

Chapter 16 Aviation Operations and Resources

Purpose and Scope

Aviation resources are one of a number of tools available to accomplish fire related land management objectives.

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, the effective capacity of the aircraft, and the deployment of ground resources.

These factors are magnified by flexibility in prioritization, mobility, positioning, and utilization of the versatility of many types of aircraft.

In addition to the priorities listed in the *National Interagency Mobilization Guide*, Chapter 10 under headings “Total Mobility” and “Priorities”, mobilization of aircraft should be based on optimizing the use of exclusive-use contracted aircraft. Call-when-needed aircraft will be the last ordered and the first released. The exception to this is use for initial action response and capability.

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

Organizational Responsibilities

National Office – Department of Interior (DOI)

Office of Aviation Services (OAS)

The Office of Aviation Services (OAS) is responsible for the coordination of aviation policy development and maintenance management within the agencies of the Department of the Interior (DOI). The OAS has no operational responsibility. The OAS provides aviation safety program oversight, accident investigation, and inspection/approval of aircraft and pilots for DOI agencies.

Bureau of Land Management (BLM)

National Aviation Office (NAO) – NAO develops BLM policy, procedures, and standards. It also 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. This includes fire suppression, through strategic program guidance, managing aviation programs of national scope, coordination with OAS, and interagency

1 partners. The Fire and Aviation Directorate has the responsibility and authority,
2 after consultation with State Fire Management Officers, for funding and
3 acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a
4 Bureau wide basis, and approving State Office requests to acquire supplemental
5 aircraft resources. Refer to *BLM National Aviation Plan and Manual 9400* for
6 aviation policy and guides. Refer to 112 DM 12 for a list of responsibilities.

7 ***National Park Service (NPS)***

8 The Branch of Aviation develops NPS policy, procedures, and standards for all
9 fire and non-fire aviation activities. This includes providing guidance on fire
10 suppression, as well as standardizing aviation programs at the national level,
11 coordinating with OAS and interagency partners. The Branch of Aviation also
12 has responsibility for operational execution of the aviation program. The Branch
13 ensures personnel receive aviation training, provides internal training for fleet
14 pilots, has responsibility for quality assurance and quality control of park
15 aviation programs and provides fiscal analysis to determine numbers and types
16 of aircraft for the bureau.

17 ***Bureau of Indian Affairs (BIA)***

18 The NAO is responsible for supporting all BIA Aviation programs through an
19 active and professional aviation organization that:

- 20 • Develops and coordinates efficient aviation policy and management
21 processes;
- 22 • Provides guidance for aviation programmatic and operational risk
23 management;
- 24 • Leads aviation safety assurance and promotion programs;
- 25 • Provides aircraft acquisition support as specified by Indian Affairs
26 management objectives; and
- 27 • Develops and promotes a skilled aviation management workforce.

28 **National Office – U.S. Department of Agriculture**

29 ***Forest Service (FS)***

30 The FS has responsibility for all aspects of its aviation program, including
31 aviation policy and budget development, aircraft acquisition, pilot
32 standardization, and maintenance management. In addition, the FS has
33 operational responsibility for functional oversight of aviation assets and
34 facilities, accident investigation, and aircraft and pilot inspection.

35 The Assistant Director (AD), Aviation, is responsible to the Director of Fire and
36 Aviation Management for the management and supervision of the National
37 Headquarters Office in Washington DC, and the detached Aviation Unit in
38 Boise. The AD, Aviation provides leadership, support and coordination for
39 national and regional aviation programs and operations. Refer to FSM 5704.22
40 for list of responsibilities.

- 1 The Branch Chief, Aviation Operations reports to the AD, Aviation, and is
2 responsible for national aviation operational management and oversight.
- 3 The Branch Chief, Pilot Standardization reports to the AD, Aviation, and is
4 responsible for pilot and aircrew standardization and approval of agency and
5 contract pilots and aircrew.
- 6 The Branch Chief, Airworthiness reports to the AD, Aviation, and is responsible
7 for national aircraft airworthiness and maintenance program management and
8 oversight.
- 9 The Branch Chief, Aviation Business Operations reports to the AD, Aviation
10 and is responsible for policy maintenance and development, budget
11 development, and planning.
- 12 The Aviation Strategic Planner reports to the AD, Aviation and is responsible
13 for strategic planning and reporting.
- 14 The Branch Chief, Aviation Safety Management Systems reports to the AD,
15 Risk Management and Training, and is responsible for the national aviation
16 safety and risk management program and oversight.

17 **State/Regional Office**

- 18 • **BLM** – *State FMOs are responsible for providing oversight for aircraft*
19 *hosted in their state. State FMOs have the authority and responsibility to*
20 *approve, with National Office concurrence, acquisition of supplemental*
21 *aircraft resources within their state. State FMOs have the authority to*
22 *prioritize the allocation, pre-positioning and movement of all aircraft*
23 *assigned to the BLM within their state. State Offices will coordinate with*
24 *the National Office on movement of their aircraft outside of their State. A*
25 *State Aviation Manager (SAM) is located in each state office. SAMs are*
26 *delegated as the Contracting Officers Representative (COR) for all*
27 *exclusive use aircraft hosted by their state. SAMs implement aviation*
28 *program objectives and directives to support the agency mission and state*
29 *objectives. A state aviation plan is required to outline the state aviation*
30 *program objectives and to identify state-specific policy and procedures.*
- 31 • **NPS** – *A Regional Aviation Manager (RAM) is designated for each Region.*
32 *RAMs oversee the tactical execution of their region's aviation programs,*
33 *provide technical expertise and aviation safety oversight of the parks in*
34 *their geographic area. RAMs observe regional aviation activities and*
35 *provide liaison with the national Branch of Aviation and other agencies as*
36 *appropriate. A Regional aviation operations and management plan is*
37 *required to outline the Region's aviation program objectives and to identify*
38 *Region-specific policy and procedures.*
- 39 • **FWS** – *A Regional Aviation Manager (RAM) is designated for each Region.*
40 *RAMs implement aviation program objectives and directives to support the*

- 1 agency mission and Region objectives. Several Regions have additional
2 support staff, and/or pilots assigned to support aircraft operations and to
3 provide technical expertise. A Regional aviation operations and
4 management plan is required to outline the Region's aviation program
5 objectives and to identify Region-specific policy and procedures.
- 6 • **FS** – Regional Aviation Officers (RAOs) are responsible for directing and
7 managing Regional aviation programs in accordance with the National and
8 Regional Aviation Management Plans, and applicable agency policy
9 direction. (Refer to FSM 5700 and FSH 5709.16 for list of responsibilities).
10 RAOs report to Director of Fire and Aviation for their specific Region.
11 Regional Aviation Safety Managers (RASMs) are responsible for aviation
12 safety in their respective Regions, and work closely with the RAO to ensure
13 aviation safety is an organizational priority (refer to FSM 5700 and FSH
14 5709.16 for list of responsibilities). Most Regions have additional aviation
15 technical specialists and pilots who help manage and oversee the Regional
16 aviation programs. Most Regions also have Aviation Maintenance
17 Inspectors, Fixed-wing Program Managers, Helicopter Program Managers,
18 Helicopter Operations Specialists, Inspector Pilots, etc.
 - 19 • **BIA** –
 - 20 ○ Provides oversight and approval of the acquisition and use of BIA
21 aircraft within their region;
 - 22 ○ Has the authority to prioritize the allocation, reallocation, pre-
23 positioning and movement of all aircraft assigned to the BIA within
24 their region. All movements will be coordinated with the NAO;
 - 25 ○ Manages and provides oversight of all BIA aircraft assigned to the
26 region;
 - 27 ○ Coordinates with Agencies, Geographical Coordination centers, NAO
28 aircraft coordinators on aviation resources assigned to their region;
 - 29 ○ Ensures all region assigned aviation resources are effectively utilized
30 as efficient BIA resources;
 - 31 ○ Delegates or designates the RAM, who ensures appropriate aviation
32 roles and positions are filled by qualified personnel;
 - 33 ○ Ensures all aviation employees meet DOI and BIA training
34 requirements; and
 - 35 ○ Ensures Inter-agency Agreement (IAA) between region and Office of
36 Aviation Services (OAS) Acquisition Services Directorate (ASD) is
37 valid and in force. Coordinate modifications to IAA as projects and
38 missions dictate.

39 **Local Office**

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

- 42 • **BLM** – Unit Aviation Managers (UAMs) serve as the focal point for the
43 Unit Aviation Program by providing technical expertise and management of
44 aviation resources to support Field Office/District programs. Field/District

- 1 *Offices are responsible for hosting, supporting, providing daily*
2 *management, and dispatching all aircraft assigned to their unit.*
3 *Field/District Offices have the authority to request additional resources; to*
4 *establish priorities, and make assignments for all aircraft assigned to the*
5 *BLM within their unit or zone.*
- 6 • **NPS** – *Unit or Park Aviation Managers have the responsibility to provide*
7 *aviation expertise and management of aviation resources at each park unit.*
8 *Organizational responsibility refer to DO-60, RM-60.*
 - 9 • **FS** – *Unit Aviation Officers (UAOs)/Forest Aviation Officers (FAOs) have*
10 *the responsibility for aviation activities at the local level, including aviation*
11 *mission planning, risk management and safety, supervision, and evaluation.*
12 *UAOs/FAOs assist Line Officers with risk assessment/management and cost*
13 *analysis. Refer to FSM 5700 Zero Code for a list of responsibilities.*
 - 14 • **BIA** – *The AAM/UAM manages the unit aviation program by providing*
15 *technical and management direction of aviation resources to support*
16 *Agency programs. The AAM/UAM has functional responsibility in the*
17 *following areas:*
 - 18 ○ *The AAM/UAM is authorized to provide for daily management of all*
19 *aviation resources;*
 - 20 ○ *Ensures Agency flight compliance with USDI/BIA/Region and Agency*
21 *policies and regulations;*
 - 22 ○ *Develop and implement the Agency/Unit aviation management plan, as*
23 *well as specific operating plans for other aviation programs (i.e.,*
24 *Helitack, SEAT, and aerial supervision);*
 - 25 ○ *Ensures completion of the Project Aviation Safety Plan (PASP) with*
26 *appropriate approvals/briefing of Line Officer;*
 - 27 ○ *Ensures that appropriate training is provided to aviation users and*
28 *supervisors. Monitors aviation training compliance for the*
29 *Agency/Unit;*
 - 30 ○ *Designates and assigns an alternate aviation manager when needed;*
 - 31 ○ *Ensures that visiting aircrews have received flight crew*
32 *briefing/aviation orientation and guides;*
 - 33 ○ *Confirms DOI/BIA/OMB requirements are met and completes the cost*
34 *analysis requirements and schedules the flight with a qualified vendor;*
 - 35 ○ *Ensures the accuracy of the Aircraft Use Report. Processes and*
36 *maintains copies and records documenting the flight as required by the*
37 *DOI manual;*
 - 38 ○ *Confirms that a qualified Flight Manager is assigned to all*
39 *project/resource flights;*
 - 40 ○ *Is responsible for the distribution and use of the Aviation Boundary*
41 *Plan/Checklist if one is in place;*
 - 42 ○ *Ensures Agency/Unit Aviation Security Plan is current and*
43 *implemented in accordance with DOI policy;*
 - 44 ○ *May serve as the COR for BIA exclusive use aircraft on their*
45 *Agency/Unit if aircraft manager is not current or qualified as such;*

- 1 ○ *Authorized to order approved aircraft utilizing agency procurement*
- 2 *documents and procedures. Also establish priorities and allocate all*
- 3 *aircraft assigned to the BIA within their unit or zone; and*
- 4 ○ *Maintains an up to date aviation reference library with all applicable*
- 5 *aviation policy and procedural references.*

6 **Aviation Information Resources**

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

- 9 • **BLM** – *9400 Manual Appendix 1, National Aviation Plan (NAP) and*
- 10 *applicable aviation guides as referenced in the NAP.*
- 11 • **NPS** – *RM-60 Aviation Management Reference Manual, IHOG, and IASG.*
- 12 • **FWS** – *Service Manual 330-339, Aviation Management and IHOG.*
- 13 • **FS** – *FSM 5700, FSH 5709.16 and applicable aviation guides when*
- 14 *approved by the agency and referenced in policy.*
- 15 • **BIA** – *BIA National Aviation Plan (NAP) and applicable aviation guides as*
- 16 *referenced in the NAP.*

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

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

22 **Aviation Safety**

23 The FS, BLM, and BIA have adopted Safety Management Systems (SMS) as the
24 foundation for the aviation safety program. The four pillars of SMS are Safety
25 Policy, Safety Risk Management, Safety Assurance, and Safety Promotion. SMS
26 is the standard for aviation safety set by the International Civil Aviation
27 Organization (ICAO) and the Federal Aviation Administration (FAA).

28 SMS focuses on:

- 29 • Emphasis on proactive risk management;
- 30 • Promotes a “Just” culture;
- 31 • Addresses systemic safety concerns;
- 32 • Holds the organization accountable;
- 33 • Identifies “What” so we can manage the manageable; and
- 34 • Communicates the “Why” so the culture can learn from mistakes.

35 The intent of SMS is to improve the aviation culture by increasing hazard
36 identification, reduce risk-taking behavior, learn from mistakes, and correct
37 procedures before a mishap occurs rather than after the accident. More
38 information on SMS is available at the Wildland Fire Lessons Learned Center

1 under the Lessons Learned link at www.wildfirelessons.net. Additionally, the
2 current approved US Forest Service Aviation SMS Guide is available at
3 www.fs.fed.us/fire/av_safety/.

4 **Risk Assessment and Risk Management**

5 The use of risk management will help to ensure a safe and successful operation.
6 Risk is the probability that an event will occur. Assessing risk identifies the
7 hazard, the associated risk, and places the hazard in relationship to the mission.
8 A decision to conduct a mission requires weighing the risk against the benefit of
9 the mission and deciding whether the risks are acceptable.

10 Aviation missions always have some degree of risk. The four sources of hazards
11 are methods, medium, man, and machine. Managing risk is a 5-step process:

- 12 1. Identify hazards associated with all specified and implied tasks for the
13 mission.
 - 14 2. Assess hazards to determine potential of occurrence and severity of
15 consequences.
 - 16 3. Develop controls to mitigate or remove risk, and make decisions based on
17 accepting the least risk for the best benefit.
 - 18 4. Implement controls – (1) education controls, (2) physical controls, and (3)
19 avoidance controls.
 - 20 5. Supervise and Evaluate – enforce standards and continuously re-evaluate
21 their effectiveness in reducing or removing risk. Ensure that controls are
22 communicated, implemented, and enforced.
- 23 • **FS** – *FSM 5700. Employees shall use an operational risk management*
24 *process to evaluate the risk and hazards prior to every flight.*

25 **How to Properly Refuse Risk (Aviation)**

26 Every individual (government and contracted employees) has the right and
27 obligation to report safety problems affecting his or her safety and has the right
28 to contribute ideas to correct the hazard. In return, supervisors are expected to
29 give these concerns and ideas serious consideration. When an individual feels an
30 assignment is unsafe, he or she also has the obligation to identify, to the degree
31 possible, safe alternatives for completing that assignment. Turning down an
32 assignment is one possible outcome of managing risk.

33 A “turn down” is a situation where an individual has determined he or she
34 cannot undertake an assignment as given and is unable to negotiate an
35 alternative solution. The turn down of an assignment must be based on
36 assessment of risks and the ability of the individual or organization to control or
37 mitigate those risks. Individuals may turn down an assignment because of safety
38 reasons when:

- 39 • There is a violation of regulated safe aviation practices;
- 40 • Environmental conditions make the work unsafe; or
- 41 • They lack the necessary qualifications or experience.

- 1 Individuals will directly inform their supervisor that they are turning down the
2 assignment as given. The most appropriate means of documented turn down
3 criteria is using the Aviation Watch Out Situations (*IRPG*).
- 4 Supervisors will notify the Air Operations Branch Director (AOBD) or unit
5 aviation leadership immediately upon being informed of a turn down. If there is
6 no AOBD, notification shall go to the appropriate Section Chief, the Incident
7 Commander or local fire and aviation staff. Proper handling of turn downs
8 provides accountability for decisions and initiates communication of safety
9 concerns within the incident organization.
- 10 If the assignment has been turned down previously and the supervisor asks
11 another resource to perform the assignment, he or she is responsible to inform
12 the new resource that the assignment had been turned down and the reasons
13 why. Furthermore, personnel need to realize that a “turn down” does not stop the
14 completion of the assigned operation. The “turn down” protocol is an integral
15 element that improves the effective management of risk, for it provides timely
16 identification of hazards within the chain of command, raises risk awareness for
17 both leaders and subordinates, and promotes accountability.
- 18 If an unresolved safety hazard exists the individual needs to communicate the
19 issue/event/concern immediately to his or her supervisor and document as
20 appropriate.

21 **Aviation Safety Support**

22 **Aviation Safety and Technical Assistance Team (ASAT)**

23 During high levels of aviation activity, it is advisable to request an Aviation
24 Safety Assistance Team (ASAT). An ASAT’s purpose is to enhance risk
25 management, efficiency, effectiveness, and provide technical assistance while
26 reviewing aviation operations. If an ASAT cannot be filled internally, the
27 request may be placed with NICC through established ordering channels using
28 individual overhead requests. An ASAT should operate under a Delegation of
29 Authority from the appropriate State/Regional Aviation Manager(s) or Multi
30 Agency Coordinating Group. Formal written reports shall be provided to
31 appropriate manager(s) as outlined at the in-brief. A team should be developed
32 to fit the need of the requesting unit and may consist of the following:

- 33 • Aviation Safety Manager;
- 34 • Operations Specialist (helicopter and/or fixed wing);
- 35 • Pilot Inspector;
- 36 • Maintenance Inspector;
- 37 • Avionics Inspector (optional); and
- 38 • Aircraft Dispatcher (optional).

1 Aviation Safety Briefing

2 Every passenger must receive a briefing prior to each flight. The briefing is the
3 responsibility of the Pilot in Command (PIC) but may be conducted by the pilot,
4 flight manager, helicopter manager, fixed-wing base manager, or an individual
5 with the required training to conduct an aviation safety briefing. The pilot
6 should also receive a mission briefing from the government aircraft manager.
7 Refer to the *IRPG* and *IHOG* Chapter 10.

8 Aviation Hazard

9 An aviation hazard is any condition, act, or circumstance that compromises the
10 safety of personnel engaged in aviation operations. Pilots, flight crew personnel,
11 aviation managers, incident air operations personnel, and passengers are
12 responsible for hazard identification and mitigation. Aviation hazards may
13 include but are not limited to the following:

- 14 • Deviations from policy, procedures, regulations, and instructions;
- 15 • Improper hazardous materials handling and/or transport;
- 16 • Airspace conflicts/flight following deviation;
- 17 • Deviation from planned operations;
- 18 • Failure to utilize PPE or Aviation Life Support Equipment (ALSE);
- 19 • Failure to meet qualification standards or training requirement;
- 20 • Extreme environmental conditions;
- 21 • Improper ground operations;
- 22 • Improper pilot procedures;
- 23 • Fuel contamination; and
- 24 • Unsafe actions by pilot, air crew, passengers, or support personnel.

25 Aviation hazards also exist in the form of wires, low-flying aircraft, and
26 obstacles protruding beyond normal surface features. Each office will post,
27 maintain, and annually update a “Known Aerial Hazard Map” for the local
28 geographic area where aircraft are operated, regardless of agency jurisdiction.
29 This map will be posted and used to brief flight crews. Unit Aviation Managers
30 are responsible for ensuring the development and updating of Known Aerial
31 Hazard Maps (IHOG).

32 Aerial Applications of Wildland Fire Chemical Safety

33 Chapter 12 contains information concerning the aerial application of wildland
34 fire chemicals.

35 SAFECOM

36 The DOI and the FS have an incident/hazard reporting form called The Aviation
37 Safety Communiqué (SAFECOM). The database, available at
38 <https://www.safecom.gov/>, fulfills the Aviation Mishap Information System
39 (AMIS) requirements for aviation mishap reporting for the DOI agencies and the
40 FS. Categories of reports include: Accidents, Airspace, Hazards, Incidents,

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

9 Any individual (including vendors/cooperators) with knowledge of an
10 incident/hazard should complete a SAFECOM. The SAFECOM form, including
11 attachments and pictures, should be entered directly on the internet at
12 <https://www.safecom.gov/> or faxed to the Department of the Interior's Office of
13 Aviation Services, Aviation Safety (208) 433-5069 or to the FS at (208) 387-
14 5735 ATTN: SAFETY. Electronic cc copies are automatically forwarded to the
15 National, Regional, State, and Unit Aviation Managers.

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

19 **Aircraft Incidents/Accidents**

20 Notification to the FS or OAS and DOI agency Aviation Safety Managers is
21 required for any aircraft mishap involving damage or injury. Use the hotline
22 (888) 464-7427 or the most expeditious means possible. Initiate the appropriate
23 unit Aviation Mishap Response Plan.

24 **Low-level Flight Operations**

25 The only fixed-wing aircraft missions authorized for low-level fire operations
26 are:

- 27 • Smokejumper/Para-cargo;
- 28 • Aerial Supervision Module (ASM) and Lead operations; and
- 29 • Retardant, water, and foam application.

30 **Operational Procedures**

- 31 • A high-level recon will be made prior to low-level flight operations.
- 32 • All flights below 500 feet will be contained to the area of operation.
- 33 • PPE is required for all fixed-wing, low-level flights. Helmets are not
34 required for multi-engine airtanker crews, smokejumper pilots, and
35 Leadplane/ASM flight/aircrew members.

1 Congested Area Flight Operations

2 Airtankers can drop retardant in congested areas under DOI authority given in
3 *14 CFR Part 137*.

4 FS authority is granted under exemption 392, from *14 CFR Part 91.119* as
5 referenced in *FSM 5714*. When such operations are necessary, they may be
6 authorized subject to these limitations:

- 7 • Airtanker operations in congested areas may be conducted at the request of
8 the city, rural fire department, county, state, or federal fire suppression
9 agency;
- 10 • An ASM/Leadplane is ordered to coordinate aerial operations;
- 11 • The air traffic control facility responsible for the airspace is notified prior to
12 or as soon as possible after the beginning of the operation;
- 13 • A positive communication link must be established between the ASM or
14 Leadplane, airtanker pilot(s), and the responsible fire suppression agency
15 official; and
- 16 • The IC for the responsible fire agency or designee will advise the
17 ASM/Leadplane/airtanker that all non-essential people and movable
18 property have been cleared prior to commencing retardant drops.

19 Unmanned Aircraft Systems

20 Unmanned Aircraft Systems (UAS) operations shall be conducted under the
21 provisions of the *Interagency Fire Unmanned Aircraft Systems Operations*
22 *Guide* (PMS 515).

23 When UAS are flown for USFS/DOI work or benefit, Federal Aviation
24 Administration (FAA), USFS, and DOI regulations apply.

25 Units wishing to utilize UAS must have a plan in place for how they are going to
26 collect, process, and disseminate data gathered by a UAS.

27 Consult with your Unit Aviation Officer or the Regional/State aviation staff to
28 assist in selecting and ordering the aircraft best suited for the mission.

29 The following minimum standards apply:

- 30 • All aircraft (to include UAS) purchase, lease, or acquisition **must** follow
31 department procurement policy and procedures.
- 32 • All aircraft and pilots employed by the USFS or DOI agencies **shall** be
33 credentialed in accordance with departmental policy.
 - 34 ○ UAS flights under USFS operational control **must** adhere to USFS
35 policy and regulations regarding their use. Guidance can be found in
36 *FSM 5713.7*, the USFS National Aviation Safety and Management
37 Plan and at [https://www.fs.fed.us/science-technology/fire/unmanned-](https://www.fs.fed.us/science-technology/fire/unmanned-aircraft-systems)
38 [aircraft-systems](https://www.fs.fed.us/science-technology/fire/unmanned-aircraft-systems).

- 1 ○ UAS flights under DOI operational control **must** adhere to DOI policy
- 2 and regulations regarding their use. Guidance can be found in 350-353
- 3 Departmental Manuals and Operational Memorandum 11 at
- 4 <https://www.doi.gov/aviation/library/opm>.
- 5 ● Federal use of cooperator agency UAS may be authorized by a Cooperator
- 6 Aircraft Letter of Approval.

7 Key Points

- 8 ● An emergency COA (EOCA) must be issued for beyond visual line of sight
- 9 (BVLOS) operations within a TFR. EOCA requests shall be coordinated
- 10 through departmental channels (i.e., DOI-OAS).
- 11 ● Cooperators, pilot associations and volunteer aviation groups or individuals
- 12 must meet FAA, USFS/DOI policy.
- 13 ● Personally owned UAS or model aircraft **may not** be used by federal
- 14 agencies or their employees for interagency fire use.
- 15 ● Individuals who are determined to have interfered with wildland fire
- 16 operations may be subject to civil penalties and potentially criminal
- 17 prosecution.
- 18 ● Agency specific information can be found at:
- 19 ○ **FAA** – <https://www.faa.gov/uas>
- 20 ○ **DOI** – <https://www.doi.gov/aviation/uas>
- 21 ○ **BLM** – <https://sites.google.com/a/firenet.gov/blm-uas/program>
- 22 ○ **FS** – <https://fsweb.wo.fs.fed.us/fire/fam/aviation/uas/uasflights.htm>

23 Airspace Coordination

24 The Interagency Airspace Program is an aviation safety program designed to
25 enhance aviation safety and reduce the risk of a mid-air collision. Guidance for
26 this program is found in the Interagency Airspace Coordination Guide (IACG),
27 which has been adopted as policy by the DOI and FS. Additional guidance may
28 be found in the *National Interagency Mobilization Guide* and supplemented by
29 local Mobilization Guides.

- 30 ● **FS** – Refer to *FSM 5709.16 Chapter 3*.

31 Some BLM, BIA, state and FS units have Memorandums of Understanding
32 (MOUs) with local military airspace authorities for airspace coordination.
33 Briefings from Unit Aviation Managers/Officers (UAM/UAO) are crucial to
34 ensure that any local airspace information is coordinated before flight.

35 All firefighting aircraft are required to have operative transponders and will use
36 a national firefighting transponder code of 1255 when engaged in, or traveling
37 to, firefighting operations (excluding ferry flights), unless given a discrete code
38 by Air Traffic Control (ATC).

- 1 Additional coordination information can be found by contacting:
- 2 • **BLM** – *State Aviation Managers, National Airspace Program Manager*
 - 3 • **NPS** – *Regional Aviation Managers*
 - 4 • **FWS** – *National Aviation Safety and Operations*
 - 5 • **FS** – *Regional Aviation Officers, National Airspace Program Manager*
 - 6 • **BIA** – *Regional Aviation Managers*

7 **Flight Request and Approval**

- 8 • **NPS** – *Reference RM 60, Appendix 3 and 4.*
- 9 • **FS** – *Refer to FSM 5709.16, Chapter 30 for all flights.*

10 **Point-to-Point Flights**

11 A “Point-to-point” flight is one that originates at one developed airport or
12 permanent helibase and flies directly to another developed airport or permanent
13 helibase with the sole purpose of transporting personnel or cargo (this term does
14 not apply to flights with a scheduled air carrier on a seat fare basis). These types
15 of flights are often referred to as “administrative” flights and only require the
16 aircraft and pilot to be carded and approved for point-to-point flight. A point-to-
17 point flight is conducted higher than 500 feet above ground level (AGL).

18 Agency policy requires designating a Flight Manager for point-to-point flights
19 transporting personnel. The Flight Manager is a government employee that is
20 responsible for coordinating, managing, and supervising flight operations. The
21 Flight Manager is not required to be on board for most flights. For those flights
22 that have multiple legs or are complex in nature a Flight Manager should attend
23 the entire flight. The Flight Manager will meet the qualification standard for the
24 level of mission assigned as set forth in the *Interagency Aviation Training Guide*
25 (IAT).

- 26 • **BLM** – *Reference the BLM National Aviation Plan, Chapter 3, available at*
27 *https://www.nifc.gov/aviation/av_BLMlibrary.html.*
- 28 • **NPS** – *Reference RM-60, Appendix 3 for agency specific policy.*
- 29 • **FS** – *Refer to FSM 5709.16 Chapter 30 and the Forest Service*
30 *Administrative Use of Aircraft Desk Reference.*
- 31 • **BIA** – *Reference the BIA National Aviation Plan.*

32 **Mission Flights**

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

- 1 • PPE is required for any fixed wing mission flight conducted below
- 2 500'AGL. Flight helmets are not required for multi-engine airtanker crews,
- 3 smokejumper pilots and Leadplane/ASM flight/aircrew members.
- 4 • Required attire for ATGS and fire reconnaissance are:
 - 5 ○ Leather shoes or boots; and
 - 6 ○ Natural fiber shirt, full length cotton or nomex pants, or flight suit.
- 7 • The use of full PPE is required for all helicopter flights (point to point and
- 8 mission) and associated ground operations. The specific items to be worn
- 9 are dependent on the type of flight, the function an individual is performing,
- 10 or the ground operation being conducted. Refer to the tables in Chapter 9 of
- 11 the *IHOG* for specific requirements.
- 12 • All personnel will meet training and qualification standards required for the
- 13 mission.
- 14 • Agency FM radio capability is required for all mission flights.
- 15 • All passengers must be authorized and all personnel onboard must be
- 16 essential to the mission.
 - 17 ○ ***FS*** – *Special Use Mission Flight is any flight that is not point-to-point.*
 - 18 *Special use mission flights require special pilot endorsements, flight*
 - 19 *evaluations, training, and/or specialized aircraft equipment. For all*
 - 20 *special use mission flights, all pilots and aircraft must be specifically*
 - 21 *approved in writing for that flight.*

22 Mission flights for fixed-wing aircraft include but are not limited to the
23 following:

- 24 • Water or retardant application;
- 25 • Parachute delivery of personnel or cargo;
- 26 • Leadplane/ASM/Airtanker operations;
- 27 • Takeoff or landing requiring special techniques due to hazardous terrain,
- 28 obstacles, or surface conditions; and
- 29 • Aerial Supervision.

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

- 31 • Flights conducted within 500 feet AGL;
- 32 • Water or retardant application;
- 33 • Helicopter coordinator and ATGS operations;
- 34 • Aerial ignition activities;
- 35 • External load operations;
- 36 • Rappelling;
- 37 • Takeoff or landing requiring special techniques due to hazardous terrain,
- 38 obstacles, pinnacles, or surface conditions;
- 39 • Free-fall cargo;
- 40 • Fire reconnaissance;
- 41 • Short-haul operations; and
- 42 • Night helicopter operations.

1 Flight-Following All Aircraft

2 Flight-Following is mandatory for all flights. Refer to the *National Interagency*
3 *Mobilization Guide* for specific direction.

- 4 • Agency FM radio capability is required for all mission flights.
- 5 • For mission flights, there are two types of Agency Flight Following:
6 Automated Flight Following (AFF) and radio check-in. AFF is the preferred
7 method of agency flight following. If the aircraft and flight following office
8 have AFF capability, it shall be utilized. Periodic radio transmissions are
9 acceptable when utilizing AFF. Reference the AFF procedures section of
10 the *National Interagency Mobilization Guide* for more information.
- 11 • All dispatch centers designated for fire support shall have the ability to
12 monitor AFF as well as the capability to transmit and receive “National
13 Flight Following” and “Air Guard.”
- 14 • If AFF becomes inoperable the aircraft will normally remain available for
15 service, utilizing radio/voice system for flight following. Each occurrence
16 must be evaluated individually and decided by the COR/CO.
- 17 • Helicopters conducting Mission Flights shall check-in prior to and
18 immediately after each takeoff/landing per IHOG 4.II.E.2.

19 Sterile Cockpit All Aircraft

20 Sterile cockpit rules apply within a 5-mile radius of the airport. The flight crew
21 will not perform radio or cockpit communication during that time that is not
22 directly related to safe flight of the aircraft from taxi to 5 miles out and from 5
23 miles out until clearing the active runway. This would consist of reading
24 checklists, communication with Air Traffic Control (ATC), Flight Service
25 Stations, Unicom, or other aircraft with the intent of ensuring separation or
26 complying with ATC requirements. Communications by passengers or air crew
27 members can be accomplished when the audio panels can be isolated and do not
28 interfere with flight operations of the flight crew.

29 **Exception:** When conducting firefighting missions within 5 miles of an
30 uncontrolled airport, maintain sterile cockpit until departing the traffic pattern
31 and reaching final altitude. Monitor CTAF frequency if feasible while engaged
32 in firefighting activities. Monitor CTAF as soon as practical upon leaving the
33 fire and returning to the uncontrolled airport. When conducting firefighting
34 missions within Class B, C, or D airspace, notify dispatch that ATC
35 communications will have priority over dispatch communications.

36 Interagency Interim Flight and Duty Limitations/Aviation Stand Downs

37 Aviation stand downs are a means to find time, in an otherwise demanding flight
38 schedule, to reflect on core aviation safety values. In this context, aviation stand
39 downs refer to an administrative decision to keep tactical aviation resources on
40 the ground through all or part of their normal duty day or days.

1 Interim flight and duty limitations are a method to manage pilot and crew
2 fatigue by reducing the length of the duty day or increasing the number of days
3 off in the normal duty day cycle. During extended periods of high flight activity,
4 fatigue must be mitigated by fire and aviation managers.

5 Aviation stand downs and interim flight and duty day limitations can be
6 implemented at the Geographic Area or National level. In either case, the
7 procedure for implementation is the same. Requests for implementation of flight
8 and duty limitations, or proposed stand down parameters, will be made through
9 the National Aviation Office through which it originated.

10 Decisions and procedures for implementation will be made on a coordinated,
11 interagency basis, involving the GACC, NICC, and National Aviation
12 Representatives at NIFC and Aviation Contracting Officers. Details of the
13 proposal will be formalized and coordinated with other affected agencies and
14 implemented through the National Multi-Agency Coordinating Group (NMAC).

15 **Interim Flight and Duty Limitations Implementation**

16 During extended periods of a high level of flight activity or maximum 14-hour
17 days, fatigue factors must be taken into consideration by Fire and Aviation
18 Managers. Phase 2 and/or Phase 3 Duty Limitations will be implemented for
19 specific geographic area's aviation resources. The minimum scope of operation
20 should be by geographic area; e.g., Northwest, Great Basin.

21 ***Phase 1 – Standard Flight and Duty Limitations (Abbreviated Summary)***

- 22 • 14-hour maximum duty day;
- 23 • 8 hours maximum daily flight time for mission flights;
- 24 • 10 hours for point-to-point, with a 2 pilot crew;
- 25 • Maximum cumulative flight hours of 36 hours, up to 42 hours in 6 days;
- 26 and
- 27 • Minimum of 10 hours uninterrupted time off (rest) between duty periods.
- 28 • Two days off within any 14-day period.

29 This does not diminish the authority or obligation of any individual COR
30 (Contracting Officer Representative) or Aviation Manager to impose shorter
31 duty days or additional days off at any time for any flight/maintenance crew
32 members for fatigue. This authority is currently provided for in agency direction
33 and contract specifications. Aviation managers should consider the following
34 actions:

- 35 • Any tactical aircraft flight crew member (airtanker, helicopter,
36 ASM/leadplane, SEAT or air attack) may request an additional day off in
37 conjunction with their normally scheduled day(s) off.
- 38 • The additional day off may be granted when requested. Flight crews are
39 encouraged to honestly assess their fatigue level and request an additional
40 day off if they believe it is needed.

- 1 • Aircraft availability will be paid when this occurs regardless of whether a
2 relief crew is provided or not.
- 3 • When an additional day off is granted, document this in the remarks section
4 of the aircraft payment document.
- 5 • In order to assure sufficient coverage, additional days off will need to be
6 coordinated within the currently assigned GACC and communicated to
7 national aviation managers. Coordinate with your aviation managers,
8 contracting officers and dispatch organizations to implement these actions.

9 ***Phase 2 – Interim Duty Limitations***

10 When Phase 2 is activated, pilots shall adhere to the flight and day-off
11 limitations prescribed in Phase 1 and the duty limitations defined under Phase 2.

12 Each flight crew member shall be given an additional day off each 14-day
13 period. Crews on a 12-and-2 schedule shall have 3 consecutive days off (11-and-
14 3). Flight crews on 6-and-1 schedules shall work an alternating weekly schedule
15 of 5 days on, 2 days off, then 6 days on and one day off.

16 Aircraft fixed daily rates and special rates, when applicable, shall continue to
17 accrue during the extra day off. Contractors may provide additional approved
18 crews to maximize utilization of their aircraft. All costs associated with
19 providing the additional crew will be at the contractor's expense, unless the
20 additional crew is requested by the Government.

21 ***Phase 3 – Interim Duty Limitations***

22 When Phase 3 is activated, pilots shall adhere to the flight limitations of Phase 1
23 (standard), the additional day off of Phase 2, and the limitations defined under
24 Phase 3.

25 Flight crew members shall have a minimum of 12 consecutive hours of
26 uninterrupted rest (off duty) during each duty day cycle. The standard duty day
27 shall be no longer than 12 hours, except a crew duty day extension shall not
28 exceed a cumulative 14-hour duty day. The next flight crew rest period shall
29 then be adjusted to equal the extended duty day; i.e., 13- hour duty day, 13 hours
30 rest; 14- hour duty day, 14 hours rest. Extended duty day applies only to
31 completion of a mission. In no case may standby be extended beyond the 12-
32 hour duty day.

33 Double crews (2 complete flight crews assigned to an aircraft), augmented flight
34 crews (an additional pilot-in-command assigned to an aircraft), and aircraft
35 crews that work a rotating schedule; i.e., 2 days on, 1 day off, 7 days on, 7 days
36 off, or 12 days on, 12 days off, may be exempted from Phase 2 Limitations upon
37 verification that their scheduling and duty cycles meet or exceed the provisions
38 of Paragraph a. of Phase 2 and Phase 1 Limitations.

- 1 Exemptions of Phase 3 provisions may be requested through the local Aviation
- 2 Manager or COR, but must be approved by the FS RAO or DOI Area Aviation
- 3 Manager.

4 **Aviation Assets**

5 Typical agency aviation assets include: Helitack or Rappel, Aerial Supervision
6 (ATGS, HLCO, Leadplane, and ASM), Large (multi-engine) Airtankers, Very
7 Large Airtankers (VLATs), Single Engine Airtankers (SEATs), and
8 Smokejumpers.

- 9 • **BLM** – *All BLM acquired aircraft (exclusive use, On-Call, and CWN) are*
10 *available to move to areas of greatest Bureau need, thereby maximizing*
11 *efficiency and effectiveness. Specific authorities and responsibilities for*
12 *Field/State and National Offices are outlined earlier in this chapter. Offices*
13 *are expected to adhere to procedures established in the National Aviation*
14 *Plan for both acquisition and use reporting.*
- 15 • **FS** – *All FS aircraft (agency-owned, exclusive use, leased and CWN) are*
16 *available to move to areas of greatest agency need, thereby maximizing*
17 *efficiency and effectiveness. Forest Service units are expected to adhere to*
18 *procedures established in policy for acquisition and use reporting.*
- 19 • **BIA** – *All BIA acquired aircraft (exclusive use, On-Call, and CWN) are*
20 *available to move to areas of greatest Bureau need, thereby maximizing*
21 *efficiency and effectiveness. Specific authorities and responsibilities for*
22 *Regional/Agencies and National Offices are outlined in the National*
23 *Aviation Plan for both acquisition and use reporting.*

24 **Helitack**

25 Helitack crews perform suppression and support operations to accomplish fire
26 and resource management objectives.

27 **Organization – Crew Size**

- 28 • **BLM** – *The minimum crew size for a BLM exclusive-use Type 3 helicopter is*
29 *seven personnel. The minimum crew size for a BLM exclusive-use Type 2*
30 *helicopter is ten personnel. All BLM exclusive-use crews will consist of key*
31 *positions including: supervisor, assistant, squad boss, and crew members.*
32 *The BLM States may establish larger crew size and standards for their*
33 *exclusive use helicopter crews based on program need. Any increase in*
34 *crew size will be documented in the respective State Aviation Plan. BLM*
35 *helicopters operated in Alaska need only be staffed with a qualified*
36 *Helicopter Manager (HMGB).*
- 37 • **NPS** – *Helicopter exclusive-use modules will consist of a minimum of eight*
38 *fire funded personnel. The NPS regions may establish larger crew size and*
39 *standards for their exclusive use helicopter crews based on the need for an*
40 *all hazard component (Fire, SAR, Law Enforcement, and EMT). Exception*
41 *to minimum helicopter crew staffing standards must be approved by the*

- 1 National Aviation Office. NPS helicopters operated in Alaska need only be
2 staffed with a qualified Helicopter Manager (HMGB).
- 3 • **FS** – Regions may establish minimum crew size and standards for their
4 exclusive use helitack crews. Experience requirements for exclusive-use
5 helicopter positions are listed in FSFAQG, Chapter 4.
 - 6 • **BIA** – All helicopter personnel responsibilities are outlined in the IHOG.
7 CWN helitack training and currency requirements are contained in the
8 NWCG PMS 310-1. Each region hosting exclusive-use helicopters is
9 responsible for providing essential management, overhead, equipment,
10 facilities and the resources necessary to fully support the helitack crew.
11 Host regions are encouraged to increase helitack crew size minimum
12 requirements to enhance operational efficiency. Recommended minimum
13 staffing levels:
 - 14 ○ Type 3 helicopter – 7 helitack personnel
 - 15 ○ Type 2 helicopter – 15 helitack personnel

16 **Operational Procedures**

17 The *Interagency Helicopter Operations Guide* (IHOG) NFES 1885 is policy for
18 helicopter operations.

19 **Communication**

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

26 **Transportation**

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

- 31 • **BLM/BIA** – Minimum vehicle configuration for a seven person crew will
32 consist of one Class 661 Helitack Support Vehicle and one Class 156 or
33 Class 166 vehicle.

34 **Training and Experience Requirements**

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

40 Non-exclusive use HECM's and HMGB's should also meet the following
41 currency requirements.

- 1 **Note:** the Interagency Aviation Training Guide (October 2017) states additional
 2 aviation training requirements (A courses). The Guide is available at
 3 https://www.iat.gov/docs/IAT_Guide_2017_10.pdf.

4 **Exclusive Use Fire Helicopter Position Prerequisites**

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, HMGB, HEB2		RT-372 ⁵ RT-130
Assistant Fire Helicopter Crew Supervisor	One season as a Fire Helicopter Squad Boss, ICT4, HMGB, HEB2(T)	ICS-200, S-215, S-219, S-260, S-270	RT-372 ⁵ RT-130
Fire Helicopter Squad Boss	One season as a Fire Helicopter Crewmember, FFT1, ICT5	S-211, S-212	RT-130
Fire Helicopter Crewmember	One season as a FFT2, HECM Task Book	S-271	RT-130

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 and qualification 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 in a primary wildland fire position for a period of 90 days or more.

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

- 5 **Note:** Exceptions to the above position standards and staffing levels may be
 6 granted on a case-by-case basis by the BLM National Aviation Office, NPS
 7 Regional Office, FWS Regional Office, or FS Regional Office as appropriate.
 8 • Some positions may be designated as COR/Alternate-COR. If so, see
 9 individual Agency COR training and currency requirements.
 10 • Fire Helicopter Managers (HMGB) are fully qualified to perform all the
 11 duties associated with Resource Helicopter Manager.

12 **Helicopter Rappel and Cargo Let-Down**

13 Any rappel or cargo let-down programs must be approved by the appropriate
 14 agency national headquarters.

- 15 • **BLM** – BLM personnel involved in an Interagency Rappel Program must
 16 have SFMO approval.
 17 • **NPS/BIA** – Approval is required by the National Office.
 18 • **FS** – Approval is required by the National Office.

1 All rappel and cargo let-down operations will follow the *Interagency Helicopter*
2 *Rappel Guide* (IHRG), as policy. Any exemption to the guide must be requested
3 by the program through the state/region for approval by the National Aviation
4 Office (BLM), or Director of Fire and Aviation (FS).

5 **Emergency Medical Short-Haul**

6 The emergency medical short-haul mission is intended to extract injured or ill
7 personnel from areas where a ground based evacuation would expose rescuers to
8 greater risk or where such evacuation would likely cause greater harm or
9 threaten the life or limbs of the patient due to added exposure or time delay.
10 Based on a risk assessment, short-haul transport of personnel/patients may occur
11 over the most reasonable distance to a location where another type of medical
12 transportation is available (e.g., ground ambulance, EMS/life fight, or internal in
13 an agency helicopter).

14 All emergency medical short-haul programs must be approved by the
15 appropriate agency national headquarters.

- 16 • *NPS/FS/BIA – National Office approval is required.*

17 All short-haul operations will comply with the following policy:

- 18 • *NPS – Helicopter Short-haul Handbook.*
- 19 • *FS – Emergency Medical Short-Haul Operations Plan (EMSHOP).*

20 Exemptions to the policy must be requested by the program through the regional
21 office for approval by the National Aviation Office (NPS) or Director of Fire
22 and Aviation (FS).

23 **Aerial Ignition**

24 The *Interagency Aerial Ignition Guide* (IAIG) is policy for all aerial ignition
25 activities.

26 **Fire Chemical Avoidance Areas**

27 See Chapter 12 (Suppression Chemicals and Delivery Systems) for guidance.

28 **Aerial Supervision Principles for ATGS, HLCO, ASM, and Leadplane**

29 The response speed of aerial supervision resources contributes greatly to
30 established aggressive initial attack doctrine and should be utilized accordingly.

31 Aerial supervision resources will be dispatched when available to
32 initial/extended attack incidents in order to enhance safety, effectiveness, and
33 efficiency of aerial/ground operations.

1 When aerial supervision resources are collocated with airtankers, they will be
2 launched together to maximize the safety, effectiveness, and efficiency of
3 incident operations unless aerial supervision is currently over the incident.

4 Incidents with three or more aircraft over/assigned to them should also have
5 aerial supervision in the form of ATGS or ASM/Leadplane. A qualified
6 smokejumper spotter (senior smokejumper in charge of smokejumper missions)
7 may coordinate smokejumper operations with on-scene aircraft over a fire until
8 a qualified ATGS arrives.

9 **Operational Procedures and Policy**

10 The *Interagency Aerial Supervision Guide* (IASG, PMS 505) provides
11 operational procedures for all aerial supervision resources. The IASG and
12 additional aerial supervision forms are maintained online at the NWCG website
13 <https://www.nwcg.gov/publications/505>.

14 The *NIMS Wildland Fire Qualification System Guide* (PMS 310-1) provides
15 training, qualification, and currency standards.

16 The IASG contains additional requirements and is policy for the BLM, FS, BIA,
17 FWS, and NPS.

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

19 The ATGS coordinates incident airspace and manages incident air traffic. The
20 ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use
21 of aerial resources in support of incident objectives. Specific duties and
22 responsibilities are outlined in the *Wildland Fire Incident Management Field*
23 *Guide* (PMS 210) and the *Interagency Aerial Supervision Guide* (NFES 2544).

24 **Program Management**

25 The air attack program is managed at the national level by agency program
26 managers. The National Interagency Aviation Committee (NIAC) provides
27 guidance through the Interagency Aerial Supervision Subcommittee (IASS),
28 which authorizes an Agency Program Manager/ATGS GACC Representative to
29 provide operational and programmatic oversight at the Geographic Area level.

30 **Training**

31 Classroom training is completed as per the PMS 310-1.

32 Field (flight) training assignments are coordinated and prioritized by the
33 Geographic Area Training Representatives and Agency Program
34 Manager/ATGS GACC Representatives.

35 National interagency ATGS training aircraft have been identified and are
36 utilized for the sole purpose of ATGS flight training.

1 Operational Considerations

- 2 • Ground resources will maintain consistent communication on assigned air
3 to ground frequencies with aerial supervision to maximize the safety,
4 effectiveness, and efficiency of aerial operations.
- 5 • Relief aerial supervision should be ordered for sustained operations to
6 ensure continuous coverage over an incident.
- 7 • Personnel who are performing aerial reconnaissance and detection will not
8 perform aerial supervision duties unless they are fully qualified as an
9 ATGS.
- 10 • ATGS aircraft must meet the aircraft/avionics typing requirements listed in
11 the IASG and the pilot must be carded to perform the air tactical mission.
12 Rotor-wing pilots are not required to be carded for air tactical missions.

13 Leadplane

14 A leadplane is a national shared resource. Any operation that limits the national
15 resource availability must be approved by the agency program manager.

16 Agency policy requires an ASM or Leadplane to be on order prior to aerial
17 retardant/suppressant delivery over a congested area. Operations may proceed
18 before the ASM or Leadplane arrives if communications are established with
19 on-site resources, authorization is granted from the IC, and the line is cleared
20 prior to commencing aerial application operations.

21 Aerial Supervision Module (ASM)

22 The ASM is a national shared resource.

23 The ASM is crewed with both a Leadplane qualified pilot (LEDP) and an Air
24 Tactical Supervisor (AITS). These individuals are specifically trained to operate
25 together as a team. The resource is primarily designed for providing both
26 functions (Leadplane pilot and ATGS) simultaneously from the same aircraft,
27 but can also provide single role service.

28 The LEDP is primarily responsible for aircraft coordination over the incident.
29 The AITS develops strategy and implements tactical plans through coordination
30 with the IC or designee.

31 Operational Considerations

32 Any operation that limits the national resource availability must be approved by
33 the agency program manager.

34 Aerial or incident complexity and environmental considerations will dictate
35 when the ASM ceases low-level operations. The ASM flight crew has the
36 responsibility to determine when the complexity level of the incident exceeds
37 the capability to perform both ATGS and leadplane functions from one aircraft.

1 The crew will request additional supervision resources, or modify the operation
2 to maintain mission safety and efficiency.

3 **Policy**

4 Only those individuals certified and authorized by the BLM–National Aviation
5 Office or the FS–Branch Chief Pilot Standardization will function as an Air
6 Tactical Supervisor (AITS) in an ASM mission profile.

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

8 Training and qualification requirements for ASM crewmembers are defined in
9 the IASG.

10 **Reconnaissance or Patrol Flights**

11 The purpose of aerial reconnaissance or detection flights is to locate and relay
12 fire information to fire management. In addition to detecting, mapping, and
13 sizing up new fires, this resource may be utilized to provide ground resources
14 with intelligence on fire behavior, provide recommendations to the IC when
15 appropriate, and describe access routes into and out of fire areas for responding
16 units. Only qualified Aerial Supervisors (ATGS, ASM, HLCO and LEDP) are
17 authorized to coordinate incident airspace operations and give direction to
18 aviation assets. Flights with a “Recon, Detection, or Patrol” designation should
19 communicate with tactical aircraft only to announce location, altitude and to
20 relay their departure direction and altitude from the incident.

21 **Airtankers**

22 Federally contracted airtankers are national resources. Geographic areas
23 administering these aircraft will make them available for initial attack and
24 extended attack fires on a priority basis. Early-ups for large fire support can
25 have a significant effect on the resource availability late in the day. NICC must
26 be included in this discussion. The rationale for use of airtankers prior to normal
27 start times for large fire support must include obtainable incident objectives in
28 support of ground resources. Host GACCs will check with NICC prior to
29 releasing flight crews on T-1 and T-2 airtankers and VLATs for the day when
30 those resources are not being used within the host area, and could be utilized
31 elsewhere for emerging or ongoing fire activity.

32 The *National Interagency Mobilization Guide*, Chapter 50, “Airtankers”
33 contains additional direction regarding staffing and maintenance of support
34 functions to mobilize national resources.

35 For aviation safety and policy concerning wildland fire chemicals see Chapter
36 12 (Suppression Chemicals and Delivery Systems).

1 Airtankers are owned and operated by commercial vendors or owned by the
2 Forest Service and operated by contractors. The management of airtankers is
3 governed by:

- 4 • **BLM** – *The requirements of the DM, BLM NAP, and BLM Manual 9400.*
- 5 • **FS** – *Airtankers operate in accordance with 14 CFR Part 137, specific*
6 *contracts, Grants of Exemption and operations plans.*
- 7 • **BIA** – *The requirements of the DM and BIA NAP.*

8 **Airtanker Types**

9 Airtankers are typed according to their load capacity:

- 10 • Very Large Air Tankers (VLAT) – 5,000 gallons or more
- 11 • Type 1 – 3,000 to 5,000 gallons
- 12 • Type 2 – 1,800 to 2,999 gallons
- 13 • Type 3 – 800 to 1,799 gallons
- 14 • Type 4 – up to 799 gallons

15 **State of Alaska Airtankers**

16 Canadian registered CV-580 airtankers under contract to the State of Alaska can
17 be mobilized to the lower 48 as approved cooperator aircraft. These airtankers
18 have been approved by OAS under 351 DM 4 and OPM-53 for interagency use.
19 Operationally they can be used similar to other federally contracted airtankers
20 and can be directed by U.S. ASM/leadplanes or Canadian Bird Dogs.

21 **Canadian Airtankers**

22 Canadian airtankers can be activated through the NIFC/CIFFC agreement. These
23 Canadian airtankers are operated as a “group” with Canadian Bird Dogs as part
24 of their operational model. Bird Dogs have a Canadian Air Attack Officer
25 (AAO) on board and function similar to a U.S. ASM/leadplane.

26 The standard operating procedure for the Canadian Airtanker Groups is as
27 follows:

- 28 • Canadian airtankers must be supervised by a Bird Dog or U.S.
29 ASM/leadplane, and must include at a minimum a low level “show me”
30 pass.
- 31 • Canadian Bird Dogs may provide low level target identification runs
32 (“show me” pass) for either Canadian or US contracted airtankers.
- 33 • Canadian Bird Dogs can perform the functions of an ATGS.
- 34 • Canadian Bird Dogs are not authorized to “lead” U.S. federally contracted
35 airtankers.
- 36 • U.S. ASM/leadplanes are authorized to “lead” Canadian airtankers.

37 **Airtanker Rotation**

38 The national airtanker fleet includes a mix of Exclusive Use (EU), Call When
39 Needed (CWN)/On-Call Type 1 and Type 2 airtankers (Large Airtankers or
40 LATs), Very Large Airtankers (VLATs), Single Engine Airtankers (SEATs) and

1 Forest Service owned airtankers. To ensure consistent utilization, rotation, and
2 management of the national airtanker fleet, the following is interagency
3 direction for the management of airtanker rotation and supplements direction
4 contained in *Interagency Airtanker Base Operations Guide* (PMS 508) and in
5 *Interagency SEAT Operations Guide* (PMS 506).

6 All LATs, VLATs and SEATs operating from the same base shall be dispatched
7 in rotation based on the type of airtanker requested on a first in/first out basis
8 regardless of contract type (EU, CWN/On-Call or Forest Service owned) or the
9 location of the incident.

10 First in/first out also applies to airtankers that are requested for a load/return.
11 When an incident requires multiple loads of retardant, Aerial
12 Supervisors/Incident Commanders will notify the appropriate dispatch center of
13 the need for additional retardant and any operational retardant delivery
14 requirements. To ensure timely and effective retardant delivery, dispatch will
15 order the next available airtanker in rotation if an airtanker that meets the
16 requirement of the request is available and located at the load and return
17 airtanker base.

18 **Exceptions**

- 19 1. Airtankers that are not Initial Attack (IA) qualified will not be dispatched to
20 a fire unless a leadplane or Aerial Supervision Module (ASM) will be on-
21 scene upon the arrival of the non-IA qualified airtanker.
- 22 2. Incident commanders/aerial supervision requests a specific type of resource
23 (e.g., VLAT, LAT, or SEAT).
- 24 3. On-scene aerial supervision determines that the use of a specific
25 make/model airtanker is not effective based on factors such as risk,
26 maneuverability in terrain, and/or effectiveness.
- 27 4. The next airtanker in rotation has an operating restriction at the base where
28 it is being assigned. Operating restrictions may include fuel and retardant
29 availability, airtanker base or airport restrictions, significant downloading of
30 fuel or retardant based on performance, daylight remaining, or distance to
31 the incident is not considered effective.
- 32 5. Repositioning of an airtanker closer to where their maintenance crews or
33 supplies are available. The National Interagency Coordination Center
34 (NICC) will facilitate in coordination with the Geographic Area
35 Coordination Center (GACC).
- 36 6. A benefit to the government would be realized by changing the rotation.
37 This will be facilitated by the GACC or NICC with consideration to days
38 off, mission requirements, and/or anticipated need.
- 39 7. Airtankers are returning after day(s) off. Upon returning to availability from
40 days off, these airtankers will be at the end of the rotation at the airtanker
41 base. Airtankers that work a seven day schedule retain their position in the
42 rotation.

- 1 8. MAFFS, NICC ordered state cooperators, and NICC ordered Canadian
2 airtankers will begin rotation at that base after the contracted and FS owned
3 airtanker(s) at the beginning of each day.
- 4 9. Water Scoopers will not be included in airtanker base rotations.

5 **Rotation of State Airtankers**

6 Rotation of State resources on State incidents at a state airtanker base is
7 established by their agency.

8 In cases where State resources are operated in conjunction with federally
9 contracted airtankers on an incident primarily on federal lands, the State
10 airtankers are added to the rotation after the federal airtankers at the beginning
11 of each day.

12 **Additional Information**

13 Forest Service/DOI contracted airtankers, when assigned to incidents managed
14 by other agencies or state cooperators remain under the direction of the
15 Contracting Agency. Forest Service and DOI Contracted airtankers are bound
16 only by their contract and will be treated fairly and equitably during their
17 assignment with other federal or state agencies.

18 **Airtanker Payloads**

19 Loading Type 2, Type 1 or VLAT airtankers with water or dropping water
20 operationally shall not occur unless the Forest Service National Airtanker
21 Program Manager has been notified. Use of water operationally from these
22 airtankers will require the following prior to notification:

- 23 • Use of retardant is restricted by the fire management plan (FMP) for the
24 unit requesting the approval to use water. A copy of the section of the FMP
25 restricting use of retardant shall be provided to the Airtanker Program
26 Manager with the notification.
 - 27 ○ Prior to ordering an airtanker, the receiving unit should request the
28 appropriate water aerial dispensing aircraft, such as a water scooper or
29 helicopter.

30 During pre or post season fires, loading airtankers with water may be necessary
31 when the nearest airtanker base may not be operational and capable of loading
32 retardant. Once an airtanker base is operational and can load retardant, use of
33 water shall cease.

34 Use of water enhancers (gels) is strictly prohibited in Type 2, Type 1 or VLAT
35 airtankers contracted by the USDA Forest Service.

36 **Airtanker Base Operations**

37 Certain parameters for the operation of airtankers are agency-specific. For
38 dispatch procedures, limitations, and times, refer to geographic area

1 mobilization guides and the *Interagency Airtanker Base Operations Guide*
2 (*IABOG*).

3 **Loading Operations**

4 Forest Service contracted airtankers, owned airtankers and Modular Airborne
5 Firefighting System (MAFFS) airtankers shall be loaded using a Mass Flow
6 Meter to measure the payload in pounds. Refer to the Forest Service Large
7 Airtanker Operations Plan for more information.
8 https://www.fs.fed.us/fire/aviation/av_library/index.html

9 **Airtanker Base Personnel**

10 There is identified training for the positions at airtanker bases; the Interagency
11 Airtanker Base Operations Guide (*IABOG*) contains a chart of required training
12 for each position. Permanent, reload and temporary large airtanker bases will
13 meet the minimum requirements listed in Appendix E (*Airtanker Base Fire*
14 *Readiness Review*) of the *IABOG* and have a staffing plan prior to an airtanker
15 landing at the airtanker base airport. All personnel conducting airtanker base
16 operations should review the *IABOG* and have it available.

17 **Startup/Cutoff Time for Multi Engine Airtankers**

18 Refer to the *Interagency Aerial Supervision Guide* (NFES 2544).

19 **Single Engine Airtankers**

20 **Single Engine Airtanker (SEAT) Operations, Procedures, and Safety**

21 The *Interagency SEAT Operating Guide* (*ISOG*, NFES 1844) defines operating
22 standards and is policy for both the DOI and FS.

23 **Single Engine Airtanker Manager Position**

24 The SEAT Manager (*SEMG*) duties and responsibilities are outlined in the
25 *ISOG*. *SEMGs* ensure adherence to contract regulations, safety requirements,
26 and fiscal accountability.

27 **Operational Procedures**

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

31 Depending on location, operator, and availability, SEATs are capable of
32 dropping suppressants, water, or approved chemical retardants. Because of the
33 load capacities of the SEATs (500 to 800 gallons), quick turn-around times
34 should be a prime consideration.

35 SEAT operations at established airtanker bases or reload bases are authorized.
36 All BLM and FS Airtanker base operating plans will permit SEAT loading in
37 conjunction with large airtankers.

1 **Multi-Engine Water Scoopers**

2 Forest Service contracted exclusive use and CWN multi-engine water scoopers
 3 are national resources. Geographic areas administering these aircraft will make
 4 them available for initial attack and extended attack fires on a priority basis.
 5 Generally, a water scooper manager will be assigned by the Forest Service
 6 National Aviation Office. The manager will be on site to coordinate water
 7 scooper operations, logistics and water body assessment.

8 Forest Service multi-engine water scoopers, by contract, shall not use retardant,
 9 foam or gels.

10 **Smokejumper Pilots**

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

13 **Helicopters**

14 **Helicopter Types**

15 The minimum specifications for the typing of helicopters are by allowable
 16 payload, number of passenger seats and water or retardant carrying capability.

17 **ICS Type Specifications for Helicopters**

Attributes	Type 1	Type 2	Type 3
Useful load at 59°F at sea level	5,000 pounds	2,500 pounds	1,200 pounds
Passenger seats	15 or more	9-14	4-8
Retardant or water carrying capability	700 gallons	300 gallons	100 gallons
Maximum gross takeoff/landing weight	12,501+ pounds	6,000-12,500 pounds	up to 6,000 pounds

18 The *National Interagency Mobilization Guide*, Chapter 50, contains additional
 19 direction regarding staffing and maintenance support functions to mobilize
 20 national resources. For aviation safety and policy concerning wildland fire
 21 chemicals (water enhancers, retardants and foams), reference
 22 <https://www.fs.fed.us/rm/fire/wfcs/>. Other helicopter information can be found
 23 in the *Interagency Helicopter Operations Guide* (PMS 510) at
 24 <https://www.nwcg.gov/publications/510>.

1 Military or National Guard Helicopters 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 the National Interagency Coordination Center
5 (NICC); National Guard resources are utilized through local or state
6 Memorandum of Understanding (MOU).

7 Modular Airborne Fire Fighting System (MAFFS)

8 The *MAFFS Operating Plan* (available from the National Interagency
9 Coordination Center) will be used when planning or conducting aviation
10 operations involving MAFFS military aircraft. Ordering MAFFS is done
11 through the National Interagency Coordination Center (NICC); MAFFS are
12 utilized through a national agreement (see the *National Interagency*
13 *Mobilization Guide*). Several states have the ability to activate MAFFS through
14 separate agreements that do not require ordering through NICC.

15 Cooperator Aircraft

16 Aircraft procured/owned by cooperating agencies (state, local, and International)
17 may be utilized on federally managed fires when cooperative agreements are in
18 place and the aircraft have been approved by letter nationally or regionally.

19 The purpose of this direction is to keep non-federally approved aircraft under the
20 operational control of the agency providing the aircraft, to the extent possible.

21 States may use aircraft that have not been identified as an “Approved
22 Cooperator Aircraft” on federal lands when and where the state is the protecting
23 agency in a reciprocal or off-set agreement or when state lands are threatened
24 and the state maintains operational control of the aircraft.

25 The following conditions apply for non-federally approved aircraft:

- 26 • No federal employees are allowed to ride on board the aircraft.
- 27 • No federal employee may be assigned to a position that exercises
28 contractual control.
- 29 • They are approved to have federal personnel load retardant at federal
30 airtanker bases, regardless of jurisdiction.
- 31 • Federal personnel may provide aerial supervision (ATGS, ASM, HELCO,
32 leadplane) under existing standard procedures and agreements.
- 33 • They remain under state operational control regardless of the agency
34 affiliation of the firefighters directing the aircraft on an incident with state
35 jurisdiction.
- 36 • They are approved to interact with federal dispatch personnel as long as the
37 aircraft remains under the operational control of the state or for safety
38 reasons.

- 1 Under emergency circumstances, where **human life is immediately at risk** by
- 2 wildland fire on lands under federal protection, a federal line officer can approve
- 3 the use of non-federally approved aircraft to address the immediate threat. Under
- 4 circumstances where a Governor has declared a state of emergency, a federal
- 5 line officer at the State/Regional level, may consider any fire under federal
- 6 protection, as an immediate threat to human life. This exemption must only take
- 7 place when sufficient federal firefighting aircraft are not readily available to
- 8 meet the emergency need. Line officers are encouraged to consult with their
- 9 agency aviation management personnel to aid in decision-making.

- 10 As exemptions are exercised, they must be documented by the approving federal
- 11 line officer in accordance with their agencies guidance to include submitting a
- 12 SAFECOM within 24 hours.

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