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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 aircraft will be the last ordered and the first released. The exception to this is use for initial action response and capability.

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

Organizational Responsibilities

National Office – Department of Interior (DOI)

Office of Aviation Services (OAS)

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

Bureau of Land Management (BLM)

National Aviation Office (NAO) – NAO develops BLM policy, procedures, and standards. It also maintains functional oversight, and facilitates interagency coordination for all aviation activities. The principal goals are safety and cost-effectiveness. The NAO supports BLM aviation activities and missions. This includes fire suppression, through strategic program guidance, managing aviation programs of national scope, coordination with OAS, and interagency partners. The Fire and Aviation Directorate has the responsibility and authority, after consultation with State Fire Management Officers, for funding and acquisition of all fire aircraft, prioritizing the allocation of BLM aircraft on a Bureau wide 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 (NPS)***

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 bureau.

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

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

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

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

25 ***Forest Service (FS)***

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

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

38 The Branch Chief, Aviation Operations reports to the AD, Aviation, and is
39 responsible for national aviation operational management and oversight.

40 The Branch Chief, Pilot Standardization reports to the AD, Aviation, and is
41 responsible for pilot and aircrew standardization and approval of agency and
42 contracted personnel.

- 1 The Branch Chief, Airworthiness reports to the AD, Aviation, and is responsible
- 2 for national aircraft airworthiness and maintenance program management and
- 3 oversight.
- 4 The Branch Chief, Aviation Business Operations reports to the AD, Aviation
- 5 and is responsible for policy maintenance and development, budget
- 6 development, and planning.
- 7 The Aviation Strategic Planner reports to the AD, Aviation and is responsible
- 8 for strategic planning and reporting.
- 9 The Branch Chief, Aviation Safety Management Systems reports to the AD,
- 10 Risk Management and Training, and is responsible for the national aviation
- 11 safety and risk management program and oversight.

12 **State/Regional Office**

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

1 *direction. (Refer to FSM 5700 and FSH 5709.16 for list of responsibilities).*
2 *RAOs report to Director of Fire and Aviation for their specific Region.*
3 *Regional Aviation Safety Managers (RASMs) are responsible for aviation*
4 *safety in their respective Regions, and work closely with the RAO to ensure*
5 *aviation safety is an organizational priority (refer to FSM 5700 and FSH*
6 *5709.16 for list of responsibilities). Most Regions have additional aviation*
7 *technical specialists and pilots who help manage and oversee the Regional*
8 *aviation programs. Most Regions also have Aviation Maintenance*
9 *Inspectors, Fixed-wing Program Managers, Helicopter Program Managers,*
10 *Helicopter Operations Specialists, Inspector Pilots, etc.*

11 • **BIA** –

- 12 ○ *Provides oversight and approval of the acquisition and use of BIA*
13 *aircraft within their region;*
- 14 ○ *Has the authority to prioritize the allocation, reallocation, pre-*
15 *positioning and movement of all aircraft assigned to the BIA within*
16 *their region. All movements will be coordinated with the NAO;*
- 17 ○ *Manages and provides oversight of all BIA aircraft assigned to the*
18 *region;*
- 19 ○ *Coordinates with Agencies, Geographical Coordination centers, NAO*
20 *aircraft coordinators on aviation resources assigned to their region;*
- 21 ○ *Ensures all region assigned aviation resources are effectively utilized*
22 *as efficient BIA resources;*
- 23 ○ *Delegates or designates the RAM, who ensures appropriate aviation*
24 *roles and positions are filled by qualified personnel;*
- 25 ○ *Ensures all aviation employees meet DOI and BIA training*
26 *requirements; and*
- 27 ○ *Ensures Inter-agency Agreement (IAA) between region and Office of*
28 *Aviation Services (OAS) Acquisition Services Directorate (ASD) is*
29 *valid and in force. Coordinate modifications to IAA as projects and*
30 *missions dictate.*

31 **Local Office**

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

- 34 • **BLM** – *Unit Aviation Managers (UAMs) serve as the focal point for the*
35 *Unit Aviation Program by providing technical expertise and management of*
36 *aviation resources to support Field Office/District programs. Field/District*
37 *Offices are responsible for hosting, supporting, providing daily*
38 *management, and dispatching all aircraft assigned to their unit.*
39 *Field/District Offices have the authority to request additional resources; to*
40 *establish priorities, and make assignments for all aircraft assigned to the*
41 *BLM within their unit or zone.*
- 42 • **NPS** – *Unit or Park Aviation Managers have the responsibility to provide*
43 *aviation expertise and management of aviation resources at each park unit.*
44 *Organizational responsibility refer to DO-60, RM-60.*

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

43 **Aviation Information Resources**

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

- 1 • **BLM** – 9400 Manual Appendix 1, National Aviation Plan (NAP) and
2 applicable aviation guides as referenced in the NAP.
- 3 • **NPS** – RM-60 Aviation Management Reference Manual, NWCG Standards
4 for Helicopter Operations, and the NWCG Standards for Aerial
5 Supervision.
- 6 • **FWS** – Service Manual 330-339, Aviation Management and NWCG
7 Standards for Helicopter Operations.
- 8 • **FS** – FSM 5700, FSH 5709.16 and applicable aviation guides when
9 approved by the agency and referenced in policy.
- 10 • **BIA** – BIA National Aviation Plan (NAP) and applicable aviation guides as
11 referenced in the NAP.

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

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

17 **Aviation Safety**

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

23 SMS focuses on:

- 24 • Emphasis on proactive risk management;
- 25 • Promotes a “Just” culture;
- 26 • Addresses systemic safety concerns;
- 27 • Holds the organization accountable;
- 28 • Identifies “What” so we can manage the manageable; and
- 29 • Communicates the “Why” so the culture can learn from mistakes.

30 The intent of SMS is to improve the aviation culture by increasing hazard
31 identification, reduce risk-taking behavior, learn from mistakes, and correct
32 procedures before a mishap occurs rather than after the accident. More
33 information on SMS is available at the Wildland Fire Lessons Learned Center
34 under the Lessons Learned link at <https://www.wildfirelessons.net/home>.
35 Additionally, the current approved US Forest Service Aviation SMS Guide is
36 available at <https://www.fs.fed.us/managing-land/fire>.

37 **Risk Assessment and Risk Management**

38 The use of risk management will help to ensure a safe and successful operation.
39 Risk is the probability that an event will occur. Assessing risk identifies the
40 hazard, the associated risk, and places the hazard in relationship to the mission.

1 A decision to conduct a mission requires weighing the risk against the benefit of
2 the mission and deciding whether the risks are acceptable.

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

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

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

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

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

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

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

38 Supervisors will notify the Air Operations Branch Director (AOBD) or unit
39 aviation leadership immediately upon being informed of a turn down. If there is
40 no AOBD, notification shall go to the appropriate Section Chief, the Incident
41 Commander or local fire and aviation staff. Proper handling of turn downs
42 provides accountability for decisions and initiates communication of safety
43 concerns within the incident organization.

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

9 If an unresolved safety hazard exists the individual needs to communicate the
10 issue/event/concern immediately to his or her supervisor and document as
11 appropriate.

12 **Aviation Safety Support**

13 **Aviation Safety and Technical Assistance Team (ASTAT)**

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

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

31 **Aviation Safety Briefing**

32 Every passenger must receive a briefing prior to each flight. The briefing is the
33 responsibility of the Pilot in Command (PIC) but may be conducted by the pilot,
34 flight manager, helicopter manager, fixed-wing base manager, or an individual
35 with the required training to conduct an aviation safety briefing. The pilot
36 should also receive a mission briefing from the government aircraft manager.
37 Refer to the *IRPG* and *NWCG Standards for Helicopter Operations*.

38 **Aviation Hazard**

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

- 1 • Deviations from policy, procedures, regulations, and instructions;
- 2 • Improper hazardous materials handling and/or transport;
- 3 • Airspace conflicts/flight following deviation;
- 4 • Deviation from planned operations;
- 5 • Failure to utilize PPE or Aviation Life Support Equipment (ALSE);
- 6 • Failure to meet qualification standards or training requirement;
- 7 • Extreme environmental conditions;
- 8 • Improper ground operations;
- 9 • Improper pilot procedures;
- 10 • Fuel contamination; and
- 11 • Unsafe actions by pilot, air crew, passengers, or support personnel.

12 Aviation hazards also exist in the form of wires, low-flying aircraft, and
13 obstacles protruding beyond normal surface features. Each office will post,
14 maintain, and annually update a "Known Aerial Hazard Map" for the local
15 geographic area where aircraft are operated, regardless of agency jurisdiction.
16 This map will be posted and used to brief flight crews. Unit Aviation Managers
17 are responsible for ensuring the development and updating of Known Aerial
18 Hazard Maps (*NWCG Standards for Helicopter Operations*).

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

20 Chapter 12 contains information concerning the aerial application of wildland
21 fire chemicals.

22 **SAFECOM**

23 The DOI and the FS have an incident/hazard reporting form called The Aviation
24 Safety Communiqué (SAFECOM). The database, available at
25 <https://www.safecom.gov/>, fulfills the Aviation Mishap Information System
26 (AMIS) requirements for aviation mishap reporting for the DOI agencies and the
27 FS. Categories of reports include: Accidents, Airspace, Hazards, Incidents,
28 Maintenance, Mishap Prevention, and Kudos. The system uses the SAFECOM
29 Form OAS-34 or FS-5700-14 to report any condition, observation, act,
30 maintenance problem, or circumstance with personnel or aircraft that has the
31 potential to cause an aviation-related mishap. The SAFECOM system is not
32 intended for initiating punitive actions. Submitting a SAFECOM is not a
33 substitute for "on-the-spot" correction(s) to a safety concern. It is a tool used to
34 identify, document, track, and correct safety related issues. A SAFECOM does
35 not replace the requirement for initiating an accident or incident report.

36 Any individual (including vendors/cooperators) with knowledge of an
37 incident/hazard should complete a SAFECOM. The SAFECOM form, including
38 attachments and pictures, should be entered directly on the internet at
39 <https://www.safecom.gov/> or faxed to the Department of the Interior's Office of
40 Aviation Services, Aviation Safety (208) 433-5069 or to the FS at (208) 387-
41 5735 ATTN: SAFETY. Electronic cc copies are automatically forwarded to the
42 National, Regional, State, and Unit aviation managers.

- 1 The agency with operational control of the aircraft at the time of the
2 hazard/incident/accident is responsible for completing the SAFECOM and
3 submitting it through agency channels.

4 **Aircraft Incidents/Accidents**

- 5 Notification to the FS or OAS and DOI agency Aviation Safety Managers is
6 required for any aircraft mishap involving damage or injury. Use the hotline
7 (888) 464-7427 or the most expeditious means possible. Initiate the appropriate
8 unit Aviation Mishap Response Plan.

9 **Unmanned Aircraft Systems**

10 **UAS Incursion Reporting Protocol**

- 11 • Fire personnel should immediately notify the ATGS if overhead, aircraft
12 over the incident, the IC and dispatch. Dispatch should report all
13 unauthorized UAS or drone activity immediately via SAFECOM
14 (<https://www.safecom.gov/>) and to the Federal Aviation Administration.

15 Reporting key points:

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

20 **Policy**

- 21 • UAS fire operations shall be conducted under the provisions of the *NWCG*
22 *Standards for Fire Unmanned Aircraft Systems Operations* (PMS 515).
23 • When UAS are flown for USFS/DOI work or benefit, Federal Aviation
24 Administration (FAA), USFS, and DOI regulations apply.
25 • All aircraft (to include UAS) purchase, lease, or acquisition **must** follow
26 department procurement policy and procedures.
27 • All aircraft and pilots employed by the USFS or DOI agencies **shall** be
28 credentialed in accordance with departmental policy.
29 • UAS flights under USFS operational control **must** adhere to USFS policy
30 and regulations regarding their use. Guidance can be found in FSM 5700
31 Zero Code, the *USFS National Aviation Safety and Management Plan* and
32 at <https://www.fs.fed.us/managing-land/fire/aviation/uas>.
33 • UAS flights under DOI operational control **must** adhere to DOI and agency
34 specific policy and regulations regarding their use. Guidance can be found
35 in the *Departmental Manual*, Parts 350-353, and Operational Procedures
36 Memorandum 11 at <https://www.doi.gov/aviation/library/opm>.
37 • UAS procured/owned/operated by cooperating agencies (state, local, and
38 International) may be utilized on federally-managed fires when cooperative
39 agreements are in place and the aircraft and pilot have been approved by
40 letter nationally or regionally.
41 • UAS flights conducted by non-participatory entities (e.g., media) must
42 adhere to FAA regulations.

- 1 • A Special Government Interest Waiver (SGI) must be issued for beyond
2 visual line of sight (BVLOS) operations within a TFR. SGI requests shall be
3 routed through the UAS Coordinator at 208-387-5335.

4 **Personnel**

- 5 • Four UAS positions are listed in the PMS 310-1:
6 ○ Unmanned Aircraft System Pilot (UASP)
7 ○ Unmanned Aircraft System, Data Specialist (UASD)
8 ○ Unmanned Aircraft System, Manager (UASM)
9 ○ Unmanned Aircraft System, Module Leader (UASL)

10 **Crew Composition**

- 11 • UAS operations are typically conducted under a crew (module) concept.
12 • Typical module configuration:
13 ○ Agency operated systems (Type 3 or 4): UASP and UASD
14 ○ Contract systems (Type 1 or 2): UASM and UASD
15 ○ Span of control for multiple UAS operations on the same incident can
16 be mitigated with UASL.

17 **Ordering**

- 18 • UAS personnel are ordered through established dispatch channels.
19 • Agency-owned UAS should be designated by make, model, and call sign in
20 the “Special Needs” section of the resource order.
21 • Federally contracted exclusive use and CWN UAS are national resources.
22 Geographic areas utilizing them will make them available for fires on a
23 priority basis.

24 **Operations**

- 25 • UAS flight crews utilize established procedures (e.g., Fire Traffic Area) for
26 coordinating flights with aerial supervision/on-scene aircraft.
27 • Large UAS (typically type 1 and 2) will launch and recover from a “Launch
28 and Recovery Zone” which should be designated on incident aviation
29 planning maps.
30 • Small (typically type 4) UAS are fireline portable and flights will be
31 conducted through established procedures.

32 **Key Points**

- 33 • UAS is an effective tool for situational awareness and data collection.
34 Determine the data objective before ordering the resource and flying the
35 mission.
36 • UAS ICS types are listed in the *NWCG Standards for Fire Unmanned
37 Aircraft Systems Operations* (PMS 515).
38 • UAS training, aircraft, sensors, and capabilities are listed on the Interagency
39 Fire UAS Subcommittee website (see below).
40 • Personally owned UAS or model aircraft **must not** be used by federal
41 agencies or their employees for interagency fire use.

- 1 • Individuals who are determined to have interfered with wildland fire
2 operations may be subject to civil penalties and criminal prosecution.

3 **Additional Information**

4 Interagency Fire UAS Subcommittee –

5 [https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-systems-](https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-systems-subcommittee)
6 [subcommittee](https://www.nwcg.gov/committees/interagency-fire-unmanned-aircraft-systems-subcommittee)

- 7 • **FAA** – <https://www.faa.gov/uas>
- 8 • **DOI** – <https://www.doi.gov/aviation/uas>
- 9 • **BLM** – <https://uas.nifc.gov/>
- 10 • **FS** – <https://www.fs.fed.us/managing-land/fire/aviation/uas>

11 **Airspace Coordination**

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

- 18 • **FS** – Refer to *FSH 5709.16, Chapter 30* for additional airspace
19 information.

20 An Airspace Coordinator (ASCO) should be ordered when incident aviation
21 activity is widespread and involves a number of complex TFRs, complex
22 airspace is involved, or difficult airspace conflict resolutions exist with various
23 agencies.

24 Airspace deconfliction is performed for both emergency and non-emergency
25 aviation activities.

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

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

34 Additional coordination information can be found at:

35 <https://www.nwcg.gov/committees/interagency-airspace-subcommittee>. See
36 “Roster” for agency members. Additional airspace coordination can be found by
37 contacting:

- 38 • **BLM** – *State Aviation Managers, National Airspace Program Manager*
- 39 • **NPS** – *Regional Aviation Managers*
- 40 • **FWS** – *National Aviation Safety Specialist*

- 1 • **FS** – National Airspace Program Manager
- 2 • **BIA** – Regional Aviation Managers

3 **Flight Request and Approval**

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

6 **Point-to-Point Flights**

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

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

- 22 • **BLM** – Reference the *BLM National Aviation Plan, Chapter 3*, available at
23 <https://www.nifc.gov/about-us/our-partners/blm>.
- 24 • **NPS** – Reference RM-60, Appendix 3 for agency specific policy.
- 25 • **FS** – Refer to FSH 5709.16 Chapter 30 and the *Forest Service*
26 *Administrative Use of Aircraft Desk Reference*.
- 27 • **BIA** – Reference the *BIA National Aviation Plan*.

28 **Mission Flights**

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

- 35 • PPE is required for any fixed wing mission flight conducted below
36 500’ AGL.
 - 37 ○ **DOI** – *Flight helmets may not be required for multi-engine airtanker*
38 *crews, smokejumper pilots and Leadplane/ASM flight/aircrew*
39 *members. Note: DOI requires a helmet for all special use missions 500*
40 *feet and below unless a waiver is obtained per the ALSE Handbook.*
41 *Refer to agency aviation policy to determine if ALSE waivers are in*
42 *place for your specific mission.*

- 1 ○ **FS** – *USFS does not require flight helmets for fixed wing special use*
2 *missions.*
- 3 • Required attire for ATGS and fire reconnaissance are:
4 ○ Leather shoes or boots; and
5 ○ Natural fiber shirt, full length cotton or Nomex pants, or flight suit.
- 6 • The use of full PPE is required for all helicopter flights (point to point and
7 mission) and associated ground operations. The specific items to be worn
8 are dependent on the type of flight, the function an individual is performing,
9 or the ground operation being conducted. Refer to the tables in Chapter 9 of
10 the *NWCG Standards for Helicopter Operations* for specific requirements.
- 11 • All personnel will meet training and qualification standards required for the
12 mission.
- 13 • Agency FM radio capability is required for all mission flights.
- 14 • All passengers must be authorized and all personnel onboard must be
15 essential to the mission.
- 16 ○ **FS** – *Special Use Mission Flight is any flight that is not point-to-point.*
17 *Special use mission flights require special pilot endorsements, flight*
18 *evaluations, training, and/or specialized aircraft equipment. For all*
19 *special use mission flights, all pilots and aircraft must be specifically*
20 *approved in writing for that flight.*
- 21 Mission flights for fixed-wing aircraft include but are not limited to the
22 following:
- 23 • Water or retardant application;
24 • Parachute delivery of personnel or cargo;
25 • Leadplane/ASM/Airtanker operations;
26 • Takeoff or landing requiring special techniques due to hazardous terrain,
27 obstacles, or surface conditions; and
28 • Aerial Supervision.
- 29 Mission helicopter flights include but are not limited to the following:
- 30 • Flights conducted within 500 feet AGL;
31 • Water or retardant application;
32 • Helicopter coordinator and ATGS operations;
33 • Aerial ignition activities;
34 • External load operations;
35 • Rappelling;
36 • Takeoff or landing requiring special techniques due to hazardous terrain,
37 obstacles, pinnacles, or surface conditions to include STEP – (Single
38 Skid/Toe-In/Exit-Entry Procedure);
39 • Free-fall cargo;
40 • Fire reconnaissance;
41 • Short-haul operations; and
42 • Night helicopter operations.

1 Low-level Flight Operations

2 The only fixed-wing aircraft missions authorized for low-level fire operations
3 are:

- 4 • Smokejumper/Para-cargo;
- 5 • Aerial Supervision Module (ASM) and Lead operations; and
- 6 • Aerial dispensing of retardant, water enhancers and water.

7 Operational Procedures

- 8 • A high-level recon will be made prior to low-level flight operations.
- 9 • All flights below 500 feet will be contained to the area of operation.

10 Congested Area Flight Operations

11 Airtankers can drop retardant in congested areas under DOI authority given in
12 *14 CFR Part 137*.

13 FS authority is granted under exemption 392, from *14 CFR Part 91.119* as
14 referenced in FSH 5709.16, Chapter 30. When such operations are necessary,
15 they may be authorized subject to these limitations:

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

28 Flight-Following All Aircraft

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

- 31 • Agency FM radio capability is required for all mission flights.
- 32 • For mission flights, there are two types of Agency Flight Following:
33 Automated Flight Following (AFF) and radio check-in. AFF is the preferred
34 method of agency flight following. If the aircraft and flight following office
35 have AFF capability, it shall be utilized. Periodic radio transmissions are
36 acceptable when utilizing AFF. Reference the AFF procedures section of
37 the *National Interagency Mobilization Guide* for more information.
- 38 • All dispatch centers designated for fire support shall have the ability to
39 monitor AFF as well as the capability to transmit and receive “National
40 Flight Following” and “Air Guard.”

- 1 • If AFF becomes inoperable the aircraft will normally remain available for
2 service, utilizing radio/voice system for flight following. Each occurrence
3 must be evaluated individually and decided by the COR/CO.
- 4 • Helicopters conducting Mission Flights shall check-in prior to and
5 immediately after each takeoff/landing per *NWCG Standards for Helicopter*
6 *Operations*.

7 **Sterile Cockpit All Aircraft**

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

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

24 **Interagency Interim Flight and Duty Limitations/Aviation Stand Downs**

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

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

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

38 Decisions and procedures for implementation will be made on a coordinated,
39 interagency basis, involving the GACC, NICC, and National Aviation
40 Representatives at NIFC and Aviation Contracting Officers. Details of the

1 proposal will be formalized and coordinated with other affected agencies and
2 implemented through the National Multi-Agency Coordinating Group (NMAC).

3 **Interim Flight and Duty Limitations Implementation**

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

9 Interim flight and duty limitations are written to apply to federal contract
10 resources. States may apply them if they so choose. The interim flight and duty
11 limitations can apply to agency pilots, but additional days off must be
12 coordinated with the agency pilot's supervisor and must follow federal pay and
13 leave regulations.

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

- 15 • 14-hour maximum duty day;
- 16 • 8 hours maximum daily flight time for mission flights;
- 17 • 10 hours for point-to-point, with a 2 pilot crew;
- 18 • A maximum of 42 hours flight time during any consecutive 6-day period.
19 When a pilot acquires 36 or more flight hours in a consecutive 6-day period,
20 the pilot shall be given the following day off. A new 6-day cycle shall begin
21 upon return from any day off;
- 22 • Minimum of 10 hours uninterrupted time off (rest) between duty periods;
23 and
- 24 • Two days off within any 14-day period.

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

- 31 • Any tactical aircraft flight crew member (airtanker, helicopter,
32 ASM/leadplane, SEAT or air attack) may request an additional day off in
33 conjunction with their normally scheduled day(s) off.
- 34 • The additional day off may be granted when requested. Flight crews are
35 encouraged to honestly assess their fatigue level and request an additional
36 day off if they believe it is needed.
- 37 • Aircraft availability will be paid when this occurs regardless of whether a
38 relief crew is provided or not.
- 39 • When an additional day off is granted, document this in the remarks section
40 of the aircraft payment document.
- 41 • In order to assure sufficient coverage, additional days off will need to be
42 coordinated within the currently assigned GACC and communicated to

1 national aviation managers. Coordinate with your aviation managers,
2 contracting officers and dispatch organizations to implement these actions.

3 ***Phase 2 – Interim Duty Limitations***

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

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

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

15 ***Phase 3 – Interim Duty Limitations***

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

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

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

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

36 **Aviation Assets**

37 Typical agency aviation assets include: Helitack or Rappel, Aerial Supervision
38 (ATGS, HLCO, Leadplane, and ASM), Large (multi-engine) Airtankers, Very
39 Large Airtankers (VLATs), Single Engine Airtankers (SEATs), and
40 Smokejumpers.

- 1 • **BLM** – All BLM acquired aircraft (exclusive use, On-Call, and CWN) are
2 available to move to areas of greatest Bureau need, thereby maximizing
3 efficiency and effectiveness. Specific authorities and responsibilities for
4 Field/State and National Offices are outlined earlier in this chapter. Offices
5 are expected to adhere to procedures established in the National Aviation
6 Plan for both acquisition and use reporting.
- 7 • **BLM** – Awaiting a resource order should not be allowed to affect the
8 response time for initial attack mobilization. Initial attack aircraft may be
9 launched to new incidents with just the location, bearing, distance and
10 flight following frequency. All other pertinent information will be provided
11 to aircrews while en route. See the BLM National Aviation Plan, 3.17.1, for
12 additional information.
- 13 • **NPS** – All NPS fire funded aircraft (fleet, exclusive use, On-Call and CWN)
14 are available to move to areas of greatest Bureau need, thereby maximizing
15 efficiency and effectiveness. Specific authorities and responsibilities for
16 Park, Regional and National Offices are outlined earlier in this chapter.
- 17 • **FS** – All FS aircraft (agency-owned, exclusive use, leased and CWN) are
18 available to move to areas of greatest agency need, thereby maximizing
19 efficiency and effectiveness. Forest Service units are expected to adhere to
20 procedures established in policy for acquisition and use reporting.
- 21 • **BIA** – All BIA acquired aircraft (exclusive use, On-Call, and CWN) are
22 available to move to areas of greatest Bureau need, thereby maximizing
23 efficiency and effectiveness. Specific authorities and responsibilities for
24 Regional/Agencies and National Offices are outlined in the National
25 Aviation Plan for both acquisition and use reporting.

26 Helitack

27 Helitack crews perform suppression and support operations to accomplish fire
28 and resource management objectives.

29 Organization – Crew Size

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

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

16 **Operational Procedures**

17 The NWCG Standards for Helicopter Operations (PMS 510) is policy for
18 helicopter operations.

19 **Communication**

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

26 **Transportation**

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

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

34 **Training and Experience Requirements**

35 All helitack members will meet fire qualifications as prescribed by the PMS
36 310-1 and their agency manual requirements. The following chart establishes
37 experience and training requirements for FS, BLM, NPS, FWS, and BIA
38 exclusive use, fire helicopter crew positions.

- 39 • **BIA** – Follows the guidance put forth in the National Aviation Plan in
40 regards to Fire Helicopter Position Standards.

41 Non-exclusive use HECMs and HMGBs should also meet the following
42 currency requirements.

- 1 **Note:** The *Interagency Aviation Training Guide* (December 2019) states
 2 additional aviation training requirements (A courses). The guide is available at
 3 https://www.iat.gov/docs/IAT_Guide.pdf.

4 **Exclusive Use Fire Helicopter Position Prerequisites**

Position ¹	Minimum Prerequisite Experience ²	Minimum Required Training ³	Currency Requirements
Fire Helicopter Crew Supervisor	One season ⁴ as an Assistant Fire Helicopter Crew Supervisor, ICT4, HMGB, HEBM		RT-372 ⁵ RT-130
Assistant Fire Helicopter Crew Supervisor	One season as a Fire Helicopter Squad Boss, ICT4, HMGB, HEBM(T)	ICS-200, S-215, S-219, S-260, S-270	RT-372 ⁵ RT-130
Fire Helicopter Squad Boss	One season as a Fire Helicopter Crewmember, FFT1, ICT5	S-211, S-212	RT-130
Fire Helicopter Crewmember	One season as a FFT2, HECM Task Book	S-271	RT-130

¹ All exclusive use Fire Helicopter positions require an arduous fitness rating.
² Minimum experience and qualifications required prior to performing in the exclusive use position. Each level must have met the experience and qualification requirements of the previous level(s).
³ Minimum training required to perform in the position. Each level must have met the training requirements of the previous level(s).
⁴ A “season” is continuous employment in a primary wildland fire position for a period of 90 days or more.
⁵ After completing S-372, must attend Interagency Helicopter Manager Workshop (RT-372) within three years and every three years thereafter.

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

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

- 13 Any rappel or cargo let-down programs must be approved by the appropriate
 14 agency national headquarters.
 15 • **BLM** – *BLM personnel involved in an Interagency Rappel Program must*
 16 *have SFMO approval.*
 17 • **NPS/BIA** – *Approval is required by the National Office.*
 18 • **FS** – *Approval is required by the National Office.*
 19 All rappel and cargo let-down operations will follow the *Interagency Helicopter*
 20 *Rappel Guide* (IHRG), as policy. Any exemption to the guide must be requested

1 by the program through the state/region for approval by the National Aviation
2 Office (BLM/NPS), or Director of Fire and Aviation (FS).

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

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

- 5 • *BLM – BLM STEP protocols are outlined in the BLM National Aviation*
6 *Plan.*
- 7 • *NPS – NPS STEP protocols are outlined in the NPS RM-60.*

8 **Emergency Medical Short-Haul**

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

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

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

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

- 21 • *NPS – Short Haul Operations Plan.*
- 22 • *FS – Emergency Medical Short-Haul Operations Plan (EMSHOP).*

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

26 **Aerial Ignition**

27 The *NWCG Standards for Aerial Ignition* (PMS 501) is policy for all aerial
28 ignition activities.

29 **Fire Chemical Avoidance Areas**

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

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

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

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

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

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

6 **Operational Procedures and Policy**

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

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

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

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

16 The ATGS coordinates incident airspace and manages incident air traffic. The
17 ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use
18 of aerial resources in support of incident objectives. Specific duties and
19 responsibilities are outlined in the *Wildland Fire Incident Management Field*
20 *Guide* (PMS 210) and the *NWCG Standards for Aerial Supervision* (PMS 505).

21 **Program Management**

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

27 **Training**

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

29 Field (flight) training assignments are coordinated and prioritized by the
30 Geographic Area Training Representatives and Agency Program
31 Manager/ATGS GACC Representatives.

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

34 **Operational Considerations**

- 35 • Ground resources will maintain consistent communication on assigned air
36 to ground frequencies with aerial supervision to maximize the safety,
37 effectiveness, and efficiency of aerial operations.
- 38 • Relief aerial supervision should be ordered for sustained operations to
39 ensure continuous coverage over an incident.

- 1 • Personnel who are performing aerial reconnaissance and detection will not
2 perform aerial supervision duties unless they are fully qualified as an
3 ATGS.
- 4 • ATGS aircraft must meet the aircraft/avionics typing requirements listed in
5 the *NWCG Standards for Aerial Supervision* and the pilot must be carded to
6 perform the air tactical mission. Rotor-wing pilots are not required to be
7 carded for air tactical missions.

8 **Leadplane**

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

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

16 **Aerial Supervision Module (ASM)**

17 The ASM is a national shared resource.

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

23 The LPIL is primarily responsible for aircraft coordination over the incident.

24 The AITS develops strategy and implements tactical plans through coordination
25 with the IC or designee.

26 **Operational Considerations**

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

29 Aerial or incident complexity and environmental considerations will dictate
30 when the ASM ceases low-level operations. The ASM flight crew has the
31 responsibility to determine when the complexity level of the incident exceeds
32 the capability to perform both ATGS and leadplane functions from one aircraft.
33 The crew will request additional supervision resources, or modify the operation
34 to maintain mission safety and efficiency.

35 **Policy**

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

1 Aerial Supervision Module Program Training and Qualifications

2 Training and qualification requirements for ASM crewmembers are defined in
3 the *NWCG Standards for Aerial Supervision*.

4 Aerial Supervision Coordination

5 National coordination and management of leadplane and ASM aircraft and
6 staffing is required to ensure there is aerial supervision coverage, response and
7 capability nationwide. The Forest Service Aerial Supervision Program Manager
8 and Forest Service Fixed-wing Coordinator coordinate and manage aerial
9 supervision staffing, aircraft readiness and availability, capability, and response
10 with pilots, aerial supervisors, regional aviation staff, Bureau of Land
11 Management National Aviation Office staff, and the National Interagency
12 Coordination Center.

13 Reconnaissance or Patrol Flights

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

24 Airtankers

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

32 Host GACCs will check with NICC prior to releasing flight crews on Type 1
33 and Type 2 airtankers and VLATs for the day when those resources are not
34 being used within the host area, and could be utilized elsewhere for emerging or
35 ongoing fire activity.

36 Large airtankers are primarily used for initial attack and are initial attack capable
37 without leadplane/ASM supervision. Very large airtankers are primarily used for
38 large fire support and require leadplane/ASM supervision to be on scene prior to
39 arriving on the fire.

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

- 1 For aviation safety and policy concerning wildland fire chemicals see Chapter
2 12 (Suppression Chemicals and Delivery Systems).
- 3 Federal airtankers are owned and operated by commercial vendors. Some states
4 may contract for commercially-owned airtankers, own airtankers or order
5 airtankers through Compacts either state-to-state or state-to-Canadian Province.
6 The management of airtankers is governed by:
- 7 • *BLM* – The requirements of the DM, BLM NAP, and BLM Manual 9400.
 - 8 • *FS* – Airtankers operate in accordance with 14 CFR Part 137, specific
9 contracts, Grants of Exemption, Forest Service Manual (5700) and
10 Handbook (5709.16) and the Forest Service Standards for Airtanker
11 Operations.
 - 12 • *BIA* – The requirements of the DM and BIA NAP.

13 **Airtanker Types**

14 Airtankers are typed according to their load capacity
15 (<https://www.nwcg.gov/publications/pms200>):

- 16 • Very Large Air Tankers (VLAT) – 8,000 gallons or more
- 17 • Type 1 – 3,000 to 4,999 gallons
- 18 • Type 2 – 1,800 to 2,999 gallons
- 19 • Type 3 – 800 to 1,799 gallons
- 20 • Type 4 – up to 799 gallons

21 **Very Large Airtankers (VLATs)**

22 VLATs have some unique operational considerations including low-level
23 supervision, terrain, airtanker base ramp operations and operations in the Fire
24 Traffic Area (FTA).

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

40 **State of Alaska Airtankers**

41 Canadian registered CV-580 airtankers under contract to the State of Alaska can
42 be mobilized to the lower 48 as approved cooperator aircraft. Prior to
43 mobilization to the lower 48, ordering agencies should confirm that current

1 cooperator letters are in place for the requested aircraft and pilots permitting
2 operations in the lower 48 states. These airtankers have been approved by OAS
3 under 351 DM 4 and OPM-53 for interagency use. Operationally they can be
4 used similar to other federally-contracted airtankers and can be directed by U.S.
5 ASM/leadplanes or Canadian Bird Dogs.

6 **Canadian Airtankers and Water Scoopers**

7 Canadian airtankers and scoopers can be activated through the NIFC/CIFFC
8 agreement or through Compacts (US State-to-Canadian Province). These
9 Canadian airtankers and water scoopers typically operate as a “group” with
10 Canadian Bird Dogs as part of their operational model. Bird Dogs have a
11 Canadian Air Attack Officer (AAO) on board and function similar to a U.S.
12 ASM.

- 13 • NIFC/CIFFC Ordered Canadian Aircraft – Aircraft ordered through the
14 National Interagency Fire Center agreement with the Canadian Interagency
15 Forest Fire Center may be used on federal lands if the aircraft have been
16 inspected and approved by USDA Forest Service/ Department of the
17 Interior letter.
- 18 • Compact Ordered Aircraft – Aircraft and flight crews ordered through U.S.
19 State to Canadian Province compacts will be considered non-federally
20 approved Cooperator aircraft, unless they have been previously inspected
21 and approved by the USDA Forest Service/ Department of the Interior.

22 The standard operating procedure for the Canadian Airtanker and Water Scooper
23 Groups is as follows:

- 24 • Canadian airtankers must be supervised by a Bird Dog or U.S.
25 ASM/leadplane, and must include at a minimum a low level “show me”
26 pass.
- 27 • Canadian Bird Dogs may provide low level target identification runs
28 (“show me” pass) for either Canadian or US contracted airtankers.
- 29 • Canadian Bird Dogs are not authorized to “lead” U.S. federally-contracted
30 airtankers.
- 31 • Canadian Bird Dogs can perform the functions of an ATGS.
- 32 • U.S. ASM/leadplanes are authorized to “lead” Canadian airtankers.
- 33 • Canadian water scoopers can operate with or without their Bird Dog. They
34 do not require aerial supervision unless they request it.

35 **Airtanker Rotation**

36 The federal national airtanker fleet includes a mix of Exclusive Use (EU), Call
37 When Needed (CWN)/On-Call Type 1 and Type 2 airtankers (Large
38 Airtankers/LATs), Very Large Airtankers (VLATs), or Single Engine Airtankers
39 (SEATs). To ensure consistent utilization, rotation, and management of the
40 national airtanker fleet, the following is interagency direction for the
41 management of airtanker rotation and supplements direction contained in
42 *NWCG Standards for Airtanker Base Operations (SABO)* (PMS 508).

1 All LATs, VLATs and SEATs (including federally-approved Cooperator and
2 Canadian) operating from the same base shall be dispatched in rotation based on
3 the type of airtanker requested on a first in/first out basis regardless of contract
4 type (EU, CWN/On-Call or Forest Service owned) or the location of the
5 incident.

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

14 **Exceptions**

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

1 Rotation of State Airtankers

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

4 In cases where federally-approved State airtankers are operated in conjunction
5 with federally-contracted airtankers on an incident primarily on federal lands,
6 the State airtankers are added to the rotation after the federal airtankers at the
7 beginning of each day.

8 Additional Information

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

14 Airtanker Payloads

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

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

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

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

32 Large and Very Large Airtanker Coordination

33 National coordination and management of Forest Service contracted airtankers
34 is required to ensure there is airtanker coverage, response, and capability
35 nationwide. The Forest Service Airtanker Program Manager and Forest Service
36 Fixed-wing Coordinator coordinate and manage airtanker readiness and
37 availability, capability, and response with vendors, National Aviation staff, and
38 the National Interagency Coordination Center.

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 Airtanker Base Manager (ATBM)
8 prior to operations out of the airtanker base airport. All personnel conducting
9 airtanker base operations should review the *SABO* and have it available. ATBMs
10 are authorized to manage Single Engine Airtankers (SEAT), the ATBM should
11 review the *NWCG Standards for Airtanker Base Operations (SABO)* and have it
12 available. Both Large Airtankers as well as SEATs have applicable aircraft
13 contracts that will be available for reference, as well as the National Long-Term
14 Fire Retardant Contract.

15 Regions, States, and GACC shall coordinate airtanker base activation and
16 closing dates with the appropriate agency Airtanker Base Specialist to ensure
17 national airtanker response and capability is maintained.

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

20 Loading Operations

21 Forest Service contracted airtankers and Modular Airborne Firefighting System
22 (MAFFS) airtankers shall be loaded using a Mass Flow Meter to measure the
23 payload in pounds. Refer to the Forest Service Airtanker Operations Plan for
24 more information.

25 <https://www.fs.fed.us/managing-land/fire/aviation/publications>

26 Airtanker Base Personnel

27 There is identified training for the positions at airtanker bases; the *SABO*
28 contains descriptions of Airtanker Base support positions and their roles and
29 responsibilities. The *NWCG Standards for Wildland Fire Position*
30 *Qualifications* (PMS 310-1) lists required training for these positions.

31 The ATBM provides supervision and coordination of airtanker base operations.
32 The ATBM may report to the local Aviation Manager and/or Incident Aviation
33 Manager.

34 Startup/Cutoff Time for Multi Engine Airtankers

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

36 Single Engine Airtankers**37 Single Engine Airtanker (SEAT) Operations, Procedures, and Safety**

38 The *NWCG Standards for Airtanker Base Operations (SABO)* (PMS 508)
39 defines operating standards and is policy for both the DOI and FS. All
40 permanent and temporary SEAT bases will have a SEAT Base Operating Plan,

1 and a qualified Single Engine Airtanker Manager (SEMG) or ATBM prior to
2 operations out of the SEAT base airport.

3 **Single Engine Airtanker Manager Position**

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

9 The SEMG provides supervision and coordination of SEAT base operations and
10 base support personnel. The SEMG may report to the local Aviation Manager,
11 Incident Aviation Manager, or ATBM if applicable. SEMG's assist in ensuring
12 adherence to contract regulations, safety and policy requirements, and fiscal
13 accountability.

14 **Operational Procedures**

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

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

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

25 **Multi-Engine Water Scoopers**

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

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

34 **Smokejumper Pilots**

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

1 **Helicopters**2 **Helicopter Types**

3 The minimum specifications for the typing of helicopters are by allowable
 4 payload, number of passenger seats and water or retardant carrying capability
 5 (<https://www.nwcg.gov/publications/pms200>).

6 **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

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

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

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

23 The *Military Use Handbook* will be used when planning or conducting aviation
 24 operations involving regular military aircraft. Ordering military resources is
 25 done through the National Interagency Coordination Center (NICC); National
 26 Guard resources are utilized through local or state Memorandum of
 27 Understanding (MOU).

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

29 The *MAFFS Operating Plan* (available from the National Interagency
 30 Coordination Center) will be used when planning or conducting aviation
 31 operations involving MAFFS military aircraft. Ordering MAFFS is done
 32 through the National Interagency Coordination Center (NICC); MAFFS are

1 utilized through a national agreement (see the *National Interagency*
2 *Mobilization Guide*). Several states have the ability to activate MAFFS through
3 separate agreements that do not require ordering through NICC.

4 **Cooperator Aircraft**

5 Cooperator contracted aircraft also on an existing federal contract with federal
6 aircraft and pilot cards may be utilized on federally-managed fires when
7 cooperative agreements are in place and the aircraft have been approved by
8 USDA Forest Service/ Department of the Interior letter.

9 Cooperator exclusive use contracted aircraft not on an existing federal contract
10 with federal aircraft and pilot cards may be considered for approval on a case by
11 case basis when cooperative agreements are in place.

12 Cooperator owned or operated aircraft may be utilized on federally-managed
13 fires when cooperative agreements are in place and the aircraft have been
14 approved by USDA Forest Service/ Department of the Interior letter.

15 All Cooperator used on federally-managed fires must be approved by USDA
16 Forest Service/ Department of the Interior letter.

17 Utilization of approved Cooperator aircraft shall be limited based on 49 United
18 States Code §40125.

- 19 • All approved Cooperator aircraft used on federally-managed fires shall be
20 released when federal aircraft become reasonably available.
- 21 • The use of Cooperator aircraft must involve a “significant and imminent
22 threat to life or property” documented daily on the Cooperator Aircraft Use
23 Validation Worksheet (*National Interagency Mobilization Guide*, Chapter
24 80 Forms) to document the justification for aircraft utilization.

25 **Non-Federally Approved Cooperator Aircraft**

26 Cooperator aircraft that have not been approved by USDA Forest Service/
27 Department of the Interior letter may be utilized on federal lands when and
28 where the Cooperator is the protecting agency in a reciprocal or off-set
29 agreement or when Cooperator lands are threatened and the state maintains
30 operational control of the aircraft.

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

- 32 • No federal employees are allowed to ride on board the aircraft.
- 33 • No federal employee may be assigned to a position that exercises
34 contractual control.
- 35 • Federal personnel may load retardant at federal airtanker bases, regardless
36 of jurisdiction.
- 37 • Federal personnel may provide aerial supervision (ATGS, ASM, HLCO,
38 leadplane) under existing standard procedures and agreements.
- 39 • They remain under state operational control regardless of the agency
40 affiliation of the firefighters directing the aircraft on an incident with state
41 jurisdiction.

- 1 • They are approved to interact with federal dispatch personnel as long as the
2 aircraft remains under the operational control of the state or for safety
3 reasons.
- 4 Under emergency circumstances, where **human life is immediately at risk** by
5 wildland fire on lands under federal protection, a federal line officer can approve
6 the use of non-federally approved aircraft. This exemption must only take place
7 when sufficient federal firefighting aircraft are not readily available to meet the
8 emergency need. Federal line officers are encouraged to consult with their
9 agency aviation management personnel to aid in decision-making.
- 10 As exemptions are exercised, they must be documented by the approving federal
11 line officer in accordance with their agencies guidance to include submitting a
12 SAFECOM (<https://www.safecom.gov/>) within 24 hours.