have an
43 incident/hazard reporting form called The Aviation Safety Communiqué
44 (SAFECOM). The database, available at www.safecom.gov, fulfills the Aviation
45 Mishap Information System (AMIS) requirements for aviation mishap reporting

1 for the DOI agencies and the US Forest Service. Categories of reports include
2 incidents, hazards, maintenance, and airspace. The system uses the SAFECOM
3 Form OAS-34 or FS-5700-14 to report any condition, observation, act,
4 maintenance problem, or circumstance with personnel or aircraft that has the
5 potential to cause an aviation-related mishap. The SAFECOM system is not
6 intended for initiating punitive actions. Submitting a SAFECOM is not a
7 substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to
8 identify, document, track and correct safety related issues. A SAFECOM does
9 not replace the requirement for initiating an accident or incident report.

10
11 Any individual (including cooperators) with knowledge of an incident/hazard
12 should complete a SAFECOM. The SAFECOM form should be entered directly
13 on the internet at www.safecom.gov or can be faxed to the Department of the
14 Interiors Aviation Management Directorate, Aviation Safety (208)433-5069 or
15 to the Forest Service at (208) 387-5735 ATTN: SAFETY. Electronic cc copies
16 are automatically forwarded to the National, Regional, and State and Unit
17 Aviation Managers.

18
19 The agency with operational control of the aircraft at the time of the
20 hazard/incident/accident is responsible for completing the SAFECOM and
21 submitting it through agency channels.

22 **Aircraft Incidents/Accidents**

23 Notify FS or AMD and DOI agency Aviation Safety Managers of any aircraft
24 mishap involving damage or injury. Use the hotline (888) 464-7427 or the most
25 expeditious means possible. Initiate the appropriate unit Aviation Mishap
26 Response Plan.
27

28 **Aviation Assets**

29 Typical aviation assets that DOI and USFS utilize are: Helitack and Rappel
30 crews, Smokejumpers, Large Airtankers, Single Engine Air Tankers,
31 Helitankers, Air Attack, Aerial Supervision Modules, Lead Planes, Airtanker
32 Bases, SEAT Bases, Helibases, Smokejumper Bases, Air Attack Bases.
33 • *BLM - All BLM acquired aircraft, exclusive use and CWN, are available
34 to move to areas of greatest national need, thereby maximizing efficiency
35 and effectiveness. Specific authorities and responsibilities for Field/State
36 and National Offices are outlined earlier in this chapter. Offices are
37 expected to adhere to procedures established in the National Aviation Plan
38 for both acquisition, and use reporting.*
39

40 **Helitack**

41 Helitack crews perform suppression and support operations to accomplish fire
42 and resource management objectives.
43
44
45
46

1 **Organization - Crew Size**

- 2 • **BLM** - *The standard BLM exclusive-use helitack crew is a minimum of*
3 *seven personnel (PFT supervisor, long-term assistant, long-term lead, and*
4 *four temporaries). BLM helicopters operated in Alaska need only be*
5 *staffed with a qualified Helicopter Manager (HELM).*
- 6 • **NPS** - *NPS exclusive use modules will consist of a minimum of 8*
7 *personnel.*
- 8 • **FS** - *Regions may establish minimum crew size and standards for their*
9 *exclusive use helitack crews. Experience requirements for exclusive-use*
10 *helicopter positions are listed in FSH 5109.17, Chapter 40.*

11

12 **Operational Procedures**

13 The *Interagency Helicopter Operations Guide (IHOG)* is policy for helicopter
14 operations whether in support of wildland fire or natural resource missions, and
15 provides guidance for helitack and helicopter operations.

- 16 • **FWS** - *IHOG does not serve as policy for natural resource missions.*

17

18 **Communication**

19 The helitack crew standard is one handheld programmable multi-channel FM
20 radio per every 2 crew persons, and one multi-channel VHF-AM programmable
21 radio in the primary helitack crew (chase) truck. Each helitack crew (chase)
22 vehicle will have a programmable VHF-FM mobile radio. Each permanent
23 helibase will have a permanent programmable FM radio base station.

24

25 **Transportation**

26 Dedicated vehicles with adequate storage and security will be provided for
27 helitack crews. The required Gross Vehicle Weight (GVW) of the vehicle will
28 be dependent upon the volume of equipment carried on the truck and the number
29 of helitack crewmembers assigned to the crew.

30

31 **Safety**

32 For information on the risk assessment and management, see the *IHOG*, Chapter
33 3.

34

35 **Training and Experience Requirements**

36 All helitack members will meet fire qualifications as prescribed by the National
37 Wildfire Coordinating Group (NWCG) *310-1* and their agency manual
38 requirements. The following chart establishes experience and training
39 requirements for FS, BLM, NPS, and FWS Exclusive Use, Fire Helicopter Crew
40 Positions.

Exclusive Use Fire Helicopter Position Requisites			
POSITION ¹	MINIMUM PREREQUISITE EXPERIENCE ²	MINIMUM REQUIRED TRAINING ³	CURRENCY REQUIREMENTS
Fire Helicopter Crew Supervisor	One season ⁴ as an Assistant Fire Helicopter Crew Supervisor, ICT4, HELM, HEB2		RT-372 ⁵
Assistant Fire Helicopter Crew Supervisor	One season as a Fire Helicopter Squad Leader, ICT4, HELB or HELM, HEB2 (T)	I-200, S-200, S-215, S-230, S-234, S-260, S-270, S-290, S-371, S-372	RT-372
Fire Helicopter Squad Leader	One season as a Fire Helicopter Crewmember, FFT1, ICT5	S-131, S-133, S-211, S-212	S-271
Fire Helicopter Crewmember	One season as a FFT2, HECM Taskbook	I-100, S-130, S-190, S-271	S-271

¹ All Exclusive use Fire Helicopter positions require an arduous fitness rating.

² Minimum experience and qualifications required prior to performing in the Exclusive use position. Each level must have met the experience requirements of the previous level(s).

³ Minimum training required to perform in the position. Each level must have met the training requirements of the previous level(s).

⁴ A “season” is continuous employment on a full-time wildland fire helicopter crew for a period of 90 days or more.

⁵ After completing S-372, must attend Interagency Helicopter Manager Workshop (RT-372) every three years.

⁶ Must receive S-271 or serve as S-271 instructor, once every three years.

Note: Exceptions to the above position standards may be granted, on a case-by-case basis by the BLM National Aviation Office, NPS Regional Office FWS Regional Office, or FS Regional Office as appropriate.

- Some positions may be designated as COR/Alternate-COR. If so, see individual Agency COR training & currency requirements.
- Fire Helicopter Managers (HELM) are fully qualified to perform all the duties associated with Resource Helicopter Manager.

Helicopter Rappel & Cargo Let-Down

Any rappel or cargo let-down programs must be approved by the Directors, Fire and Aviation Management.

- *FS - Approval is required by the Regional Office.*

All rappel and cargo let-down operations will follow the *Interagency Helicopter Rappel Guide* (IHRG), as policy. Any exemption to the guide must be requested

1 by the program through the state/region for approval by the National Aviation
2 Office.

3

4 **Aerial Ignition**

5 The *Interagency Aerial Ignition Guide (IAIG)* is policy for all aerial ignition
6 activities. Any exemption to the *IAIG* must be requested through the
7 state/region for approval by the National Aviation Office.

8

9 **Airtankers**

10 Airtankers are a national resource. Geographic areas administering these aircraft
11 will make them available for initial attack and extended attack fires on a priority
12 basis. All airtanker services are obtained through the contracting process
13 (except the MAFFS, which are military aviation assets and used to supplement
14 the contract fleet when needed).

15

16 The management of these resources is governed by the requirements of the *DM*,
17 *BLM Manual 9400*, and the *Interagency Airtanker Base Operations Guide*
18 (*IATBOG*). Airtankers are operated by commercial vendors in accordance with
19 *FAR Part 137*.

- 20 • *FS - Forest Service operates under FSM 5703 and Grant of Exemption*
21 *392 as referenced in FSM 5714.*

22

23 **Operational Principles**

- 24 • Use retardant drops before an immediate need is recognized; pretreat
25 according to expected fire behavior.
- 26 • Retardant dropped in the morning may still be effective in the afternoon.
- 27 • Build progressive retardant line.
- 28 • Use retardant drops to cool areas (reduce flame length), as necessary in
29 support of ground forces.
- 30 • Be sure the line is clear of personnel prior to dropping retardant.
- 31 • Be alert for gaps in retardant lines.
- 32 • Expect fixed-wing vortices and rotor-wing down wash.
- 33 • Wildland fire can burn around, under, spot over, and with enough intensity,
34 through retardant lines.
- 35 • Retardant drops should not be made within 300 feet of a waterway. Refer
36 to *Interagency Leadplane Operations Guide (ILOG)*.

37

38 **Categories**

39 Airtanker types are distinguished by their retardant load:

- 40 • Type 1 - 3,000 gallons
- 41 • Type 2 - 1,800 to 2,999 gallons
- 42 • Type 3 - 800 to 1,799 gallons
- 43 • Type 4 - 799 gallons (single engine airtankers)

44

45

1 Airtanker Base Operations

2 Certain parameters for the operation of airtankers are agency-specific. For
3 dispatch procedures, limitations, and times, refer to geographic area
4 mobilization guides and the *Interagency Airtanker Base Operations Guide*
5 (*IATBOG*).

7 Airtanker Base Personnel

8 There is no identified training for the positions at airtanker bases; the *IATBOG*
9 contains a chart of recommended training for each position. It is critical that
10 reload bases staff up commensurate with the need during periods of moderate or
11 high fire activity at the base. All personnel conducting airtanker base operations
12 should review the *IATBOG* and have it available.

14 Startup/Cutoff Time for Multi Engine Airtankers

15 These limitations apply to the time the aircraft arrives over the fire.

- 16 • Normally airtankers shall be dispatched to arrive over the fire not earlier
17 than 30 minutes after official sunrise and not later than 30 minutes before
18 official sunset.
- 19 • Airtankers may be dispatched to arrive over a fire as early as 30 minutes
20 prior to official sunrise, or 30 minutes after official sunset, provided:
 - 21 ➤ A qualified ATGS, ASMI, or ATCO is on the scene; and
 - 22 ➤ Has determined visibility and other safety factors are suitable for
23 dropping retardant; and
 - 24 ➤ Notifies the appropriate dispatcher of this determination.
- 25 • An airtanker, crewed by an initial attack-rated captain, may be dispatched
26 to arrive over a fire without aerial supervision by an ATGS, ASMI, or
27 ATCO provided the airtanker's arrival and drop activities are conducted
28 between 30 minutes after official sunrise and 30 minutes before official
29 sunset in the lower 48 states. In Alaska, an airtanker pilot will not drop
30 retardant during periods outside civil twilight.

32 Single Engine Airtankers**34 Single Engine Airtanker (SEAT) Operations**

35 The *Interagency SEAT Operating Guide (ISOG) (NFES #1844)* defines
36 operating standards and is policy for both the DOI and FS.

38 SEAT Manager Position

39 In order to ensure adherence to contract regulations, safety requirements, and
40 fiscal accountability, a qualified SEAT Manager (SEMG) will be assigned to
41 each operating location. The SEMG's duties and responsibilities are outlined in
42 the *ISOG*.

43
44
45
46

1 Safety

2 All SEAT operators and users will adhere to AMD/Forest Service safety
3 standards. Flight operations, pilot requirements, flight crew duty and flight
4 limitations, and the use of PPE are addressed in the above referenced standards.

6 Operational Procedures

7 Using SEATs in conjunction with other aircraft over an incident is standard
8 practice. Agency or geographical area mobilization guides may specify
9 additional procedures and limitations.

10
11 Depending on location, operator, and availability, SEATs are capable of
12 dropping suppressants, water, or approved chemical retardants. Because of the
13 load capacities of the SEATs (400 to 800 gallons), quick turn-around times
14 should be a prime consideration. SEATs are capable of taking off and landing
15 on dirt, gravel, or grass strips (pilot must be involved in selection of the site); a
16 support vehicle reduces turn-around times.

17
18 Reloading at established airtanker bases or reload bases is authorized. (SEAT
19 operators carry the required couplings). All base operating plans must include
20 SEAT loading criteria.

22 Communication

23 All SEATs must have two VHF-AM and one VHF-FM (programmable) multi-
24 channel radios. (See contract specifications.)

26 Aerial Supervision

27 Aerial supervision resources will be dispatched, when available, for initial and
28 extended attack to enhance efficiency and safety of ground and aerial operations.
29 During initial response operations the recommended aerial supervision in
30 priority order with regard to safety and efficiency is as follows:

- 31 • ASM
- 32 • ATGS
- 33 • ATCO (Leadplane)
- 34 • HLCO Helicopter Coordinator
- 35 • Smokejumper Spotter
- 36 • HELM (Helicopter Manager)

37
38 If aerial operations continue beyond initial response, an ASM, ATGS, or ATCO
39 will be ordered. Aerial supervision response will be commensurate with
40 expected complexity.

42 Reconnaissance or Patrol flights

43 The purpose of aerial reconnaissance or detection flights is to locate and relay
44 fire information to fire management. Only qualified ATGS (ATS-ASM) and
45 Lead Plane Pilots are authorized to coordinate incident airspace operations.
46 Flights with a "Recon" or "Patrol" designation should communicate with tactical

Release Date: January 2007

17-11

1 aircraft only to announce location, altitude and to relay their departure direction
2 and altitude from the incident.

3

4 **Low-level Flight Operations**

5 The only fixed-wing aircraft missions authorized for low-level fire operations
6 are:

- 7 • Para-cargo.
- 8 • Aerial Supervision Module (ASM) and leadplane operations.
- 9 • Retardant, water and foam application.

10

11 **Operational Procedures:**

- 12 • A high-level recon will be made prior to low-level flight operations.
- 13 • All flights below 500 feet will be contained to the area of operation.
- 14 • All resource flights below 500 feet must have an approved plan.
- 15 • PPE is required for all fixed-wing, low-level flights. Helmets are not
16 required for multi-engine airtanker crews, smokejumper pilots and ASM
17 flight/aircrew members.

18

19 **Congested Area Flight Operations**

20 Airtankers can drop retardant in congested areas under DOI authority given in
21 *FAR Part 137*. FS authority is granted under exemption 392, from *FAR 91.119*
22 as referenced in FSM 5714. When such operations are necessary, they may be
23 authorized subject to these limitations:

- 24 • Airtanker operations in congested areas may be conducted at the request of
25 the city, rural fire department, county, state, or federal fire suppression
26 agency.
- 27 • An ASM/leadplane is ordered to coordinate aerial operations.
- 28 • The air traffic control facility responsible for the airspace is notified prior
29 to or as soon as possible after the beginning of the operation.
- 30 • A positive communication link must be established between the airtanker
31 coordinator or aerial supervision module (ASM), airtanker pilot(s), and the
32 responsible fire suppression agency official.
- 33 • The Incident Commander (IC) for the responsible fire agency or designee
34 will advise the ASM/leadplane/airtanker that all non-essential people and
35 movable property have been cleared prior to commencing retardant drops.

36

37 **Aerial Supervision Module (ASM)**

38 The Aerial Supervision Module is crewed with both a “lead” qualified pilot
39 (ATP) and an Air Tactical Supervisor (ATS). These individuals are specifically
40 trained to operate together as a team. The resource is primarily designed for
41 providing both functions (lead and Air Attack) simultaneously from the same
42 aircraft, but can also provide single role service, as well.

43

1 The Air Tactical Pilot is primarily responsible for aircraft coordination over the
2 incident. The Air Tactical Supervisor develops strategy in conjunction with the
3 Operations Section Chief.

- 4 • **BLM** - *The Aerial Supervision Module Operations Guide (ASMOG) and*
5 *Interagency Leadplane Operations Guide (ILOG) are policy for BLM.*

7 **Operational Considerations**

8 The ASM is a shared national resource. Any operation that limits the national
9 resource status must be approved by the agency program manager. Aerial or
10 incident complexity and environmental considerations will dictate when the
11 ASM ceases low level operations. The ASM flight crew has the responsibility
12 to determine when the complexity level of the incident exceeds the capability to
13 perform both ATGS and leadplane functions from one aircraft. The crew will
14 request additional supervision resources, or modify the operation to maintain
15 mission safety and efficiency.

17 **Policy**

18 Only those individuals certified and authorized by the BLM - National Aviation
19 Office, or the FS - National Aviation Operations Officer, will function as an Air
20 Tactical Supervisor (ATS) in an ASM mission profile.

22 **Aerial Supervision Module Program Training and Qualifications**

23 Training and qualification requirements for ASM crewmembers are defined in
24 the *Interagency Aerial Supervision Guide Appendix A*.

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

27 The ATGS is primarily responsible for coordination of aircraft operations and
28 firefighter safety on an incident. Specific duties and responsibilities are outlined
29 in the *Fireline Handbook (PMS 410-1) and the Interagency Air Tactical Group*
30 *Supervisor's Guide (NFES 1393)*. The ATGS reports to the Air Operations
31 Branch Director (AOBD), or in the absence of the AOBD, to the Operations
32 Section Chief (OSC), or in the absence of the OSC, to the IC.

34 The following PPE is required for all interagency ATGS operations:

- 35 • Leather shoes or boots
- 36 • Full length cotton or nomex pants or flight suit.

38 **Operational Considerations**

39 A relief ATGS and aircraft or ASM should be ordered for sustained operations
40 to ensure continuous coverage over an incident. Personnel who are performing
41 aerial reconnaissance and detection will not perform air tactical duties unless
42 they are fully qualified as an ATGS. Air tactical aircraft must meet the avionics
43 typing requirements listed in the *Air Tactical Group Supervisor's Guide* and the
44 pilot must be carded to perform the air tactical mission.

1 Leadplane

2 A leadplane is a national resource. The *Interagency Leadplane Operations*
3 *Guide (ILOG)* is agency policy. Agency policy requires an ASM/leadplane to
4 be on order prior to retardant drops over a congested area. Operations may
5 proceed before the SM1/leadplane arrives, if communications are established,
6 authorization is granted from the IC, and the line is cleared prior to commencing
7 retardant operations.

8

9 Smokejumper Pilots

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

12

13 Airspace Coordination

14 The Interagency Airspace Program is an aviation safety program designed to
15 enhance aviation safety and reduce the risk of a mid-air collision. Guidance for
16 this program is found in the *Interagency Airspace Coordination Guide (IACG)*,
17 which has been adopted as policy by the DOI and USDA Forest Service.

18 Additional guidance may be found in the *National Interagency Mobilization*
19 *Guide* and supplemented by local Mobilization Guides.

20

21 All firefighting aircraft are required to have operative transponders and will use
22 a setting of 1255 when engaged in, or traveling to, firefighting operations
23 (excluding ferry flights), unless given a discrete code by Air Traffic Control
24 (ATC).

25

26 Flight planning and Temporary Flight Restriction (TFR) information on World
27 Aeronautical (WAC) Sectional and Global Navigational Charts (GNC) has been
28 made available at the National Interagency Airspace System website
29 <http://airspace.nifc.gov>. TFRs are updated every 30 minutes during normal
30 business hours 7 days a week. A tactical chart with TFR specific information
31 with incident names, frequencies and altitudes are available. These charts can be
32 found at <http://airspace.nifc.gov/mapping/nifc/index.cfm>

33 Additional references can be found by contacting:

- 34 • **BLM** - *State Aviation Managers, Regional Airspace Coordinator and the*
35 *BLM National Aviation Office Airspace Coordinator.*
- 36 • **FS** - *Regional Aviation Safety Officers, Regional Airspace Coordinators*
37 *and the FS Airspace Program Manager.*
- 38 • **FWS** - *National Aviation Safety and Operations*
- 39 • **NPS** - *Regional Aviation Officers.*

40

41 Flight Request and Approval

- 42 • **BLM** - *The 9400-1a, Aircraft Flight Request/Schedule Form, will be used*
43 *for approval and flight planning. This form will be completed between the*
44 *aircraft dispatcher and flight manager for missions not requested on a Fire*
45 *Resource Order. The fixed-wing or helicopter manager will use this form*
46 *to brief the pilot on the mission.*

- 1 • *NPS - Reference RM 60, Appendix 3 & 4.*
- 2 • *FS - Refer to FSM 5700 for administrative use, FSM 5705 for point-to-*
3 *point and mission use for types of Forest Service flights. All non tactical*
4 *flights require a flight schedule to be completed with a flight following*
5 *method identified prior to departure; with information passed to all*
6 *responsible dispatch centers.*
- 7
- 8 **Point-to-point flights** typically originate at one developed airport or permanent
9 helibase, with the direct flight to another developed airport or permanent
10 helibase. These flights require approved pilots, aircrew, and aircraft.
- 11 • A point-to point flight is conducted higher than 500 feet above ground
12 level (AGL).
- 13
- 14 Agency policy requires designating a Flight Manager/Chief of Party for point-
15 to-point flights transporting personnel. The Flight Manager/Chief of Party
16 ensures compliance with contract requirements and is responsible for
17 coordinating the given flight. They must have received approved Agency
18 Specified training within the last three years. Duties include:
 - 19 • Briefs pilots on missions, frequencies, flight routes, hazards, flight
20 following, passenger briefing requirements, and any other related
21 information required.
 - 22 • Checks the pilots' qualification cards and aircraft data cards for approval
23 and currency.
 - 24 • Ensures that flights are safely conducted and do not deviate from filed
25 Flight Plans or mission profiles without prior authorization.
 - 26 • Initials the flight invoices and routes them according to procedures
27 specified in the contract.
 - 28 • **BLM** - *All agency flights shall be approved using an aircraft request/flight*
29 *schedule, USDI form 9400-1a. This form is used to authorize, plan and*
30 *brief the pilot on non-fire flights.*
 - 31 • *FS - Refer to FSM 5710.5 for administrative use, FSM 5705 for point-to-*
32 *point and mission use for types of Forest Service flights.*
 - 33 • *NPS - Reference RM-60, Appendix 3 for agency specific policy.*
- 34

35 **Mission Flights**

36 Mission flights are defined as flights not meeting the definition of point-to-point
37 flight. A mission flight requires work to be performed in the air (retardant or
38 water delivery, fire reconnaissance, smokejumper delivery), or through a
39 combination of ground and aerial work (delivery of personnel and/or cargo from
40 helibases to helispots or unimproved landing sites, rappelling or cargo let-down,
41 horse herding).

- 42 • PPE is required for any fixed wing mission flight conducted within
43 500' AGL.
- 44 • The use of PPE is required for all helicopter flight (point to point and
45 mission) and associated ground operations. The specific items to be worn

- 1 are dependent on the type of flight, the function an individual is
2 performing, or the ground operation being conducted. Refer to the tables
3 in Chapter 9 of the *IHOG* for specific requirements.
- 4 • All personnel will meet training and qualification standards required for
5 the mission.
 - 6 • Mission flights for fixed-wing aircraft include but are not limited to the
7 following:
 - 8 ➤ Water or retardant application
 - 9 ➤ Parachute delivery of personnel or cargo
 - 10 ➤ Airtanker coordinator operations
 - 11 ➤ Takeoff or landing requiring special techniques due to hazardous
12 terrain, obstacles, pinnacles, or surface conditions
 - 13 ➤ Fire reconnaissance (PPE recommended but not required)
 - 14 ➤ Precision reconnaissance

15
16 Mission helicopter flights include but are not limited to the following:

- 17 • Flights conducted within 500 feet AGL
- 18 • Water or retardant application
- 19 • Helicopter coordinator and ATGS operations
- 20 • Aerial ignition activities
- 21 • External load operations
- 22 • Rappelling
- 23 • Takeoff or landing requiring special techniques due to hazardous terrain,
24 obstacles, pinnacles, or surface conditions
- 25 • Free-fall cargo
- 26 • Fire reconnaissance
- 27 • Precision reconnaissance

28 29 **Flight-Following All Aircraft**

30 Aircraft Managers, Pilots and Dispatchers are responsible for coordinating and
31 confirming the method of flight following to be utilized. The default standard
32 for interagency fire operations is for all aircraft to maintain positive radio
33 contact with 15 minute check-ins. When agency flight following (radio or
34 automated) is being used, the scheduling dispatch office shall have flight
35 following responsibility until transferred through a documented, positive hand-
36 off. All dispatch centers designated for fire support shall have the capability to
37 transmit and receive "National Flight Following" and Air Guard". Flight-
38 following reports from the aircraft are the responsibility of the pilot-in-command
39 (PIC) in accordance with 14 CFR. Violation of flight-following standards
40 requires submission of a SAFECOM.

41
42 Aircraft operating under certain contracts may not be required to be equipped
43 with AFF and/or FM radios. Consult the appropriate procurement document for
44 the aircraft in question to determine applicability.

45

1 If AFF becomes inoperable the aircraft will normally remain available for
2 service, utilizing radio/voice system for flight following. Each occurrence must
3 be evaluated individually and decided by the COR/CO.

4
5 For tactical aircraft that cross dispatch area geographic boundaries, the receiving
6 unit is responsible to confirm arrival of the aircraft via landline to the sending
7 Geographic Area Coordination Center.

- 8 • **BLM/FWS/NPS** - Refer 351 Departmental Manual - Flight Operations
9 Standards and Procedures, IHOG Chapter 4, and National and
10 Geographic Area Mobilization Guides for specific direction.
- 11 • **FS** - Refer FSM 5700, FSH 5709 handbooks, IHOG Chapter 4, and
12 National and Geographic Area Mobilization Guides for specific direction.

13 14 **Flight-Following Point to Point, Non-Mission Flights**

15 Agency radio communication is not mandatory. Flight following for point to
16 point, non-mission flights shall be accomplished using one of the following
17 methods:

- 18 • **FAA IFR or VFR flight plan**
19 Pilot/chief of party shall notify sending/receiving dispatch office of ETD,
20 ETA and ATA. Radio communication with agency dispatch office is not
21 required.
- 22 • **Agency check-in via radio**
23 Pilot checks in via radio with agency dispatch office on set intervals during
24 duration of flight (usually every 15 minutes).
- 25 • **Automated Flight Following (AFF)**
26 AFF shall be conducted according to the provisions outlined in the
27 *National Interagency Mobilization Guide, section 24.3.1*

28 29 **Flight-Following Mission Flights**

30 Agency FM radio capability is required for all mission flights. Flight following
31 for mission flights shall be accomplished using one of the following methods:

- 32 • **Agency check-ins via radio**
33 Pilot checks in via radio with agency dispatch office on set intervals during
34 duration of flight (usually every 15 minutes).
- 35 • **Automated Flight Following (AFF)**
36 AFF shall be conducted according to the provisions outlined in the
37 *National Interagency Mobilization Guide, section 24.3.1.*