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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.

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). OAS has no operational responsibility. 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

4 **Forest Service (FS)**

5 The FS has responsibility for all aspects of its aviation program, including
6 aviation policy and budget development, aircraft acquisition, pilot
7 standardization, and maintenance management. In addition, the FS has
8 operational responsibility for functional oversight of aviation assets and
9 facilities, accident investigation, and aircraft and pilot inspection.

10

11 The Assistant Director (AD), Aviation, is responsible to the Director of Fire and
12 Aviation Management for the management and supervision of the National
13 Headquarters Office in Washington DC, and the detached Aviation Unit in
14 Boise. The AD, Aviation provides leadership, support and coordination for
15 national and regional aviation programs and operations. (Refer to FSM 5704.22
16 for list of responsibilities.)

17

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

20

21 The Branch Chief, Pilot Standardization reports to the AD, Aviation, and is
22 responsible for pilot standardization and approval of agency and contract pilots.

23

24 The Branch Chief, Airworthiness reports to the AD, Aviation, and is responsible
25 for national aircraft airworthiness and maintenance program management and
26 oversight.

27

28 The Branch Chief, Aviation Business Operations reports to the AD, Aviation
29 and is responsible for policy maintenance and development, budget
30 development, and planning.

31

32 The Aviation Strategic Planner reports to the AD, Aviation and is responsible
33 for strategic planning and reporting.

34

35 The Branch Chief, Aviation Safety Management Systems reports to the AD,
36 Risk Management and Training, and is responsible for the national aviation
37 safety and risk management program and oversight.

38

39 **State/Regional Office**

- 40 • *BLM - State FMOs are responsible for providing oversight for aircraft*
41 *hosted in their state. State FMOs have the authority and responsibility to*
42 *approve, with National Office concurrence, acquisition of supplemental*
43 *aircraft resources within their state. State FMOs have the authority to*
44 *prioritize the allocation, pre-positioning and movement of all aircraft*
45 *assigned to the BLM within their state. State Offices will coordinate with*
46 *the National Office on movement of their aircraft outside of their State. A*

- 1 *State Aviation Manager (SAM) is located in each state office. SAMs are*
2 *delegated as the Contracting Officers Representative (COR) for all*
3 *exclusive use aircraft hosted by their state. SAMs implement aviation*
4 *program objectives and directives to support the agency mission and state*
5 *objectives. A state aviation plan is required to outline the state aviation*
6 *program objectives and to identify state specific policy and procedures.*
- 7 ● *NPS/FWS - A Regional Aviation Manager (RAM) is designated for each*
8 *Region. RAMs implement aviation program objectives and directives to*
9 *support the agency mission and Region objectives. Several Regions have*
10 *additional support staff, and/or pilots assigned to support aircraft*
11 *operations and to provide technical expertise. A Regional aviation*
12 *operations and management plan is required to outline the Region's*
13 *aviation program objectives and to identify Region-specific policy and*
14 *procedures.*
 - 15 ● *FS - Regional Aviation Officers (RAOs) are responsible for directing and*
16 *managing Regional aviation programs in accordance with the National and*
17 *Regional Aviation Management Plans, and applicable agency policy*
18 *direction. (Refer to FSM 5700 and FSH 5709.16 for list of responsibilities).*
19 *RAOs report to Director of Fire and Aviation for their specific Region.*
20 *Regional Aviation Safety Managers (RASMs) are responsible for aviation*
21 *safety in their respective Regions, and work closely with the RAO to ensure*
22 *aviation safety is an organizational priority (refer to FSM 5700 and FSH*
23 *5709.16 for list of responsibilities). Most Regions have additional aviation*
24 *technical specialists and pilots who help manage and oversee the Regional*
25 *aviation programs. Most Regions also have Aviation Maintenance*
26 *Inspectors, Fixed-wing Program Managers, Helicopter Program Managers,*
27 *Helicopter Operations Specialists, Inspector Pilots, etc.*

28

29 **Local Office**

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

- 32 ● *BLM - Unit Aviation Managers (UAMs) serve as the focal point for the*
33 *Unit Aviation Program by providing technical expertise and management of*
34 *aviation resources to support Field Office/District programs. Field/District*
35 *Offices are responsible for hosting, supporting, providing daily*
36 *management, and dispatching all aircraft assigned to their unit.*
37 *Field/District Offices have the authority to request additional resources; to*
38 *establish priorities, and make assignments for all aircraft assigned to the*
39 *BLM within their unit or zone.*
- 40 ● *NPS - Organizational responsibility refer to DO-60, RM-60.*
- 41 ● *FS - Unit Aviation Officers (UAOs)/Forest Aviation Officers (FAOs) have*
42 *the responsibility for aviation activities at the local level, including aviation*
43 *mission planning, risk management and safety, supervision, and evaluation.*
44 *UAOs/FAOs assist Line Officers with risk assessment/management and cost*
45 *analysis. (Refer to FSH 5709.16_10.42)*

46

Aviation Information Resources

- Aviation reference guides and aids for agency aviation management are listed for policy, guidance, and specific procedural requirements.
- **BLM** - *9400 Manual Appendix 1, National Aviation Plan (NAP) and applicable aviation guides as referenced in the NAP.*
 - **FWS** - *Service Manual 330-339, Aviation Management and IHOG.*
 - **NPS** - *RM-60 Aviation Management Reference Manual and IHOG & IASG.*
 - **FS** - *FSM 5700, FSH 5709.16 and applicable aviation guides when approved and referenced in policy.*
- Safety alerts, operational alerts, instruction memoranda, information bulletins, incident reports, and other guidance or information are issued as needed.
- An up-to-date library with aviation policy and procedural references will be maintained at all permanent aviation bases, dispatch, and aviation management offices.

Aviation Safety

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

SMS focuses on:

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

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

Risk Assessment and Risk Management

The use of risk management will help to ensure a safe and successful operation. Risk is the probability that an event will occur. Assessing risk identifies the

- 1 hazard, the associated risk, and places the hazard in relationship to the mission.
2 A decision to conduct a mission requires weighing the risk against the benefit of
3 the mission and deciding whether the risks are acceptable.
4
5 Aviation missions always have some degree of risk. The four sources of hazards
6 are methods, medium, man, and machine. Managing risk is a 5-step process:
7 1. Identify hazards associated with all specified and implied tasks for the
8 mission.
9 2. Assess hazards to determine potential of occurrence and severity of
10 consequences.
11 3. Develop controls to mitigate or remove risk, and make decisions based on
12 accepting the least risk for the best benefit.
13 4. Implement controls - (1) education controls, (2) physical controls, and (3)
14 avoidance controls.
15 5. Supervise and Evaluate - enforce standards and continuously re-evaluate
16 their effectiveness in reducing or removing risk. Ensure that controls are
17 communicated, implemented, and enforced.
18

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

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

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

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

37
38 Individuals will directly inform their supervisor that they are turning down the
39 assignment as given. The most appropriate means of documented turn down
40 criteria is using the Aviation Watch Out Situations (*IRPG*).
41

42 Supervisors will notify the Air Operations Branch Director (AOBD) or unit
43 aviation leadership immediately upon being informed of a turn down. If there is
44 no AOBD, notification shall go to the appropriate Section Chief, the Incident
45 Commander or local fire and aviation staff. Proper handling of turn downs

1 provides accountability for decisions and initiates communication of safety
2 concerns within the incident organization.
3
4 If the assignment has been turned down previously and the supervisor asks
5 another resource to perform the assignment, he or she is responsible to inform
6 the new resource that the assignment had been turned down and the reasons
7 why. Furthermore, personnel need to realize that a “turn down” does not stop
8 the completion of the assigned operation. The “turn down” protocol is an
9 integral element that improves the effective management of risk, for it provides
10 timely identification of hazards within the chain of command, raises risk
11 awareness for both leaders and subordinates, and promotes accountability.
12
13 If an unresolved safety hazard exists the individual needs to communicate the
14 issue/event/concern immediately to his or her supervisor and document as
15 appropriate.
16

17 **Aviation Safety Support**

18 **Aviation Safety Assistance Team (ASAT)**

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

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

36 **Aviation Safety Briefing**

37 Every passenger must receive a briefing prior to each flight. The briefing is the
38 responsibility of the Pilot in Command (PIC) but may be conducted by the pilot,
39 flight manager, helicopter manager, fixed-wing base manager, or an individual
40 with the required training to conduct an aviation safety briefing. The pilot
41 should also receive a mission briefing from the government aircraft manager.
42 Refer to the *IRPG* and *IHOG* Chapter 10.
43
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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 PPE or Aviation Life Support Equipment (ALSE);
- 12 • Failure to meet qualification standards or training requirement;
- 13 • Extreme environmental conditions;
- 14 • Improper ground operations;
- 15 • Improper pilot procedures;
- 16 • Fuel contamination; and
- 17 • Unsafe actions by pilot, air crew, passengers, or support personnel.

18
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 (IHOG).

27 Aerial Applications of Wildland Fire Chemical Safety

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

31 SAFECOM

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

1 Any individual (including vendors/cooperators) with knowledge of an
2 incident/hazard should complete a SAFECOM. The SAFECOM form,
3 including attachments and pictures, should be entered directly on the internet at
4 <https://www.safecom.gov/> or faxed to the Department of the Interior's Office of
5 Aviation Services, Aviation Safety (208)433-5069 or to the FS at (208) 387-
6 5735 ATTN: SAFETY. Electronic cc copies are automatically forwarded to the
7 National, Regional, State, and Unit Aviation Managers.

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

12 **Aircraft Incidents/Accidents**

13
14
15 Notification to the FS or OAS and DOI agency Aviation Safety Managers is
16 required for any aircraft mishap involving damage or injury. Use the hotline
17 (888) 464-7427 or the most expeditious means possible. Initiate the appropriate
18 unit Aviation Mishap Response Plan.

19 **Low-level Flight Operations**

20
21
22 The only fixed-wing aircraft missions authorized for low-level fire operations
23 are:

- 24 • Smokejumper/Para-cargo;
- 25 • Aerial Supervision Module (ASM) and Lead operations; and
- 26 • Retardant, water, and foam application.

27 **Operational Procedures:**

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

33 **Congested Area Flight Operations**

34
35
36
37 Airtankers can drop retardant in congested areas under DOI authority given in
38 *FAR Part 137*.

39
40 FS authority is granted under exemption 392, from *FAR 91.119* as referenced in
41 *FSM 5714*. When such operations are necessary, they may be authorized subject
42 to these limitations:

- 43 • Airtanker operations in congested areas may be conducted at the request of
44 the city, rural fire department, county, state, or federal fire suppression
45 agency;

- 1 • An ASM/Lead/ATCO is ordered to coordinate aerial operations;
- 2 • The air traffic control facility responsible for the airspace is notified prior to
3 or as soon as possible after the beginning of the operation;
- 4 • A positive communication link must be established between the ASM or
5 Lead/ATCO, airtanker pilot(s), and the responsible fire suppression agency
6 official; and
- 7 • The IC for the responsible fire agency or designee will advise the
8 ASM/leadplane/airtanker that all non-essential people and movable property
9 have been cleared prior to commencing retardant drops.

10

11 **Airspace Coordination**

12

13 The Interagency Airspace Program is an aviation safety program designed to
14 enhance aviation safety and reduce the risk of a mid-air collision. Guidance for
15 this program is found in the *Interagency Airspace Coordination Guide (IACG)*,
16 which has been adopted as policy by the DOI and FS. It is located at
17 www.airspacecoordination.net. Additional guidance may be found in the
18 *National Interagency Mobilization Guide* and supplemented by local
19 Mobilization Guides.

20

21 Some state and FS units have Memorandums of Understanding (MOUs) with
22 local military airspace authorities for airspace coordination. Briefings from Unit
23 Aviation Managers/Officers (UAM/UAO) are crucial to ensure that any local
24 airspace information is coordinated before flight.

25

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

30

31 Additional coordination information can be found by contacting:

- 32 • **BLM** - *State Aviation Managers, National Airspace Program Manager*
- 33 • **NPS** - *Regional Aviation Managers*
- 34 • **FS** - *Regional Aviation Officers, National Airspace Program Manager*
- 35 • **FWS** - *National Aviation Safety and Operations*

36

37 **Flight Request and Approval**

- 38 • **BLM** – *Reference the BLM National Aviation Plan, Chapter 3, available at:*
39 *<http://www.blm.gov/mifc/st/en/prog/fire/Aviation/Administration.html>*
- 40 • **NPS** - *Reference RM 60, Appendix 3 & 4.*
- 41 • **FS** - *Refer to FSM 5711.3 for administrative use, FSM 5705 for point-to-*
42 *point and mission use for types of FS flights.*

43

44

45

1 **Point-to-Point Flights**

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

9
10 Agency policy requires designating a Flight Manager for point-to-point flights
11 transporting personnel. The Flight Manager is a government employee that is
12 responsible for coordinating, managing, and supervising flight operations. The
13 Flight Manager is not required to be on board for most flights. For those flights
14 that have multiple legs or are complex in nature a Flight Manager should attend
15 the entire flight. The Flight Manager will meet the qualification standard for the
16 level of mission assigned as set forth in the *Interagency Aviation Training Guide*
17 (IAT).

- 18 • **BLM** –Reference the *BLM National Aviation Plan, Chapter 3*, available at:
19 <http://www.blm.gov/nifc/st/en/prog/fire/Aviation/avllibrary.html>
- 20 • **NPS** - Reference *RM-60, Appendix 3* for agency specific policy.
- 21 • **FS** - Refer to *FSM 5711.3* for administrative use, *FSM 5705* for point-to-
22 point and mission use for types of FS flights.

24 **Mission Flights**

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

- 31 • PPE is required for any fixed wing mission flight conducted below
32 500’ AGL. Flight helmets are not required for multi-engine airtanker crews,
33 smokejumper pilots and ASM flight/aircrew members.
- 34 • Required attire for ATGS and fire reconnaissance are:
 - 35 ○ Leather shoes or boots; and
 - 36 ○ Natural fiber shirt, full length cotton or nomex pants, or flight suit.
- 37 • The use of full PPE is required for all helicopter flights (point to point and
38 mission) and associated ground operations. The specific items to be worn
39 are dependent on the type of flight, the function an individual is performing,
40 or the ground operation being conducted. Refer to the tables in Chapter 9 of
41 the IHOG for specific requirements.
- 42 • All personnel will meet training and qualification standards required for the
43 mission.
- 44 • Agency FM radio capability is required for all mission flights.

- 1 • All passengers must be authorized and all personnel onboard must be
2 essential to the mission.
3
- 4 Mission flights for fixed-wing aircraft include but are not limited to the
5 following:
- 6 • Water or retardant application;
 - 7 • Parachute delivery of personnel or cargo;
 - 8 • Airtanker coordinator operations; and
 - 9 • Takeoff or landing requiring special techniques due to hazardous terrain,
10 obstacles, or surface conditions
- 11
- 12 Mission helicopter flights include but are not limited to the following:
- 13 • Flights conducted within 500 feet AGL;
 - 14 • Water or retardant application;
 - 15 • Helicopter coordinator and ATGS operations;
 - 16 • Aerial ignition activities;
 - 17 • External load operations;
 - 18 • Rappelling;
 - 19 • Takeoff or landing requiring special techniques due to hazardous terrain,
20 obstacles, pinnacles, or surface conditions;
 - 21 • Free-fall cargo; and
 - 22 • Fire reconnaissance.
- 23

24 **Flight-Following All Aircraft**

- 25
- 26 Flight-Following is mandatory for all flights. Refer to the *National Interagency*
27 *Mobilization Guide* for specific direction.
- 28 • Agency FM radio capability is required for all mission flights.
 - 29 • For mission flights, there are two types of Agency Flight Following:
30 Automated Flight Following (AFF) and radio check-in. AFF is the preferred
31 method of agency flight following. If the aircraft and flight following office
32 have AFF capability, it shall be utilized. Periodic radio transmissions are
33 acceptable when utilizing AFF. Reference the AFF procedures section of
34 the *National Interagency Mobilization Guide* for more information.
 - 35 • All dispatch centers designated for fire support shall have the ability to
36 monitor AFF as well as the capability to transmit and receive “National
37 Flight Following” and “Air Guard”.
 - 38 • If AFF becomes inoperable the aircraft will normally remain available for
39 service, utilizing radio/voice system for flight following. Each occurrence
40 must be evaluated individually and decided by the COR/CO.
 - 41 • Helicopters conducting Mission Flights shall check-in prior to and
42 immediately after each takeoff/landing per IHOG 4.II.E.2.
- 43
44
45

1 Sterile Cockpit All Aircraft

2

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

12

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

20

21 Interagency Interim Flight and Duty Limitations/Aviation Stand Downs

22

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

27

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

32

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
36 flight and duty limitations, or proposed stand down parameters, will be made
37 through the National Aviation Office through which it originated.

38

39 Decisions and procedures for implementation will be made on a coordinated,
40 interagency basis, involving the GACC, NICC, and National Aviation
41 Representatives at NIFC and Aviation Contracting Officers. Details of the
42 proposal will be formalized and coordinated with other affected agencies and
43 implemented through the National Multi Agency Coordinating Group (NMAC).

44

45

46

1 **Interim Flight and Duty Limitations Implementation**

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

7
8 **Phase 1 - Standard Flight and Duty Limitations (Abbreviated Summary):**

- 9 • Fourteen (14) hour maximum duty day;
- 10 • Eight (8) hours maximum daily flight time for mission flights;
- 11 • Ten (10) hours for point-to-point, with a two (2) pilot crew;
- 12 • Maximum cumulative flight hours of thirty-six (36) hours, up to forty-two
13 (42) hours in six (6) days; and
- 14 • Minimum of ten (10) hours uninterrupted time off (rest) between duty
15 periods.

16
17 This does not diminish the authority or obligation of any individual COR
18 (Contracting Officer Representative) or Aviation Manager to impose shorter
19 duty days or additional days off at any time for any flight crew members for
20 fatigue. This is currently provided for in agency direction and contract
21 specifications.

22
23 **Phase 2 - Interim Duty Limitations**

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

26
27 Each flight crew member shall be given an additional day off each fourteen (14)
28 day period. Crews on a twelve (12) and two (2) schedule shall have three (3)
29 consecutive days off (11 and 3). Flight crews on six (6) and one (1) schedules
30 shall work an alternating weekly schedule of five (5) days on, two (2) days off,
31 then six (6) days on and one (1) day off.

32
33 Aircraft fixed daily rates and special rates, when applicable, shall continue to
34 accrue during the extra day off. Contractors may provide additional approved
35 crews to maximize utilization of their aircraft. All costs associated with
36 providing the additional crew will be at the contractor's expense, unless the
37 additional crew is requested by the Government.

38
39 **Phase 3 - Interim Duty Limitations**

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

43
44 Flight crew members shall have a minimum of twelve (12) consecutive hours of
45 uninterrupted rest (off duty) during each duty day cycle. The standard duty day
46 shall be no longer than twelve (12) hours, except a crew duty day extension shall

1 not exceed a cumulative fourteen (14) hour duty day. The next flight crew rest
2 period shall then be adjusted to equal the extended duty day, i.e., thirteen (13)
3 hour duty day, thirteen (13) hours rest; fourteen (14) hour duty day, fourteen
4 (14) hours rest. Extended duty day applies only to completion of a mission. In
5 no case may standby be extended beyond the twelve (12) hour duty day.

6
7 Double crews (two (2) complete flight crews assigned to an aircraft), augmented
8 flight crews (an additional pilot-in-command assigned to an aircraft), and
9 aircraft crews that work a rotating schedule, i.e., two (2) days on, one (1) day
10 off, seven (7) days on, seven (7) days off, or twelve (12) days on, twelve (12)
11 days off, may be exempted from Phase 2 Limitations upon verification that their
12 scheduling and duty cycles meet or exceed the provisions of Paragraph a. of
13 Phase 2 and Phase 1 Limitations.

14
15 Exemptions of Phase 3 provisions may be requested through the local Aviation
16 Manager or COR, but must be approved by the FS RAO or DOI Area Aviation
17 Manager.

19 Aviation Assets

20
21 Typical agency aviation assets include: Helitack or Rappel, Aerial Supervision
22 (ATGS, Lead, and ASM), Large (multi-engine) Airtankers, Very Large
23 Airtankers (VLATs), Single Engine Airtankers (SEATs), and Smokejumpers.

- 24 • **BLM** - All BLM acquired aircraft (exclusive use, On-Call, and CWN) are
25 available to move to areas of greatest Bureau need, thereby maximizing
26 efficiency and effectiveness. Specific authorities and responsibilities for
27 Field/State and National Offices are outlined earlier in this chapter.
28 Offices are expected to adhere to procedures established in the National
29 Aviation Plan for both acquisition and use reporting.

31 Helitack

32
33 Helitack crews perform suppression and support operations to accomplish fire
34 and resource management objectives.

36 Organization - Crew Size

- 37 • **BLM**- The standard BLM exclusive-use helitack crew size for a Type 3
38 helicopter is a minimum of seven personnel (supervisor, assistant, squad
39 boss, and four crew members). The standard BLM exclusive-use helitack
40 crew size for a Type 2 helicopter is a minimum of ten personnel (supervisor,
41 assistant, squad boss, and seven crewmembers). BLM helicopters operated
42 in Alaska need only be staffed with a qualified Helicopter Manager
43 (HMGB).
- 44 • **NPS** - Helicopter exclusive-use modules will consist of a minimum of 8 fire
45 funded personnel. The NPS regions may establish larger crew size and
46 standards for their exclusive use helicopter crews based on the need for an

- 1 all hazard component (Fire, SAR, Law Enforcement, and EMT). Exception
2 to minimum helicopter crew staffing standards must be approved by the
3 National Aviation Office. NPS helicopters operated in Alaska need only be
4 staffed with a qualified Helicopter Manager (HMGB).
- 5 • **FS** - Regions may establish minimum crew size and standards for their
6 exclusive use helitack crews. Experience requirements for exclusive-use
7 helicopter positions are listed in FAQG, Chapter 4.

8

9 **Operational Procedures**

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

12

13 **Communication**

14 The helitack crew standard is one handheld programmable multi-channel FM
15 radio per every two crew persons, and one multi-channel VHF-AM
16 programmable radio in the primary helitack crew (chase) truck. Each helitack
17 crew (chase) vehicle will have a programmable VHF-FM mobile radio. Each
18 permanent helibase will have a permanent programmable FM radio base station
19 and should be provided a VHF-AM base station radio.

20

21 **Transportation**

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

- 26 • **BLM** - Minimum vehicle configuration for a seven person crew will consist
27 of one Class 661 Helitack Support Vehicle and one Class 156 or Class 166
28 vehicle.

29

30 **Training and Experience Requirements**

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

36

37 Non-Exclusive Use HECM's and HMGB's should also meet the following
38 currency requirements.

39

40 **Note:** the *Interagency Aviation Training Guide (February 2014)* states
41 additional aviation training requirements (A courses). The Guide is available at:
42 http://www.iat.gov/docs/IAT_Guide_2014_0331.pdf

43

44

45

Exclusive Use Fire Helicopter Position Prerequisites			
POSITION ¹	MINIMUM PREREQUISITE EXPERIENCE ²	MINIMUM REQUIRED TRAINING ³	CURRENCY REQUIREMENTS
Fire Helicopter Crew Supervisor	One season ⁴ as an Assistant Fire Helicopter Crew Supervisor, ICT4, HMGB, HEB2		RT-372 ⁵ RT-130
Assistant Fire Helicopter Crew Supervisor	One season as a Fire Helicopter Squad Boss, ICT4, HMGB, HEB2 (T)	I-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 Taskbook	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.

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

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

Helicopter Rappel & Cargo Let-Down

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

- **BLM** - BLM personnel involved in an Interagency Rappel Program must have SFMO approval.
- **NPS** - Approval is required by the National Office.
- **FS** - Approval is required by the National Office.

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

6 **Emergency Medical Short-haul**

7 The emergency medical short-haul mission is intended to extract injured or ill
8 personnel from areas where a ground based evacuation would expose rescuers to
9 greater risk or where such evacuation would likely cause greater harm or
10 threaten the life or limbs of the patient due to added exposure or time delay.

11 The short-haul transport of personnel or patients should occur over the shortest
12 reasonable distance to a location where another type of medical transportation is
13 available (e.g. ground ambulance, EMS/life flight, or internal in an agency
14 helicopter).

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

- 18 • *FS/NPS-National Office approval is required.*

19
20 All short-haul operations will comply with the following policy:

- 21 • *FS- Forest Service Short-haul Operations Guide (FSSHOG)*
- 22 • *NPS- Helicopter Short-haul Handbook*

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

28 **Aerial Ignition**

29
30 *The Interagency Aerial Ignition Guide (IAIG)* is policy for all aerial ignition
31 activities.

33 **Fire Chemical Avoidance Areas**

34
35 See Chapter 12 (Suppression Chemicals and Delivery Systems) for guidance.

37 **Aerial Supervision Principles for ATGS, ASM, and Lead**

38
39 The response speed of aerial supervision resources contributes greatly to
40 established aggressive initial attack doctrine and should be utilized accordingly.

41
42 Aerial supervision resources will be dispatched when available to
43 initial/extended attack incidents in order to enhance safety, effectiveness, and
44 efficiency of aerial/ground operations.

45

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

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

9 10 **Operational Procedures and Policy**

11 The *Interagency Aerial Supervision Guide* (IASG, PMS 505) provides
12 operational procedures for all aerial supervision resources. The IASG and
13 additional aerial supervision forms are maintained online at the NWCG website:
14 <http://www.nwcg.gov/pms/pubs/pms505/index.htm>.

15
16 The *Wildland Fire Qualifications System Guide* (PMS 310-1) provides training,
17 qualification, and currency standards.

- 18 • *FS- Forest Service aerial supervision training, qualifications, and currency*
19 *standards are contained in the Fire and Aviation Qualifications Guide*
20 *(FAQG).*

21
22 The IASG contains additional requirements and is policy for the BLM, BIA,
23 FWS, and NPS.

24 25 **Air Tactical Group Supervisor (ATGS)**

26
27 The ATGS coordinates incident airspace and manages incident air traffic. The
28 ATGS is an airborne firefighter who coordinates, assigns, and evaluates the use
29 of aerial resources in support of incident objectives. Specific duties and
30 responsibilities are outlined in the *Wildland Fire Incident Management Field*
31 *Guide* (PMS-210) and the *Interagency Aerial Supervision Guide*.

32 33 **Program Management**

34 The air attack program is managed at the national level by agency program
35 managers. The National Interagency Aviation Committee (NIAC) provides
36 guidance through the Interagency Aerial Supervision Subcommittee (IASS),
37 which authorizes an ATGS Cadre to provide operational and programmatic
38 oversight at the Geographic Area level.

39 40 **Training**

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

42
43 Field (flight) training assignments are coordinated and prioritized by the
44 Geographic Area Training Representatives and ATGS Cadre, and is
45 implemented based on a national interagency trainee priority list.

46

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

3

4 **Operational Considerations**

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

16

17 **Leadplane**

18

19 A leadplane is a national shared resource.

20

21 Agency policy requires an ASM or Lead/ATCO to be on order prior to aerial
22 retardant/suppressant delivery over a congested area. Operations may proceed
23 before the ASM or Lead/ATCO arrives if communications are established with
24 on-site resources, authorization is granted from the IC, and the line is cleared
25 prior to commencing aerial application operations.

26

27 **Aerial Supervision Module (ASM)**

28

29 The ASM is a national shared resource.

30

31 The ASM is crewed with both a Lead/ATCO qualified Air Tactical Pilot (ATP)
32 and an Air Tactical Supervisor (ATS). These individuals are specifically trained
33 to operate together as a team. The resource is primarily designed for providing
34 both functions (Lead/ATCO and ATGS) simultaneously from the same aircraft,
35 but can also provide single role service.

36 The ATP is primarily responsible for aircraft coordination over the incident.

37 The ATS develops strategy and implements tactical plans through coordination
38 with the IC or designee.

39

40 **Operational Considerations**

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

43

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

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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

5 **Policy**

6 Only those individuals certified and authorized by the BLM- National Aviation
7 Office or the FS- Branch Chief Pilot Standardization will function as an Air
8 Tactical Supervisor (ATS) in an ASM mission profile.
9

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

11 Training and qualification requirements for ASM crewmembers are defined in
12 the *IASG*.
13

14 **Reconnaissance or Patrol flights**

15
16 The purpose of aerial reconnaissance or detection flights is to locate and relay
17 fire information to fire management. In addition to detecting, mapping, and
18 sizing up new fires, this resource may be utilized to provide ground resources
19 with intelligence on fire behavior, provide recommendations to the IC when
20 appropriate, and describe access routes into and out of fire areas for responding
21 units. Only qualified Aerial Supervisors (ATGS, ASM, HLCO and
22 Lead/ATCO) are authorized to coordinate incident airspace operations and give
23 direction to aviation assets. Flights with a “Recon, Detection, or Patrol”
24 designation should communicate with tactical aircraft only to announce location,
25 altitude and to relay their departure direction and altitude from the incident.
26

27 **Airtankers**

28
29 Airtankers are a national resource. Geographic areas administering these
30 aircraft will make them available for initial attack and extended attack fires on a
31 priority basis. The GACC will ensure that all support functions (e.g. dispatch
32 centers and tanker bases) are adequately staffed and maintained to support the
33 mobilization of aircraft during normal and extended hours.
34

35 For aviation safety and policy concerning wildland fire chemicals see chapter 12
36 (Suppression Chemicals and Delivery Systems).
37

38 Airtankers are operated by commercial vendors in accordance with FAR Part
39 137. The management of Large Airtankers is governed by:

- 40 • **BLM** - *The requirements of the DM and BLM Manual 9400*
 - 41 • **FS** - *FS operates Large Airtankers under the Grant of Exemption 392A as*
42 *referenced in FSM 5714.*
- 43
44
45
46

1 Airtanker Types

2 Airtankers and Water Scoopers are typed according to their load capacity:

- 3 • Very Large Air Tankers (VLAT) – 8,000 gallons or more.
- 4 • Type 1 - 3,000 to 7,999 gallons.
- 5 • Type 2 - 1,800 to 2,999 gallons.
- 6 • Type 3 - 800 to 1,799 gallons.
- 7 • Type 4 – up to 799 gallons.

8

9 Airtanker Base Operations

10

11 Certain parameters for the operation of airtankers are agency-specific. For
12 dispatch procedures, limitations, and times, refer to geographic area
13 mobilization guides and the *Interagency Airtanker Base Operations Guide*
14 (IABOG).

15

16 Airtanker Base Personnel

17 There is identified training for the positions at airtanker bases; the *Interagency*
18 *Airtanker Base Operations Guide* (IABOG) contains a chart of required training
19 for each position. It is critical that reload bases are prepared and staffed during
20 periods of moderate or high fire activity at the base. All personnel conducting
21 airtanker base operations should review the IABOG and have it available.

22

23 Startup/Cutoff Time for Multi Engine Airtankers

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

25

26 Single Engine Airtankers

27

28 Single Engine Airtanker (SEAT) Operations, Procedures, and Safety

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

31

32 SEAT Manager Position

33 The SEAT Manager (SEMG) duties and responsibilities are outlined in the
34 ISOG. SEMGs ensure adherence to contract regulations, safety requirements,
35 and fiscal accountability.

36

37 Operational Procedures

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

41

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

46

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

5 **Smokejumper Pilots**

6
7 The *Interagency Smokejumper Pilot Operations Guide (ISPOG)* serves as policy
8 for smokejumper pilot qualifications, training, and operations.

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

11
12 The *Military Use Handbook (NFES 2175)* will be used when planning or
13 conducting aviation operations involving regular military aircraft. Ordering
14 military resources is done through the National Interagency Coordination Center
15 (NICC); National Guard resources are utilized through local or state
16 Memorandum of Understanding (MOU).

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

19
20 The *MAFFS Operating Plan* (available from the National Interagency
21 Coordination Center) will be used when planning or conducting aviation
22 operations involving MAFFS military aircraft. Ordering MAFFS is done
23 through the National Interagency Coordination Center (NICC); MAFFS are
24 utilized through a national agreement (see the *National Interagency*
25 *Mobilization Guide*). Several states have the ability to activate MAFFS through
26 separate agreements that do not require ordering through NICC.

28 **Cooperator Aircraft**

29
30 The purpose of this direction is to keep non-federally approved aircraft under the
31 operational control of the agency providing the aircraft, to the extent possible.

32
33 During initial action, all agencies (federal, state, local, and tribal) accept each
34 other's operating standards. Once the incident jurisdiction is clearly established,
35 the standards of the agency with jurisdiction prevail.

36
37 Aircraft procured/owned by cooperating agencies (state, local, and International)
38 may be utilized on federally managed fires only when federal cooperative
39 agreements are in place that approve those aircraft and pilots for the intended
40 missions.

41
42 No federal employee may be assigned to a position that exercises contractual
43 control of a non-federally approved aircraft.

44
45 States may use aircraft that have not been identified as an "Approved
46 Cooperator Aircraft" on federal lands, when and where the state has formal

- 1 protection responsibility as long as the state maintains operational control of
2 those aircraft.
3
- 4 Non-federally approved aircraft remain under state operational control
5 regardless of the agency affiliation of the firefighters (to include federal aerial
6 supervision) on an incident with state jurisdiction.
7
- 8 Non-federally approved airtankers are approved to have federal personnel load
9 retardant at federal airtanker bases, regardless of wildland fire jurisdiction.
10
- 11 Federal personnel may provide aerial supervision, including “lead profiles”, to
12 non-federally approved aircraft under existing standard procedures and
13 agreements.
14
- 15 It is appropriate for federal dispatch personnel to interact with non-federally
16 approved aircraft, if these aircraft remain under the operational control of the
17 state or for safety reasons.
18
- 19 In an emergency circumstance, where lives and property are immediately
20 threatened, in the current burning period, by wildland fire on federal lands under
21 federal protection, a federal line officer may take operational control over non-
22 federally approved aircraft (if ordered and available) to protect lives and
23 property. This exception must only take place when sufficient federal
24 firefighting aircraft are not readily available to meet the emergency need. Line
25 officers are encouraged to consult with their agency aviation management
26 personnel to aid in decision-making. As exceptions are exercised, they must be
27 documented by the approving federal line officer; documentation shall be
28 forwarded to the agency national aviation headquarters within two weeks.
29
- 30 If needed, further clarification on these issues can be obtained from the national
31 aviation manager for the respective agency.
32

33 **Interagency Fire Use of Unmanned Aircraft Systems (UAS)**

- 34
- 35 When UAS are flown for USFS/DOI work or benefit, Federal Aviation
36 Administration (FAA), USFS, and DOI regulations apply.
37
- 38 Units wishing to utilize UAS must have a plan in place for how they are going to
39 collect, process, and disseminate data gathered by a UAS.
40
- 41 Consult with your Unit Aviation Officer or the Regional/State aviation staff to
42 assist in selecting and ordering the aircraft best suited for the mission.
43
- 44 The following minimum standards apply:
- 45 • All aircraft (to include UAS) purchase, lease, or acquisition **must** follow
46 agency procurement policy and procedures.

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- 1 • All aircraft and pilots employed by the USFS or DOI agencies **shall** be
2 approved. Federal use of cooperator agency UAS may be authorized by a
3 Cooperator Aircraft Letter of Approval, valid under the parameters of the
4 FAA’s Certificate Of Waiver or Authorization (COA).
 - 5 • UAS flights under USFS operational control **must** adhere to USFS policy
6 and regulations regarding their use. Guidance can be found in FSM 5713.7,
7 the USFS National Aviation Safety and Management Plan and at
8 <http://www.fs.fed.us/science-technology/fire/unmanned-aircraft-systems>
 - 9 • UAS flights under DOI operational control **must** adhere to DOI policy and
10 regulations regarding their use. Guidance can be found in 350-353
11 Departmental Manuals and Operational Memoranda:
12 <http://oas.doi.gov/library/opm/CY2014/OPM-11.pdf>
 - 13 • All government agency use or takeoff and landing on federal land of UAS
14 **requires** prior notifications and approval. Some agencies have issued
15 internal direction regarding UAS use. Agency aviation managers must be
16 consulted prior to commencing UAS operations to ensure compliance with
17 individual agency policy that may be more stringent than FAA
18 requirements. A Project Aviation Safety Plan (PASP) is required for all
19 missions or projects, to include UAS missions on fires.
 - 20 • All government and commercial applications **require** an FAA “Certificate
21 of Waiver or Authorization” (COA) which specifies the time, location, and
22 operating parameters for flying the UAS. A COA also requires the
23 requesting agency to certify the airworthiness of the proposed aircraft and
24 definition of the standards used to make that determination. For federal
25 fires, the DOI or USFS would be the lead agency for obtaining a COA
26 depending on the jurisdiction of the fire. In the event of a multi-jurisdiction
27 incident the DOI UAS specialist, the USFS UAS advisory group chair, or
28 State or local representative will determine who should obtain the COA.
 - 29 • Incident Management Teams **must** notify the agency administrator prior to
30 use of UAS. A modification to the Delegation of Authority should be
31 considered.
 - 32 • Personally owned UAS or model aircraft **may not** be used by federal
33 agencies or their employees for interagency fire use.
- 34 Key Points:
- 35 • An emergency COA can only be issued by the FAA if the proponent
36 already has an existing COA for their aircraft. The request must be
37 accompanied with a justification that no other aircraft exist for the mission
38 and that there is eminent potential for loss of life, property, or critical
39 infrastructure, or is critical for the safety of personnel.

- 1 • Cooperators, pilot associations and volunteer aviation groups or individuals
2 may offer to fly unmanned aviation missions (i.e. aerial surveys, fire
3 reconnaissance, infrared missions, etc.) at no charge to the IMTs. Although
4 these offers seem very attractive, we cannot accept these services unless
5 they meet FAA, USFS and/or DOI policy.
- 6 • The use of any UAS (including model or remote controlled aircraft) with or
7 without compensation is considered a “commercial” operation per the FAA.
8 The FAA has established guidelines for hobbyists who fly model and
9 remote controlled aircraft via Advisory Circular 91-57. Model aircraft are
10 to be flown only for recreation or hobby purposes. For further information,
11 refer to: http://www.faa.gov/about/initiatives/uas/model_aircraft_operators.

12

13 Additional information can be found on the FAA website:

14 http://www.faa.gov/about/initiatives/uas/uas_faq/

15