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## 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 (CWN) 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

##### *Office of Aviation Services*

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*

The National Aviation Office (NAO) develops BLM policy, procedures, and 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 OAS, and interagency partners. The Fire and Aviation Directorate has the responsibility and authority, after consultation with state fire management officers (FMO), for funding and acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a bureauwide basis, and approving state office requests to acquire supplemental

1 aircraft resources. Refer to *BLM National Aviation Plan and Manual 9400* for  
2 aviation policy and guides. Refer to 112 DM 12 for a list of responsibilities.

### 3 ***National Park Service***

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

### 13 ***Bureau of Indian Affairs***

14  
15 The NAO is responsible for supporting all BIA aviation programs through an  
16 active and professional aviation organization that:

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

### 25 **National Office – U.S. Department of Agriculture**

#### 26 ***Forest Service***

27 The FS has responsibility for all aspects of its aviation program, including  
28 aviation policy and budget development, aircraft acquisition, aircraft operations,  
29 aviation safety and risk management, budget, pilot standardization, and  
30 airworthiness. In addition, the FS has operational responsibility for functional  
31 oversight of aviation assets and facilities, operational coordination and  
32 utilization, accident investigation, and aircraft and pilot inspection.

33 The Assistant Director (AD), Aviation, is responsible to the Director of Fire and  
34 Aviation Management for the management and supervision of the national  
35 headquarters office in Washington, D.C., and the national office in Boise. The  
36 AD, Aviation provides leadership, support and coordination for national and  
37 regional aviation programs and operations. Refer to FSM 5704 for list of  
38 responsibilities.

39 The fixed-wing branch chief and rotor-wing branch chief report to the AD  
40 aviation, and are responsible for national aviation operational management and  
41 oversight. This operational management and oversight includes authority to  
42 provide direction to coordination centers regarding the mobilization and  
43 reassignment of USDA contracted national aviation resources. The branch chiefs

- 1 may also delegate this authority to national aircraft coordinators or the FS  
2 aviation duty officer (ADO).
- 3 The Branch Chief, Airworthiness reports to the AD, aviation, and is responsible  
4 for national aircraft airworthiness and maintenance program management and  
5 oversight.
- 6 The Branch Chief, Aviation business operations reports to the AD, Aviation and  
7 is responsible for policy maintenance and development, budget development,  
8 and planning.
- 9 The Aviation Strategic Planner reports to the AD, Aviation and is responsible  
10 for strategic planning and reporting.
- 11 The Branch Chief, Aviation Safety Management Systems reports to the AD  
12 Aviation, and is responsible for oversight, coordination and direction of aviation  
13 safety management system functions.

#### 14 **State/Regional Office**

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

- 1 • **FS** – Regional aviation officers (RAOs) are responsible for directing and  
2 managing regional aviation programs in accordance with the national and  
3 regional aviation management plans, and applicable agency policy  
4 direction. (Refer to FSM 5700 and FSH 5709.16 for list of responsibilities.)  
5 RAOs report to director of fire and aviation for their specific region.  
6 Regional aviation safety managers (RASMs) are responsible for aviation  
7 safety in their respective regions, and work closely with the RAO to ensure  
8 aviation safety is an organizational priority (refer to FSM 5700 and FSH  
9 5709.16 for list of responsibilities). Most regions have additional aviation  
10 technical specialists and pilots who help manage and oversee the regional  
11 aviation programs. Most regions also have aviation maintenance  
12 inspectors, fixed-wing program managers, helicopter program managers,  
13 helicopter operations specialists, inspector pilots, etc.
- 14 • **BIA** –
- 15 ○ Provides oversight and approval of the acquisition and use of BIA  
16 aircraft within their region;
  - 17 ○ Has the authority to prioritize the allocation, reallocation,  
18 prepositioning, and movement of all aircraft assigned to the BIA within  
19 their region. All movements will be coordinated with the NAO;
  - 20 ○ Manages and provides oversight of all BIA aircraft assigned to the  
21 region;
  - 22 ○ Coordinates with agencies, geographical coordination centers, NAO  
23 aircraft coordinators on aviation resources assigned to their region;
  - 24 ○ Ensures all region assigned aviation resources are effectively utilized  
25 as efficient BIA resources;
  - 26 ○ Delegates or designates the RAM, who ensures appropriate aviation  
27 roles and positions are filled by qualified personnel;
  - 28 ○ Ensures all aviation employees meet DOI and BIA training  
29 requirements; and
  - 30 ○ Ensures interagency agreement (IAA) between region and Office of  
31 Aviation Services (OAS) Acquisition Services Directorate (ASD) is  
32 valid and in force. Coordinate modifications to IAA as projects and  
33 missions dictate.

#### 34 **Local Office**

35 Some areas have interagency aviation programs that utilize an aviation manager  
36 for multiple units. Duties are similar as other local level managers.

- 37 • **BLM** – Unit aviation managers (UAM) serve as the focal point for the unit  
38 aviation program by providing technical expertise and management of  
39 aviation resources to support field office/district programs. Field/district  
40 offices are responsible for hosting, supporting, providing daily  
41 management, and dispatching all aircraft assigned to their unit.  
42 field/district offices have the authority to request additional resources, to  
43 establish priorities, and make assignments for all aircraft assigned to the  
44 BLM within their unit or zone.

- 1 • **NPS** – Unit or park aviation managers have the responsibility to provide  
2 aviation expertise and management of aviation resources at each park unit.  
3 For organizational responsibility, refer to DO-60, RM-60.
- 4 • **FS** – Unit aviation officers (UAOs)/forest aviation officers (FAOs) have the  
5 responsibility for aviation activities at the local level, including aviation  
6 mission planning, risk management and safety, supervision, and evaluation.  
7 UAOs/FAOs assist line officers with risk assessment/management and cost  
8 analysis. Refer to FSM 5700 Zero Code for a list of responsibilities.
- 9 • **BIA** – The AAM/UAM manages the unit aviation program by providing  
10 technical and management direction of aviation resources to support BIA  
11 programs. The AAM/UAM has functional responsibility in the following  
12 areas:
  - 13 ○ The AAM/UAM is authorized to provide for daily management of all  
14 aviation resources;
  - 15 ○ Ensures agency flight compliance with USDI/BIA/region and agency  
16 policies and regulations;
  - 17 ○ Develop and implement the agency/unit aviation management plan, as  
18 well as specific operating plans for other aviation programs (e.g.,  
19 helitack, SEAT, and aerial supervision);
  - 20 ○ Ensures completion of the Project Aviation Safety Plan (PASP) with  
21 appropriate approvals/briefing of line officer;
  - 22 ○ Ensures that appropriate training is provided to aviation users and  
23 supervisors. Monitors aviation training compliance for the agency/unit;
  - 24 ○ Designates and assigns an alternate aviation manager when needed;
  - 25 ○ Ensures that visiting aircrews have received flight crew  
26 briefing/aviation orientation and guides;
  - 27 ○ Confirms DOI/BIA/Office of Management and Budget (OMB)  
28 requirements are met and completes the cost analysis requirements and  
29 schedules the flight with a qualified vendor;
  - 30 ○ Ensures the accuracy of the Aircraft Use Report. Processes and  
31 maintains copies and records documenting the flight as required by the  
32 DOI Manual;
  - 33 ○ Confirms that a qualified flight manager is assigned to all  
34 project/resource flights;
  - 35 ○ Is responsible for the distribution and use of the Aviation Boundary  
36 Plan/Checklist if one is in place;
  - 37 ○ Ensures Agency/Unit Aviation Security Plan is current and  
38 implemented in accordance with DOI policy;
  - 39 ○ May serve as the COR for BIA exclusive-use aircraft on their  
40 agency/unit if aircraft manager is not current or qualified as such;
  - 41 ○ Authorized to order approved aircraft utilizing agency procurement  
42 documents and procedures. Also establish priorities and allocate all  
43 aircraft assigned to the BIA within their unit or zone; and
  - 44 ○ Maintains an up-to-date aviation reference library with all applicable  
45 aviation policy and procedural references.

## 1 Aviation Information Resources

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

- 4 • **BLM** – 9400 Manual appendix 1, National Aviation Plan (NAP), and  
5 applicable aviation guides as referenced in the NAP.
- 6 • **NPS** – RM-60 Aviation Management Reference Manual and applicable  
7 aviation guides, National Wildfire Coordinating Group (NWCG) Standards  
8 for Helicopter Operations, and the NWCG Standards for Aerial  
9 Supervision.
- 10 • **FWS** – Service Manual 330-339, Aviation Management and NWCG  
11 Standards for Helicopter Operations.
- 12 • **FS** – FSM 5700, FSH 5709.16 and applicable aviation guides when  
13 approved by the agency and referenced in policy.
- 14 • **BIA** – BIA National Aviation Plan (NAP) and applicable aviation guides as  
15 referenced in the NAP.
- 16 • **DOI** – Departmental manuals (DMs) and operational procedures  
17 memoranda (OPMs) can be found at <https://www.doi.gov/aviation/library>.

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

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

## 23 Aviation Safety

24 The FS, BLM, and BIA have adopted Safety Management Systems (SMS) as the  
25 foundation for the aviation safety program. The four pillars of SMS are safety  
26 policy, safety risk management, safety assurance, and safety promotion. SMS is  
27 the standard for aviation safety set by the International Civil Aviation  
28 Organization (ICAO) and the Federal Aviation Administration (FAA).

29 SMS focuses on:

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

36 The intent of SMS is to improve the aviation culture by increasing hazard  
37 identification, reduce risk-taking behavior, learn from mistakes, and correct  
38 procedures before a mishap occurs rather than after the accident. Additionally,  
39 the current approved *US Forest Service Aviation SMS Guide* is available at  
40 <https://www.fs.usda.gov/managing-land/fire>.

### 1 Risk Assessment and Risk Management

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

7 Aviation missions always have some degree of risk. The five sources of hazards  
8 are mission, management, machine, personnel, and media. Managing risk is a  
9 five-step process:

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

### 23 How to Properly Refuse Risk (Aviation)

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

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

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

40 Individuals will directly inform their supervisor that they are turning down the  
41 assignment as given. The most appropriate means of documented turn down  
42 criteria is using the Aviation Watch Out Situations (*IRPG*).

1 Supervisors will notify the air operations branch director (AOBD) or unit  
2 aviation leadership immediately upon being informed of a “turn down.” If there  
3 is no AOBD, notification shall go to the appropriate section chief, the incident  
4 commander (IC) or local fire and aviation staff. Proper handling of turn downs  
5 provides accountability for decisions and initiates communication of safety  
6 concerns within the incident organization.

7 If the assignment has been turned down previously and the supervisor asks  
8 another resource to perform the assignment, he or she is responsible to inform  
9 the new resource that the assignment had been turned down and the reasons  
10 why. Furthermore, personnel need to realize that a “turn down” does not stop the  
11 completion of the assigned operation. The “turn down” protocol is an integral  
12 element that improves the effective management of risk, for it provides timely  
13 identification of hazards within the chain of command, raises risk awareness for  
14 both leaders and subordinates, and promotes accountability.

15 If an unresolved safety hazard exists, the individual needs to communicate the  
16 issue/event/concern immediately to his or her supervisor and document as  
17 appropriate.

## 18 **Aviation Safety Support**

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

20 During high levels of aviation activity, consider requesting an Aviation Safety  
21 and Technical Assistance Team (ASTAT). ASTAT enhances risk management,  
22 efficiency, effectiveness, and provides technical assistance while reviewing  
23 aviation operations. If an ASTAT cannot be filled internally, the request may be  
24 placed with the National Interagency Coordination Center (NICC) through  
25 established ordering channels using individual overhead requests. An ASTAT  
26 should operate under a delegation of authority from the appropriate  
27 state/regional aviation manager(s) or multi-agency coordinating group. If  
28 requested by the home unit/region, formal written reports will be provided to  
29 appropriate manager(s) as outlined at the in-brief. A team should be developed  
30 to fit the need of the requesting unit and may consist of the following:

- 31 • Aviation safety manager;
- 32 • Operations specialist (helicopter and/or fixed wing);
- 33 • Pilot inspector;
- 34 • Maintenance inspector;
- 35 • Avionics inspector (optional); and
- 36 • Aircraft dispatcher (optional).

### 37 **Aviation Safety Briefing**

38 Every passenger must receive a briefing prior to each flight. The briefing is the  
39 responsibility of the pilot in command (PIC) but may be conducted by the pilot,  
40 flight manager, helicopter manager, fixed-wing base manager, or an individual  
41 with the required training to conduct an aviation safety briefing. The pilot  
42 should also receive a mission briefing from the Government aircraft manager.  
43 Refer to the *IRPG* and *NWCG Standards for Helicopter Operations*.



**1 Aviation Hazard**

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

- 7 • Deviations from policy, procedures, regulations, and instructions;
- 8 • Improper hazardous materials handling and/or transport;
- 9 • Airspace conflicts/flight following deviation;
- 10 • Deviation from planned operations;
- 11 • Failure to utilize personal protective equipment (PPE) or aviation life  
12 support equipment (ALSE);
- 13 • Failure to meet qualification standards or training requirement;
- 14 • Extreme environmental conditions;
- 15 • Improper ground operations;
- 16 • Improper pilot procedures;
- 17 • Fuel contamination; and
- 18 • Unsafe actions by pilot, air crew, passengers, or support personnel.

19 Aviation hazards also exist in the form of wires, low-flying aircraft, and  
20 obstacles protruding beyond normal surface features. Each office will post,  
21 maintain, and annually update a known aerial hazard map for the local  
22 geographic area where aircraft are operated, regardless of agency jurisdiction.  
23 This map will be posted and used to brief flight crews. Unit aviation managers  
24 are responsible for ensuring the development and updating of known aerial  
25 hazard maps (*NWCG Standards for Helicopter Operations*).

**26 Aerial Applications of Wildland Fire Chemical Safety**

27 Chapter 12 contains information concerning the aerial application of wildland  
28 fire chemicals.

**29 SAFECOM**

30 The DOI and the FS have an incident/hazard reporting form called the Aviation  
31 Safety Communiqué (SAFECOM). The database, available at  
32 <https://www.safecom.gov/>, fulfills the Aviation Mishap Information System  
33 (AMIS) requirements for aviation mishap reporting for the DOI agencies and the  
34 FS. Categories of reports include accidents, airspace, hazards, incidents,  
35 maintenance, mishap prevention, and kudos. The system uses the SAFECOM  
36 forms OAS-34 or FS-5700-14 to report any condition, observation, act,  
37 maintenance problem, or circumstance with personnel or aircraft that has the  
38 potential to cause an aviation-related mishap. The SAFECOM system is not  
39 intended for initiating punitive actions. Submitting a SAFECOM is not a  
40 substitute for "on-the-spot" correction(s) to a safety concern. SAFECOMs are a  
41 tool used to identify, document, track, and correct safety-related issues.  
42 SAFECOMs do not replace the requirement for initiating an accident or incident  
43 report.

1 Any individual (including vendors/cooperators) with knowledge of an  
2 incident/hazard should complete a SAFECOM. The SAFECOM form, including  
3 attachments and pictures, should be entered directly on the internet at  
4 <https://www.safecom.gov/>, or contact the Office of Aviation Services (OAS) or  
5 FS representative listed on the SAFECOM “About” page at  
6 <https://www.safecom.gov/about>. Electronic copies are automatically forwarded  
7 to the national, regional, state, and unit aviation managers.

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

#### 11 **Aircraft Incidents/Accidents**

12 Notification to the FS or OAS and DOI agency aviation safety managers is  
13 required for any aircraft mishap involving damage or injury. Use the hotline  
14 (888) 464-7427 (DOI Operations Center) or the most expeditious means  
15 possible. Initiate the appropriate unit Aviation Mishap Response Plan.

#### 16 **Unmanned Aircraft Systems**

##### 17 **UAS Incursion Reporting Protocol**

- 18 • Fire personnel should immediately notify the air tactical group supervisor  
19 (ATGS) if overhead, aircraft over the incident, the IC and dispatch.  
20 Dispatch should report all unauthorized unmanned aircraft system (UAS) or  
21 drone activity immediately via SAFECOM (<https://www.safecom.gov/>) and  
22 to the Federal Aviation Administration (FAA).

23 Reporting key points:

- 24 • Report UAS information (location, color, size, altitude, flight pattern), if  
25 known.
- 26 • Dispatch centers should report incursions to the nearest Air Route Traffic  
27 Control Center (ARTCC) or follow geographic area protocol.

##### 28 **Policy**

- 29 • UAS fire operations shall be conducted under the provisions of the *NWCG*  
30 *Standards for Fire Unmanned Aircraft Systems Operations* (PMS 515).
- 31 • When UAS are flown for FS/DOI work or benefit, FAA, FS, and DOI  
32 regulations apply.
- 33 • All aircraft (to include UAS) purchase, lease, or acquisition **must** follow  
34 department procurement policy and procedures.
- 35 • All aircraft and pilots employed by the FS or DOI agencies **shall** be  
36 credentialed in accordance with departmental policy.
- 37 • UAS flights under FS operational control **must** adhere to USFS policy and  
38 regulations regarding their use. Guidance can be found in FSM 5700 Zero  
39 Code, the *USFS National Aviation Safety and Management Plan* and at  
40 <https://www.fs.usda.gov/managing-land/fire/aviation/uas>.

- 1 • UAS flights under DOI operational control **must** adhere to DOI and  
2 agency-specific policy and regulations regarding their use. Guidance can be  
3 found in the *Departmental Manual*, parts 350-353, and Operational  
4 Procedures Memorandum 11 at <https://www.doi.gov/aviation/library/opm>.
- 5 • UAS procured/owned/operated by cooperating agencies (State, local, and  
6 international) may be utilized on federally managed fires when cooperative  
7 agreements are in place and the aircraft and pilot have been approved by  
8 letter nationally or regionally.
- 9 • UAS flights conducted by non-participatory entities (e.g., media) must  
10 adhere to FAA regulations.
- 11 • A Special Government Interest (SGI) waiver is required for flights within a  
12 temporary flight restriction (TFR). SGI waiver requests shall be routed  
13 through the UAS Coordinator at 208-387-5335.

#### 14 **Personnel**

- 15 • Four UAS positions are listed in the PMS 310-1:
  - 16 ○ Unmanned aircraft system pilot (UASP)
  - 17 ○ Unmanned aircraft system, data specialist (UASD)
  - 18 ○ Unmanned aircraft system, manager (UASM)
  - 19 ○ Unmanned aircraft system, module leader (UASL)

#### 20 **Crew Composition**

- 21 • UAS operations are typically conducted under a crew (module) concept.
- 22 • Typical module configuration:
  - 23 ○ Agency-operated systems (type 3 or 4): UASP and UASD
  - 24 ○ Contract systems (type 1 or 2): UASM and UASD
  - 25 ○ Span of control for multiple UAS operations on the same incident can  
26 be mitigated with UASL.

#### 27 **Ordering**

- 28 • UAS personnel are ordered through established dispatch channels.
- 29 • For specifics on how to order UAS, see <https://uas.nifc.gov/uas-ordering>.
- 30 • Agency-owned, federally contracted, exclusive-use, and CWN UAS are  
31 national resources. Geographic areas utilizing them will make them  
32 available for fires on a priority basis.

#### 33 **Operations**

- 34 • UAS flight crews utilize established procedures (e.g., fire traffic area) for  
35 coordinating flights with aerial supervision/on-scene aircraft.
- 36 • Large UAS (typically type 1 and 2) will launch and recover from a “launch  
37 and recovery zone” which should be designated on incident aviation  
38 planning maps.
- 39 • Small (typically type 4) UAS are fireline portable, and flights will be  
40 conducted through established procedures.

**1 Key Points**

- 2 • UAS is an effective tool for situational awareness and data collection.
- 3 Determine the data objective before ordering the resource and flying the
- 4 mission.
- 5 • UAS ICS types are listed in the *NWCG Standards for Fire Unmanned*
- 6 *Aircraft Systems Operations* (PMS 515).
- 7 • UAS training, aircraft, sensors, and capabilities are listed on the Interagency
- 8 Fire UAS Subcommittee website (see below).
- 9 • Personally owned UAS or model aircraft must not be used by Federal
- 10 agencies or their employees for interagency fire use.
- 11 • Individuals who are determined to have interfered with wildland fire
- 12 operations may be subject to civil penalties and criminal prosecution.

**13 Additional Information**

14 For more information refer to the Interagency Fire UAS Subcommittee website  
15 at [https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-](https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-systems-subcommittee)  
16 [systems-subcommittee](https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-systems-subcommittee).

- 17 • **FAA** – <https://www.faa.gov/uas>
- 18 • **DOI** – <https://www.doi.gov/aviation/uas>
- 19 • **BLM** – <https://uas.nifc.gov/>
- 20 • **FS** – <https://www.fs.usda.gov/managing-land/fire/aviation/uas>
- 21 • **Interagency UAS** – <https://uas.nifc.gov/>

**22 Airspace Coordination**

23 The Interagency Airspace Program is an aviation safety program designed to  
24 enhance aviation safety and reduce the risk of a mid-air collision. The *NWCG*  
25 *Standards for Airspace Coordination* (<https://www.nwcg.gov/publications/520>)  
26 provides direction and procedures for airspace coordination. Additional  
27 guidance may be found in the *National Interagency Mobilization Guide* and  
28 supplemented by local mobilization guides.

- 29 • **FS** – Refer to *FSH 5709.16, chapter 30* for additional airspace information.

30 An airspace coordinator (ASCO) should be ordered when incident aviation  
31 activity is widespread and involves a number of complex TFRs, complex  
32 airspace is involved, or difficult airspace conflict resolutions exist with various  
33 agencies.

34 Airspace deconfliction is performed for both emergency and non-emergency  
35 aviation activities.

36 Some BLM, BIA, State and FS units have memorandums of understanding  
37 (MOU) with local military airspace authorities for airspace coordination.  
38 Briefings from unit aviation managers/officers (UAM/UAO) are crucial to  
39 ensure that any local airspace information is coordinated before flight.

40 All firefighting aircraft are required to have operative transponders and will use  
41 a national firefighting transponder code of 1255 when engaged in, or traveling

- 1 to, firefighting operations (excluding ferry flights), unless given a discrete code  
2 by Air Traffic Control (ATC).
- 3 Additional coordination information can be found at  
4 <https://www.nwcg.gov/committees/interagency-air-space-subcommittee>. See  
5 “Roster” for agency members. Additional airspace coordination can be found by  
6 contacting:
- 7 • **BLM** – State aviation managers, national airspace program manager
  - 8 • **NPS** – Regional aviation managers
  - 9 • **FWS** – National aviation safety specialist
  - 10 • **FS** – National airspace program manager
  - 11 • **BIA** – Regional aviation managers

## 12 **Flight Request and Approval**

- 13 • **NPS** – Reference RM 60, appendix 3 and 4.
- 14 • **FS** – Refer to FSM 5709.16, chapter 30 for all flights.

### 15 **Point-to-point Flights**

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

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

- 31 • **BLM** – Reference the *BLM National Aviation Plan*, chapter 3, available at  
32 <https://www.nifc.gov/about-us/our-partners/blm/aviation/library>. In  
33 addition, flights that require landing in a foreign country constitute  
34 international travel and are subject to policy contained in *Instruction*  
35 *Memorandum No. 2022-037, International Travel Guidance and*  
36 *Procedures*.
- 37 • **NPS** – Reference RM-60, appendix 3 for agency specific policy.
- 38 • **FS** – Refer to FSH 5709.16 chapter 30 and the *Forest Service*  
39 *Administrative Use of Aircraft Desk Reference*.
- 40 • **BIA** – Reference the *BIA National Aviation Plan*.

**1 Mission Flights**

2 Mission flights are defined as flights not meeting the definition of point-to-point  
3 flight. A mission flight requires work to be performed in the air (retardant or  
4 water delivery, fire reconnaissance, smokejumper delivery), or through a  
5 combination of ground and aerial work (e.g., delivery of personnel and/or cargo  
6 from helibases to helispots or unimproved landing sites; rappelling or cargo let-  
7 down; short-haul; single-skid, toe-in, and hover exit/entry (STEP) procedures;  
8 hoist).

- 9 • PPE is required for any fixed-wing mission flight conducted below 500 feet  
10 AGL.
  - 11 ○ **DOI** – *Flight helmets may not be required for multi-engine airtanker*  
12 *crews, smokejumper pilots and leadplane/aerial supervision module*  
13 *(ASM) flight/aircrew members. Note: DOI requires a helmet for all*  
14 *special-use missions 500 feet and below unless a waiver is obtained per*  
15 *the ALSE Handbook. Refer to agency aviation policy to determine if*  
16 *ALSE waivers are in place for your specific mission.*
  - 17 ○ **FS** – *USFS does not require flight helmets for fixed-wing, special-use*  
18 *missions.*
- 19 • Reference ALSE Handbook for all PPE requirements for special-use flights.
- 20 • All personnel will meet training and qualification standards required for the  
21 mission.
- 22 • Agency FM radio capability is required for all mission flights.
- 23 • All passengers must be authorized, and all personnel onboard must be  
24 essential to the mission.
  - 25 ○ **FS** – *A special-use-mission flight is any flight that is not point-to-point.*  
26 *Special-use-mission flights require special pilot endorsements, flight*  
27 *evaluations, training, and/or specialized aircraft equipment. For all*  
28 *special-use-mission flights, all pilots and aircraft must be specifically*  
29 *approved in writing for that flight.*

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

- 32 • Water or retardant application;
- 33 • Parachute delivery of personnel or cargo;
- 34 • Leadplane/ASM/airtanker operations;
- 35 • Takeoff or landing requiring special techniques due to hazardous terrain,  
36 obstacles, or surface conditions; and
- 37 • Aerial supervision.

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

- 39 • Flights conducted within 500 feet AGL;
- 40 • Water or retardant application;
- 41 • Helicopter coordinator and ATGS operations;
- 42 • Aerial ignition activities;
- 43 • External-load operations;
- 44 • Rappelling;

- 1 • Takeoff or landing requiring special techniques due to hazardous terrain,
- 2 obstacles, pinnacles, or surface conditions to include STEP – (single
- 3 skid/toe-in/exit-entry procedure);
- 4 • Free-fall cargo;
- 5 • Fire reconnaissance;
- 6 • Short-haul operations; and
- 7 • Night helicopter operations.

#### 8 **Low-Level Flight Operations**

9 The only fixed-wing aircraft missions authorized for low-level fire operations  
10 are:

- 11 • Smokejumper/paracargo;
- 12 • ASM and lead operations; and
- 13 • Aerial dispensing of retardant, water enhancers and water.

#### 14 **Operational Procedures**

- 15 • A high-level reconnaissance will be made prior to low-level flight
- 16 operations.
- 17 • All flights below 500 feet will be contained to the area of operation.

#### 18 **Congested Area Flight Operations**

19 Airtankers can drop retardant in congested areas under DOI authority given in  
20 *14 CFR Part 137*.

21 FS authority is granted under exemption 392, from *14 CFR Part 91.119* as  
22 referenced in FSH 5709.16, chapter 30. When such operations are necessary,  
23 they may be 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 ATC facility responsible for the airspace is notified prior to or as soon
- 29 as possible after the beginning of the operation;
- 30 • A positive communication link must be established between the ASM or
- 31 leadplane, airtanker pilot(s), and the responsible fire suppression agency
- 32 official; and
- 33 • The IC for the responsible fire agency or designee will advise the
- 34 ASM/leadplane/airtanker that all non-essential people and movable property
- 35 have been cleared prior to commencing retardant drops.

#### 36 **Flight Following – All Aircraft**

37 Flight following is mandatory for all flights. Refer to the *National Interagency*  
38 *Mobilization Guide* for specific direction.

- 39 • Agency FM radio capability is required for all mission flights.

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

#### 17 **Sterile Cockpit – All Aircraft**

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

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

#### 35 **Interagency Interim Flight and Duty Limitations/Aviation Stand Downs**

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

40 Interim flight and duty limitations are a method to manage pilot and crew  
41 fatigue by reducing the length of the duty day or increasing the number of days



1 off in the normal duty day cycle. During extended periods of high flight activity,  
2 fatigue must be mitigated by fire and aviation managers.

3 Aviation stand downs and interim flight and duty day limitations can be  
4 implemented at the geographic area or national level. In either case, the  
5 procedure for implementation is the same. Requests for implementation of flight  
6 and duty limitations, or proposed stand down parameters, will be made through  
7 the national aviation office through which it originated.

8 Decisions and procedures for implementation will be made on a coordinated,  
9 interagency basis, involving the Geographic Area Coordination Center (GACC),  
10 NICC, and national aviation representatives at the National Interagency Fire  
11 Center (NIFC) and aviation contracting officers. Details of the proposal will be  
12 formalized and coordinated with other affected agencies and implemented  
13 through the National Multi-agency Coordinating Group (NMAC).

#### 14 **Interim Flight and Duty Limitations Implementation**

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

20 Interim flight and duty limitations are written to apply to Federal contract  
21 resources. States may apply them if they so choose. The interim flight and duty  
22 limitations can apply to agency pilots, but additional days off must be  
23 coordinated with the agency pilot's supervisor and must follow Federal pay and  
24 leave regulations.

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

- 26 • 14-hour maximum duty day;
- 27 • 8 hours maximum daily flight time for mission flights;
- 28 • 10 hours for point-to-point, with a 2-pilot crew;
- 29 • A maximum of 42 hours flight time during any consecutive 6-day period.  
30 When a pilot acquires 36 or more flight hours in a consecutive 6-day period,  
31 the pilot shall be given the following day off. A new 6-day cycle shall begin  
32 upon return from any day off;
- 33 • Minimum of 10 hours uninterrupted time off (rest) between duty periods;  
34 and
- 35 • Two days off within any 14-day period.

36 This does not diminish the authority or obligation of any individual COR or  
37 aviation manager to impose shorter duty days or additional days off at any time  
38 for any flight/maintenance crew members for fatigue. This authority is currently  
39 provided for in agency direction and contract specifications. Aviation managers  
40 should consider the following actions:

- 41 • Any tactical aircraft flight crew member (airtanker, helicopter,  
42 ASM/leadplane, single engine airtanker [SEAT] or air attack) may request

- 1 an additional day off in conjunction with their normally scheduled day(s)  
2 off.
- 3 • The additional day off may be granted when requested. Flight crews are  
4 encouraged to honestly assess their fatigue level and request an additional  
5 day off if they believe it is needed.
  - 6 • Aircraft availability will be paid when this occurs regardless of whether a  
7 relief crew is provided or not.
  - 8 • Document the approval of additional days off in the remarks section of the  
9 aircraft payment document.
  - 10 • In order to assure sufficient coverage, additional days off will need to be  
11 coordinated within the currently assigned GACC and communicated to  
12 national aviation managers. Coordinate with your aviation managers,  
13 contracting officers, and dispatch organizations to implement these actions.

#### 14 ***Phase 2 – Interim Duty Limitations***

15 When phase 2 is activated, pilots shall adhere to the flight and day-off  
16 limitations prescribed in phase 1 and the duty limitations defined under phase 2.

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

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

#### 26 ***Phase 3 – Interim Duty Limitations***

27 When phase 3 is activated, pilots shall adhere to the flight limitations of phase 1  
28 (standard), the additional day off of phase 2, and the limitations defined under  
29 phase 3.

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

38 Double crews (2 complete flight crews assigned to an aircraft), augmented flight  
39 crews (an additional pilot-in-command assigned to an aircraft), and aircraft  
40 crews that work a rotating schedule (i.e., 2 days on, 1 day off, 7 days on, 7 days  
41 off, or 12 days on, 12 days off) may be exempted from phase 2 limitations upon

- 1 verification that their scheduling and duty cycles meet or exceed the provisions  
2 of paragraph a. of phase 2 and phase 1 limitations.
- 3 Exemptions of phase 3 provisions may be requested through the local aviation  
4 manager or COR but must be approved by the FS regional aviation officer  
5 (RAO) or DOI area aviation manager.

#### 6 **Aviation Assets**

- 7 Typical agency aviation assets include helitack or rappel, short-haul, aerial  
8 supervision (ATGS, helicopter coordinator [HLCO], leadplane, and ASM), large  
9 (multi-engine) airtankers (LAT), very large airtankers (VLAT), SEATs, and  
10 smokejumpers.
- 11 • **BLM** – *All BLM-acquired aircraft (exclusive-use, on-call, and CWN) are*  
12 *available to move to areas of greatest BLM need, thereby maximizing*  
13 *efficiency and effectiveness. Specific authorities and responsibilities for*  
14 *field/state and national offices are outlined earlier in this chapter. Offices*  
15 *are expected to adhere to procedures established in the BLM National*  
16 *Aviation Plan for both acquisition and use reporting.*
  - 17 • **BLM** – *Awaiting a resource order should not be allowed to affect the*  
18 *response time for initial attack mobilization. Initial attack aircraft may be*  
19 *launched to new incidents with just the location, bearing, distance, and*  
20 *flight following frequency. All other pertinent information will be provided*  
21 *to aircrews while en route. See the BLM National Aviation Plan, 3.17.1, for*  
22 *additional information.*
  - 23 • **NPS** – *All NPS fire-funded aircraft (fleet, exclusive-use, on-call and CWN)*  
24 *are available to move to areas of greatest NPS need, thereby maximizing*  
25 *efficiency and effectiveness. Specific authorities and responsibilities for*  
26 *park, regional, and national offices are outlined earlier in this chapter.*
  - 27 • **FS** – *All FS aircraft (agency-owned, exclusive-use, leased and CWN) are*  
28 *available to move to areas of greatest agency need, thereby maximizing*  
29 *efficiency and effectiveness. FS units are expected to adhere to procedures*  
30 *established in policy for acquisition and use reporting.*
  - 31 • **BIA** – *All BIA-acquired aircraft (exclusive-use, on-call, and CWN) are*  
32 *available to move to areas of greatest BIA need, thereby maximizing*  
33 *efficiency and effectiveness. Specific authorities and responsibilities for*  
34 *regional/agencies and national offices are outlined in the National Aviation*  
35 *Plan for both acquisition and use reporting.*

#### 36 **Helitack**

37 Helitack crews perform suppression and support operations to accomplish fire  
38 and resource management objectives.

#### 39 **Organization – Crew Size**

- 40 • **BLM** – *The baseline staffing for a BLM exclusive-use type 3 helicopter is 7*  
41 *personnel. The baseline staffing for a BLM exclusive-use type 2 helicopter*  
42 *is 12 personnel. The baseline staffing for a BLM exclusive-use type 1*

- 1 *helicopter is 24 personnel. All BLM exclusive-use crews will consist of key*  
2 *positions, including supervisor, assistant, squad boss, and crew members.*  
3 *Recommended staffing levels for BLM exclusive-use helitack crews is*  
4 *outlined in the National Aviation Plan (NAP), section 5. BLM states may*  
5 *establish larger crew size and standards for their exclusive-use helicopter*  
6 *crews based on program need. Any increase in crew size will be*  
7 *documented in the respective state aviation plan. BLM helicopters operated*  
8 *in Alaska need only be staffed with a qualified helicopter manager*  
9 *(HMGB).*
- 10 • *NPS – Helicopter exclusive-use modules will consist of a minimum of eight*  
11 *fire-funded personnel. The NPS regions may establish larger crew size and*  
12 *standards for their exclusive-use helicopter crews based on the need for an*  
13 *all-hazards component (fire, search and rescue [SAR], law enforcement,*  
14 *and emergency medical technician (EMT). Exception to minimum*  
15 *helicopter crew staffing standards must be approved by the National*  
16 *Aviation Office. NPS helicopters operated in Alaska need only be staffed*  
17 *with a qualified HMGB.*
  - 18 • *FS – Exclusive-use helitack crew sizes will satisfy the FSM 5700, chapter*  
19 *30, Helicopter Minimum Staffing requirements. At such time national crew*  
20 *size standards are established, the applicable national standard must be*  
21 *satisfied. Any deviation from the standard and the reason for the deviation*  
22 *must be found acceptable to the Rotor Wing Branch Chief. Experience*  
23 *requirements for exclusive-use helicopter positions are listed in FSFAQG,*  
24 *chapter 4.*
  - 25 • *BIA – For exclusive use helitack crew size standards, see NAP, Appendix 5,*  
26 *Exclusive Use Helicopter Module Position Standards. On-call helitack and*  
27 *all helicopter personnel responsibilities are outlined in the NWCG*  
28 *Standards for Helicopter Operations. All helitack training and currency*  
29 *requirements are contained in the PMS 310-1. Each region hosting*  
30 *exclusive-use/on-call helicopters is responsible for providing essential*  
31 *management, overhead, equipment, facilities, and the resources necessary*  
32 *to fully support the helitack crew. Host regions are encouraged to increase*  
33 *helitack crew size minimum requirements to enhance operational efficiency.*  
34 *Recommended minimum staffing levels:*
    - 35 ○ *Type 3 helicopter – 10 helitack personnel*
    - 36 ○ *Type 2 helicopter – 15 helitack personnel*

### 37 **Operational Procedures**

38 The NWCG Standards for Helicopter Operations (PMS 510) is policy for  
39 helicopter operations.

### 40 **Helibase**

41 All helibases with two or more helicopters used for fire operations will have a  
42 helibase manager (HEBM) assigned and follow standards outlined in the NWCG  
43 Standards for Helicopter Operations.

1 **Communication**

2 The helitack crew standard is one handheld, programmable, multi-channel FM  
 3 radio per every two crew persons, and one multi-channel, VHF-AM,  
 4 programmable radio in the primary helitack crew (chase) truck. Each helitack  
 5 crew (chase) vehicle will have a programmable VHF-FM mobile radio. Each  
 6 permanent helibase will have a permanent programmable FM radio base station  
 7 and should be provided a VHF-AM base station radio.

8 **Transportation**

9 Dedicated vehicles with adequate storage and security will be provided for  
 10 helitack crews. The required gross vehicle weight (GVW) of the vehicle will be  
 11 dependent upon the volume of equipment carried on the truck and the number of  
 12 helitack crewmembers assigned to the crew.

- 13 • *BLM/BIA – Minimum vehicle configuration for a seven-person crew will*  
 14 *consist of one class-661 helitack support vehicle and one class-156 or*  
 15 *class-166 vehicle.*

16 **Training and Experience Requirements**

17 All helitack members will meet fire qualifications as prescribed by the PMS  
 18 310-1 and their agency manual requirements. The following chart establishes  
 19 experience and training requirements for FS, BLM, NPS, FWS, and BIA  
 20 exclusive-use, fire helicopter crew positions.

- 21 • *BIA – Follows the guidance put forth in the National Aviation Plan*  
 22 *regarding fire helicopter position standards.*

23 Non-exclusive-use helicopter crewmembers (HECM) and HMGBs should also  
 24 meet the following currency requirements.

25 **Note:** The *Interagency Aviation Training Guide* states additional aviation  
 26 training requirements (“A” courses). The guide is available at  
 27 [https://www.iat.gov/docs/IAT\\_Guide.pdf](https://www.iat.gov/docs/IAT_Guide.pdf).

28 **Exclusive-Use Fire Helicopter Position Prerequisites**

Position <sup>1</sup>	Minimum Prerequisite Experience <sup>2</sup>	Minimum Required Training <sup>3</sup>	Currency Requirements
<b>Fire Helicopter Crew Supervisor</b>	One season <sup>4</sup> as an assistant fire helicopter crew supervisor; IC, type 4 (ICT4), HMGB, HEBM		RT-372 <sup>5</sup> RT-130
<b>Assistant Fire Helicopter Crew Supervisor</b>	One season as a fire helicopter squad boss, ICT4, HMGB, HEBM trainee (T)	ICS-200, S-215, S-219, S-260, S-270	RT-372 <sup>5</sup> RT-130
<b>Fire Helicopter Squad Boss</b>	One season as a fire HECM, FFT1; IC, type 5 (ICT5)	S-211, S-212	RT-130

Position <sup>1</sup>	Minimum Prerequisite Experience <sup>2</sup>	Minimum Required Training <sup>3</sup>	Currency Requirements
<b>Fire Helicopter Crewmember</b>	One season as a FFT2, HECM position task book	S-271	RT-130

<sup>1</sup> All exclusive-use fire helicopter positions require an arduous fitness rating.

<sup>2</sup> 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).

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

<sup>4</sup> A "season" is continuous employment in a primary wildland fire position for a period of 90 days or more.

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

1 **Note:** Exceptions to the above position standards and staffing levels may be  
2 granted on a case-by-case basis by the BLM National Aviation Office, NPS  
3 regional office, FWS regional office, or FS regional office as appropriate.

- 4 • Some positions may be designated as COR/Alternate-COR. If so, see  
5 individual agency COR training and currency requirements.  
6 • Fire HMGBs are fully qualified to perform all the duties associated with a  
7 resource helicopter manager.

#### 8 **Helicopter Rappel and Cargo Let-Down**

9 BLM/NPS/BIA rappel and cargo let-down operations will follow the  
10 *Interagency Helicopter Rappel Guide (IHRG)*. FS rappel programs will follow  
11 the *National Rappel Operations Guide (NROG)*. Any exemption to the  
12 identified guides must be requested by the program through the state/region for  
13 approval by the National Aviation Office (BLM/NPS/BIA), or Director of Fire  
14 and Aviation (FS).

- 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.*

19 All rappel and cargo let-down operations will follow the *IHRG*, as policy. Any  
20 exemption to the guide must be requested by the program through the  
21 state/region for approval by the National Aviation Office (BLM/NPS), or  
22 Director of Fire and Aviation (FS).

#### 23 **Single-Skid, Toe-In, and Hover Exit/Entry (STEP)**

24 STEP missions may include insertion/extraction of personnel (firefighters,  
25 medical technicians, or rescuers) in support of operations and medical incidents,  
26 such as initial attack, large fire support, helispot construction, repeater missions,  
27 in areas where a ground-based approach or evacuation would expose rescuers,  
28 firefighters, and injured or ill personnel to greater risk.

29 Any STEP program must be approved by the appropriate agency national office.

- 1 • **BLM** – *BLM STEP protocols are outlined in the BLM National Aviation*
- 2 *Plan.*
- 3 • **NPS** – *NPS STEP protocols are outlined in the NPS RM-60.*

#### 4 **Short Haul for Wildland Fire**

5 Any short haul for wildland fire program must be approved by the appropriate  
6 agency national office.

- 7 • **NPS** – *Helicopter Short-Haul Operations Plan.*

#### 8 **Short Haul**

9 To transport one or more persons suspended beneath a helicopter. Short haul  
10 includes insertion or extraction of firefighters, medical technicians or rescuers  
11 for suppression operations and medical rescues. Missions may include extraction  
12 of personnel from areas where a ground-based approach or evacuation would  
13 expose rescuers, firefighters, injured or ill personnel to greater risk.

14 All short-haul programs must be approved by the appropriate agency national  
15 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 Operations Plan.*
- 19 • **FS** – *Forest Service Standards for Short-Haul Operations.*

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 *NWCG Standards for Aerial Ignition* (PMS 501) is policy for all aerial  
25 ignition 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 Exclusive-use (agency-owned or contracted) air tactical group supervisor  
32 (ATGS) and helicopter coordinator (HLCO) resources are geographic area  
33 coordination center (GACC) shared resources. These resources are part of a  
34 national response framework and are located at bases that provide the best  
35 strategic advantage for incident response within their zone in direct support of  
36 the airtanker and helicopter fleets. GACCs coordinate with their agencies to  
37 ensure response capabilities are commensurate to environmental conditions and  
38 provide support to NICC for national priorities. Agency program managers  
39 (national/regional) work with GACCs to provide expertise and make

1 recommendations that support fire preparedness and suppression objectives for  
2 their agency and when available, their cooperators.

3 Aerial supervision resources will be dispatched when available to initial-  
4 /extended-attack incidents in order to enhance safety, effectiveness, and  
5 efficiency of aerial/ground operations.

6 When aerial supervision resources are co-located with airtankers, they will be  
7 dispatched together (ATGS, ASM, leadplane and HLCO) to maximize the  
8 safety, effectiveness, and efficiency of incident operations unless the required  
9 aerial supervision is currently on scene of the incident.

10 Incidents with three or more aircraft flying missions at the same time must have  
11 aerial supervision in the form of ATGS, ASM/leadplane or HLCO ordered by  
12 the unit maintaining operational control (operations may be continued while the  
13 aerial supervisor is en route to the incident or operations can be continued if the  
14 resource is not available and assigned resources are notified). During times of  
15 aerial supervision absence, aircraft shall coordinate with each other to  
16 implement tasks and objectives as prioritized by the official in charge (i.e., IC or  
17 operations). A qualified smokejumper spotter (senior smokejumper in charge of  
18 smokejumper missions), rappel spotter, or short-haul spotter may coordinate  
19 their respected operations with on-scene aircraft over a fire until qualified aerial  
20 supervision arrives.

21 See *NWCG Standards for Aerial Supervision*, page 34, table 1 for incident aerial  
22 supervision requirements. Refer to  
23 <https://www.nwcg.gov/sites/default/files/publications/pms505.pdf>.

#### 24 **Operational Procedures and Policy**

25 The *NWCG Standards for Aerial Supervision* (PMS 505) provides operational  
26 procedures for all aerial supervision resources. The *NWCG Standards for Aerial*  
27 *Supervision* and additional aerial supervision forms are maintained online at the  
28 NWCG website <https://www.nwcg.gov/publications/505>.

29 The *NWCG Standards for Wildland Fire Position Qualifications* (PMS 310-1)  
30 provides training, qualification, and currency standards.

31

32 The *NWCG Standards for Aerial Supervision* contains additional requirements  
33 and is policy for the BLM, NPS, FWS, FS and BIA.

#### 34 **Air Tactical Group Supervisor**

35 The ATGS coordinates incident airspace and manages incident air traffic. The  
36 ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use  
37 of aerial resources in support of incident objectives. Specific duties and  
38 responsibilities are outlined in the *NWCG Standards for Aerial Supervision*  
39 (PMS 505).



**1 Program Management**

2 The air attack program is managed at the national level by agency program  
3 managers. The National Interagency Aviation Committee (NIAC) provides  
4 guidance through the Interagency Aerial Supervision Subcommittee (IASS),  
5 which authorizes an agency program manager/ATGS GACC representative to  
6 provide operational and programmatic oversight at the geographic area level.

**7 Training**

8 Classroom training is completed per the PMS 310-1. Field (flight) training  
9 assignments are coordinated and prioritized by the geographic area training  
10 representatives and agency program manager/ATGS GACC representatives.  
11 National interagency ATGS training aircraft have been identified and are  
12 utilized for the sole purpose of ATGS flight training.

**13 Operational Considerations**

- 14 • Ground resources will maintain consistent communication on assigned air  
15 to ground frequencies with aerial supervision to maximize the safety,  
16 effectiveness, and efficiency of aerial operations.
- 17 • Relief aerial supervision should be ordered for sustained operations to  
18 ensure continuous coverage over an incident.
- 19 • Personnel who are performing aerial reconnaissance and detection will not  
20 perform aerial supervision duties unless they are fully qualified as an  
21 ATGS.
- 22 • ATGS aircraft must meet the aircraft/avionics typing requirements listed in  
23 the *NWCG Standards for Aerial Supervision* and the pilot must be carded to  
24 perform the air tactical mission. Rotor-wing pilots are not required to be  
25 carded for air tactical missions.

**26 Aerial Supervision Module and Leadplane**

27 The aerial supervision module (ASM) and leadplane (LP) are national shared  
28 resources.

29 The ASM is crewed with both a leadplane pilot (LPIL) and an air tactical  
30 supervisor (AITS). These individuals are specifically trained to operate together  
31 as a team. The resource is primarily designed for providing both functions  
32 (leadplane pilot and ATGS) simultaneously from the same aircraft but can also  
33 provide single-role service.

34 The leadplane is staffed with a single pilot and provides coordination with fixed-  
35 wing airtankers and water scooping aircraft.

**36 Operational Considerations**

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

39 Aerial or incident complexity and environmental considerations will dictate  
40 when the ASM ceases low-level operations. The ASM flight crew has the  
41 responsibility to determine when the complexity level of the incident exceeds

- 1 the capability to perform both ATGS and leadplane functions from one aircraft.
- 2 The crew will request additional supervision resources or modify the operation
- 3 to maintain mission safety and efficiency.

#### 4 **Policy**

- 5 Only those individuals authorized by the National Aviation Office (BLM)/FS-
- 6 standardization pilot/State aviation official and approved by the regional
- 7 aviation officer/BLM state aviation manager/State aviation official will be
- 8 certified to function as an AITS.

#### 9 **Aerial Supervision Module Program Training and Qualifications**

- 10 Training and qualification requirements for ASM crewmembers are defined in
- 11 the *NWCG Standards for Aerial Supervision*.

#### 12 **Aerial Supervision Coordination**

- 13 National coordination and management of ASM and LP resources are required
- 14 to ensure national coverage and capability. Agency aerial supervision/flight
- 15 operation program managers (national/regional) will work with the NICC and
- 16 GACCs to ensure staffing, aircraft readiness, and availability.

#### 17 **Reconnaissance or Patrol Flights**

- 18 The purpose of aerial reconnaissance or detection flights is to locate and relay
- 19 fire information to management. In addition to detecting, mapping, and
- 20 providing fire sizeup, this resource may be utilized to provide ground resources
- 21 with intelligence on fire behavior, to the IC when appropriate, and describe
- 22 access routes into and out of fire areas for responding units. Only qualified aerial
- 23 supervisors (ATGS, AITS, HLCO and LPIL) are authorized to coordinate
- 24 incident airspace operations and give direction to aviation assets. Flights with a
- 25 “reconnaissance, detection, or patrol” designation should communicate with
- 26 tactical aircraft only to announce location, altitude and to relay their departure
- 27 direction and altitude from the incident.

#### 28 **Airtankers**

- 29 Federally contracted airtankers are national resources. Geographic areas
- 30 administering these aircraft will make them available for initial attack and
- 31 extended-attack fires on a priority basis regardless of GACC boundaries. Early-
- 32 activation for large fire support can have a significant effect on the resource
- 33 availability late in the day. NICC must be included in this discussion. The
- 34 rationale for use of airtankers prior to normal start times for large fire support
- 35 must include obtainable incident objectives in support of ground resources.

- 36 Host GACCs will check with NICC prior to releasing flight crews on type 1 and
- 37 type 2 airtankers and VLATs for the day when those resources are not being
- 38 used within the host area and could be utilized elsewhere for emerging or
- 39 ongoing fire activity.

- 40 LATs are primarily used for initial attack and are initial attack capable without
- 41 leadplane/ASM supervision. VLATs are primarily used for large fire support

1 and require leadplane/ASM supervision to be on scene prior to arriving on the  
2 fire.

3 The *National Interagency Mobilization Guide*, chapter 50, “Airtankers,”  
4 contains additional direction regarding staffing and maintenance of support  
5 functions to mobilize national resources.

6 For aviation safety and policy concerning wildland fire chemicals see chapter  
7 12, “Suppression Chemicals and Delivery Systems.”

8 Federal airtankers are owned and operated by commercial vendors. Some States  
9 may contract for commercially owned airtankers, own airtankers, or order  
10 airtankers through compacts—either State-to-State or State-to-Canadian-  
11 province. The management of airtankers is governed by:

- 12 • **BLM** – *The requirements of the DM, BLM NAP, and BLM Manual 9400.*
- 13 • **FS** – *Airtankers operate in accordance with 14 CFR part 137, specific*  
14 *contracts, Grants of Exemption; Forest Service Manual (5700) and*  
15 *Handbook (5709.16); and the Forest Service Standards for Airtanker*  
16 *Operations.*
- 17 • **BIA** – *The requirements of the DM and BIA NAP.*

### 18 **Airtanker Types**

19 Airtankers are typed according to their load capacity  
20 (<https://www.nwccg.gov/publications/pms200>):

- 21 • Very large air tankers – 8,000 gallons or more
- 22 • Type 1 – 3,000 to 4,999 gallons
- 23 • Type 2 – 1,800 to 2,999 gallons
- 24 • Type 3 – 800 to 1,799 gallons
- 25 • Type 4 – up to 799 gallons

### 26 **Very Large Airtankers**

27 VLATs have some unique operational considerations including low-level  
28 supervision, terrain, airtanker base ramp operations and operations in the fire  
29 traffic area (FTA).

- 30 • The leadplane or ASM must be on scene prior to dispatching the VLAT.
- 31 • VLATs may be used on fires to augment type 1, type 2, and type 3  
32 airtankers, but not as a replacement.
- 33 • Aerial supervision (leadplane or ASM) is required by contract and  
34 interagency policy for VLATs while dropping retardant.
- 35 • VLATs are less maneuverable than large airtankers and should be used in  
36 less challenging terrain that affords better maneuverability and effectiveness  
37 for dispensing.
- 38 • VLATs minimum drop height is 250 feet above the ground or canopy cover  
39 whichever is higher. Generally, drop heights should increase when using  
40 higher coverage levels.
- 41 • VLATs require considerably more space and clearance from other aircraft  
42 within the FTA and more time to set up for drops.

- 1 • Airtanker bases approved for VLATs are listed in the *NWCG Airtanker*
- 2 *Base Directory*.

### 3 **State of Alaska Airtankers**

4 Airtankers under contract to the State of Alaska may be mobilized to the lower  
5 48 as approved cooperator aircraft. Prior to mobilization to the lower 48,  
6 ordering agencies should confirm that current cooperator letters are in place for  
7 the requested aircraft and pilots permitting operations in the lower 48 States.

- 8 • *FS* – *Convair 580 airtankers are not approved for use on Forest-Service-*  
9 *protected lands*.

### 10 **International Airtankers and Water Scoopers**

11 International airtankers and scoopers can be activated through the agreements,  
12 NIFC/other fire coordination center, or authority or through compacts (State-to-  
13 Canadian province).

14 Other international airtankers and water scoopers may operate individually like  
15 U.S. airtankers and scoopers.

- 16 • NIFC-ordered, Canadian/international aircraft – Aircraft ordered through  
17 the NIFC agreement with the foreign country may be used on Federal lands  
18 if the aircraft have been inspected and approved by FS letter.
- 19 • Compact-ordered aircraft – Aircraft and flight crews ordered through State-  
20 to-Canadian-province compacts will be considered non-federally approved  
21 cooperator aircraft unless they have been previously inspected and approved  
22 by the FS/DOI.

23 The standard operating procedure for the Canadian or international airtankers  
24 and water scoopers is as follows:

- 25 • If the pilot is not initial attack rated, the Canadian or international airtankers  
26 or water scoopers must be supervised by a Canadian Bird Dog or US  
27 ASM/leadplane or ATGS.
- 28 • Canadian Bird Dogs may provide low-level target identification runs  
29 (“show me” pass) for either Canadian, international or US-contracted  
30 airtankers.
- 31 • Canadian Bird Dogs are not authorized to “lead” US-federally-contracted  
32 airtankers or other international airtankers.
- 33 • Canadian Bird Dogs can perform the functions of an ATGS once approved  
34 by the US ordering agency.
- 35 • US ASM/leadplanes are authorized to “lead” Canadian and international  
36 airtankers.
- 37 • Canadian airtankers and water scoopers typically operate as a “group” with  
38 Canadian Bird Dogs as part of their operational model.
- 39 • Canadian Bird Dogs have a Canadian air attack officer (AAO) on board and  
40 function similar to a US ASM.

**1 Airtanker Rotation**

2 The Federal, national airtanker fleet includes a mix of exclusive-use, CWN/on-  
3 call type 1 and type 2 LATs, VLATs, or SEATs. To ensure consistent  
4 utilization, rotation, and management of the national airtanker fleet, the  
5 following is interagency direction for the management of airtanker rotation and  
6 supplements direction contained in *NWCG Standards for Airtanker Base*  
7 *Operations (SABO)* (PMS 508).

8 All LATs, VLATs and SEATs (including federally approved cooperator and  
9 Canadian and other international airtankers) operating from the same base shall  
10 be dispatched in rotation based on the type of airtanker requested on a first-  
11 in/first-out basis regardless of contract type (exclusive-use, CWN/on-call or  
12 Forest-Service-owned) or the location of the incident.

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

**20 Exceptions**

- 21 1. Airtankers that do not have an initial-attack-rated pilot in command will not  
22 be dispatched to a fire unless a leadplane or ASM is on scene upon the  
23 arrival of the airtanker.
- 24 2. ICs/aerial supervision requests a specific type of resource (e.g., VLAT,  
25 LAT, or SEAT).
- 26 3. On-scene aerial supervision determines that the use of a specific  
27 make/model airtanker is not effective based on factors, such as risk,  
28 maneuverability in terrain, and/or effectiveness.
- 29 4. The next airtanker in rotation has an operating restriction at the base where  
30 the airtanker is being assigned. Operating restrictions may include fuel and  
31 retardant availability, airtanker base or airport restrictions, significant  
32 downloading of fuel or retardant based on performance, daylight remaining,  
33 or distance to the incident is not considered effective.
- 34 5. Repositioning of an airtanker closer to where their maintenance crews or  
35 supplies are available. (NICC will facilitate in coordination with the 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 working seven-day schedule retains their position in the  
42 rotation.

- 1 8. MAFFS; NICC-ordered, State cooperators; and NICC-ordered, international  
2 airtankers will begin rotation at that base after the contracted airtanker(s) at  
3 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 federally approved, State airtankers are operated in conjunction  
9 with federally contracted airtankers on an incident primarily on Federal lands,  
10 the State airtankers are added to the rotation after the Federal airtankers at the  
11 beginning of each day.

#### 12 **Additional Information**

13 FS-/DOI-contracted airtankers, when assigned to incidents managed by other  
14 agencies or State cooperators remain under the direction of the contracting  
15 agency. FS-/DOI-contracted airtankers are bound only by their contract and will  
16 be treated fairly and equitably during their assignment with other Federal or  
17 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 FS National Airtanker Program Manager  
21 has been notified. Use of water operationally from these airtankers will require  
22 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 Forest Service National  
26 Airtanker Program 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 FS.

#### 36 **Large and Very Large Airtanker Coordination**

37 National coordination and management of FS-contracted airtankers is required  
38 to ensure there is airtanker coverage, response, and capability nationwide. The  
39 FS Airtanker Program Manager and FS Fixed-wing Coordinator coordinate and  
40 manage airtanker readiness and availability, capability, and response with  
41 vendors, national aviation staff, and NICC.

**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 *NWCG Standards for Airtanker Base Operations*  
5 (*SABO*).

6 All permanent, CWN and temporary bases will have an airtanker base  
7 operations plan (ABOP), and a qualified ATBM prior to operations out of the  
8 airtanker base airport. All personnel conducting airtanker base operations should  
9 review the *SABO* and have it available. ATBMs are authorized to manage  
10 SEATs, the ATBM should review the *SABO* and have it available. Both large  
11 airtankers as well as SEATs have applicable aircraft contracts that will be  
12 available for reference, as well as the national long-term, fire-retardant contract.

13 Regions, States, and GACCs shall coordinate airtanker base activation and  
14 closing dates with the appropriate agency airtanker base specialist to ensure  
15 national airtanker response and capability is maintained.

- 16 • **FS** – *National job codes for airtanker base early activation or late closing*  
17 *is available to support national response and capability.*

**18 Loading Operations**

19 FS-contracted airtankers and modular airborne firefighting system (MAFFS)  
20 airtankers shall be loaded using a mass flow meter to measure the payload in  
21 pounds. Refer to the *Forest Service Airtanker Operations Plan* for more  
22 information at  
23 <https://www.fs.usda.gov/managing-land/fire/aviation/publications>.

**24 Airtanker Base Personnel**

25 There is identified training for the positions at airtanker bases; the *SABO*  
26 contains descriptions of airtanker base support positions and their roles and  
27 responsibilities. The PMS 310-1 lists required training for these positions.

28 The ATBM provides supervision and coordination of airtanker base operations.  
29 The ATBM may report to the local aviation manager and/or incident aviation  
30 manager.

**31 Startup/Cutoff Time for Multi-Engine Airtankers**

32 Refer to the *NWCG Standards for Aerial Supervision* (PMS 505).

**33 Single Engine Airtankers****34 Single Engine Airtanker Operations, Procedures, and Safety**

35 The *NWCG Standards for Airtanker Base Operations (SABO)* (PMS 508)  
36 defines operating standards and is policy for both the DOI and FS. All  
37 permanent and temporary SEAT bases will have a SEAT base operating plan,  
38 and a qualified single engine airtanker manager (SEMG) or ATBM prior to  
39 operations out of the SEAT base airport.

**1 Single Engine Airtanker Manager Position**

2 The SEMG duties and responsibilities are outlined in the *NWCG Standards for*  
3 *Airtanker Base Operations (SABO)* (PMS 508). The PMS 310-1 lists required  
4 training for the SEMG position, ATBM position, and other base support  
5 positions. SEMGs may also refer to the *SABO* for base support duties and  
6 responsibilities.

7 The SEMG provides supervision and coordination of SEAT base operations and  
8 base support personnel. The SEMG may report to the local aviation manager,  
9 incident aviation manager, or ATBM if applicable. SEMGs assist in ensuring  
10 adherence to contract regulations, safety and policy requirements, and fiscal  
11 accountability.

**12 Operational Procedures**

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

16 Depending on location, operator, and availability, SEATs can drop suppressants,  
17 water, or approved chemical retardants. Because of the load capacities of the  
18 SEATs (500 to 800 gallons), quick turn-around times should be a prime  
19 consideration.

20 SEAT operations at established airtanker bases or reload bases are authorized.  
21 All BLM and FS airtanker base operating plans will permit SEAT loading in  
22 conjunction with LATs.

**23 Multi-Engine Water Scoopers**

24 FS-contracted; exclusive-use; and CWN, multi-engine water scoopers are  
25 national resources. Geographic areas administering these aircraft will make them  
26 available for initial attack and extended-attack fires on a priority basis.  
27 Generally, a water scooper manager will be assigned by the FS National  
28 Aviation Office. The manager will be on site to coordinate water scooper  
29 operations, logistics, and water-body assessment.

30 FS-contracted, multi-engine water scoopers, by contract, shall not use retardant,  
31 foam, or gels.

**32 Smokejumper Pilots**

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

**35 Helicopters****36 Helicopter Types**

37 The minimum specifications for the typing of helicopters are by useful load,  
38 passenger seats, water or retardant carrying capability, and maximum gross  
39 weight. (Refer to <https://www.nwcg.gov/publications/pms200>.)



1

**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

2 The *National Interagency Mobilization Guide*, chapter 50, contains additional  
 3 direction regarding staffing and maintenance support functions to mobilize  
 4 national resources. For aviation safety and policy concerning wildland fire  
 5 chemicals (water enhancers, retardants, and foams), reference  
 6 <https://www.fs.usda.gov/rm/fire/wfcs/>. Other helicopter information can be  
 7 found in the *NWCG Standards for Helicopter Operations* (PMS 510) at  
 8 <https://www.nwcg.gov/publications/510>.

- 9 • **FS** – *The use of fire chemicals mixed with on board injection or blending*  
 10 *systems is not permitted on Forest-Service-contracted aircraft. Water*  
 11 *enhancers may be mixed and loaded from ground-based equipment when*  
 12 *demand mixed through a proportioner; or batch mixed to the qualified mix*  
 13 *ratio in a separate tank, then transferred into a dip tank. Compliance with*  
 14 *the Forest Service Qualified Product List*  
 15 *(<https://www.fs.usda.gov/rm/fire/wfcs/>) to include qualified, required mix*  
 16 *ratios, is mandatory.*

17 **Military or National Guard Helicopters and Pilots**

18 The *Military Use Handbook* will be used when planning or conducting aviation  
 19 operations involving regular military aircraft. Ordering military resources is  
 20 done through NICC; National Guard resources are utilized through local or State  
 21 memorandum of understanding (MOU).

22 **Modular Airborne Fire Fighting System (MAFFS)**

23 The *MAFFS Operating Plan* (available from NICC) will be used when planning  
 24 or conducting aviation operations involving MAFFS military aircraft. Ordering  
 25 MAFFS is done through the NICC; MAFFS are utilized through a national  
 26 agreement (see the *National Interagency Mobilization Guide*). Several States  
 27 have the ability to activate MAFFS through separate agreements that do not  
 28 require ordering through NICC.

29 **Cooperator Aircraft**

30 Cooperator-contracted aircraft also on an existing Federal contract with Federal  
 31 aircraft and pilot cards may be utilized on federally protected lands when

- 1 cooperative agreements are in place and the aircraft have been approved by  
2 USDA Forest Service/DOI letter.
- 3 Cooperator-contracted, exclusive-use aircraft not on an existing Federal contract  
4 may be considered for approval on a case-by-case basis when cooperative  
5 agreements are in place. Approval will be by USDA Forest Service/DOI letter.
- 6 Cooperator-owned/-operated aircraft may be utilized on federally managed fires  
7 when cooperative agreements are in place and the aircraft have been approved  
8 by FS/DOI letter. Cooperator-owned/-operated aircraft meeting requirements of  
9 the *NWCG Standards for Interagency Cooperator Type 2 and Type 3*  
10 *Helicopters* or other applicable NWCG standards may be utilized on federally  
11 protected lands when cooperative agreements are in place and the aircraft have  
12 been approved by FS/DOI letter.
- 13 All cooperator aircraft used on federally protected lands must be approved by  
14 FS/DOI letter.
- 15 Utilization of approved, cooperator aircraft shall be limited based on 49 United  
16 States Code §40125.
- 17 • All approved cooperator aircraft used on federally managed fires shall be  
18 released when Federal aircraft become reasonably available.
  - 19 • The use of cooperator aircraft must involve a “significant and imminent  
20 threat to life or property” documented daily on the Cooperator Aircraft Use  
21 Validation Worksheet (*National Interagency Mobilization Guide*, chapter  
22 80 Forms) to document the justification for aircraft utilization.

### 23 **Non-Federally Approved Cooperator Aircraft**

24 Cooperator-contracted, exclusive use aircraft not on an existing Federal contract  
25 may be considered for approval on a case-by- case basis when cooperative  
26 agreements are in place.

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

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

41 Under emergency circumstances, where human life is immediately at risk by  
42 wildland fire on lands under Federal protection, a Federal line officer can

- 1 approve the use of non-federally approved aircraft. This exemption must only
- 2 take place when sufficient Federal firefighting aircraft are not readily available
- 3 to meet the emergency need. Federal line officers are encouraged to consult with
- 4 agency aviation management personnel to aid in decision-making.
- 5 Approving Federal line officer must document exemptions in accordance with
- 6 agency guidance to include submitting a SAFECOM
- 7 (<https://www.safecom.gov/>) within 24 hours.

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