

**File Code:** 5700**Date:** SEP 26 2017**Route To:****Subject:** Policy Change - FSM 5700, Unmanned Aircraft Systems (UAS)**To:** Regional Foresters, Station Directors, Area Director, Director, Law Enforcement and Investigations, Regional Fire Directors, Regional Aviation Officers

Current Forest Service (FS) policy states unmanned aircraft systems are to be treated the same as manned aircraft for acquisition, approval and carding of pilots and aircraft, inspections, maintenance, avionics, training and operations. Technology advances, especially for small unmanned aircraft systems have provided opportunity for UAS to enhance the agency's ability to meet our mission; however, it has outpaced our ability to update policy in providing the framework for safe, efficient and effective use of UAS.

**Effective on this date, FSM 5710.35; 5710.5; 5712.35; 5712.41; 5712.43; 5713.7; 5718.1 and 5718.2 will read as follows:**

**FSM 5710.35 - Cooperator Aircraft**

The National Association of State Foresters Cooperator Aviation Standards for Interagency Fire (NASF Cooperator Standards) establishes aircraft inspection standards and pilot evaluation requirements for cooperating agencies. The Forest Service shall apply these standards when issuing approval letters for manned aircraft that are contracted, owned, or operated (Federal Excess Personal Property) by cooperating agencies.

Cooperator agreements are required for all aviation services provided to the Forest Service by other agencies, partners and cooperators. Agreements must specify approval processes, levels of operational standards and requirements, costs and safety standards.

Aircraft not covered by the NASF Cooperator Standards shall meet current FS approval standards for that aircraft/mission until they are incorporated into the NASF Cooperator Standards (airtankers and UAS for example).

**5710.5 – Definitions (added to existing list)**

Small unmanned aircraft system (sUAS). A small unmanned aircraft weighing less than 55 pounds, including everything that is onboard or otherwise attached to the aircraft and its associated elements (including communication links and the components that control the small unmanned aircraft) required for the safe and efficient operation of the small unmanned aircraft in the national airspace system.

Unmanned Aircraft System (UAS). An aircraft used or intended to be used for flight in the air that has no onboard pilot. This includes all classes of airplanes, helicopters, airships, and translational lift aircraft with control over 3 axes Federal Aviation Administration (FAA) Interim Operational Approval Guidance 08-01- Unmanned Aircraft Systems Operations in the U.S. National Airspace System. In addition to the actual aircraft, a UAS also consists of the Ground Control Station. Agency UAS operations will comply with FAA policy and/or regulations applicable to UAS flight operations.

**5712.35 - Forest Service Employee Pilots Not Employed as Pilots**

Forest Service employees not employed as pilots who act as a pilot for any flight utilizing a government aircraft, shall meet the qualifications of a Forest Service pilot, including special qualifications for specific missions.

The employee must pass a check ride with the Washington Office Branch Chief, Pilot Standardization or designee.

Forest Service employees not employed as pilots who operate small UAS utilizing a government aircraft for government benefit will meet requirements as specified in FSM 5713.7. Approval shall be on the UAS Pilot Approval Card.

#### **5712.41 Cooperator and Contract Pilot Approvals**

Pilots are recommended by the National Fixed-Wing Standardization Pilot, the National Rotor-Wing Standardization Pilot or the Branch Chief, Pilot Standardization and Quality Assurance for specific missions after analysis of their training and experience as being comparable to the national fixed-wing, rotor-wing and UAS training program requirements. Based on the recommendation, the Regional Aviation Officers, or the Branch Chief, Pilot Standardization are authorized to approve these qualified cooperator pilots and contract pilots.

Pilots flying aircraft not covered by the NASF Cooperators Standards shall meet current FS approval standards for that special use mission until they are incorporated into the NASF Cooperator Standards (airtanker pilots and UAS pilots for example).

#### **5712.43 - Other Agency Approvals for Pilots**

The Department of the Interior, Office of Aviation Services (OAS) and some States inspect and approve pilots used on contracts and rental agreements.

1. Forest Service units may use pilots approved and carded by OAS for specific missions without re-inspection if such pilots have one of the following OAS cards:
  - a. Form OAS-30A, Pilot Qualification (Airplane).
  - b. Form OAS-30B, Pilot Qualification (Helicopter).
  - c. Form OAS-30C, Airtanker Pilot Qualification.
  - d. Form OAS-30U Unmanned Aircraft Pilot Qualification (UAS)
2. Forest Service units may use pilots with OAS approval for point-to-point transportation regardless of the specific type of approval document.
3. Pilots approved and carded by authorized employees of cooperators and States for special missions may be used by Forest Service units without re-inspection provided that the authorized inspectors have been approved by the Branch Chief, Pilot Standardization and that they are identified by letter annually.

#### **5713.7 - Unmanned Aircraft Systems**

Where unmanned aircraft systems are not specifically identified, aircraft policy under FSM 5700 shall apply. Where this manual or FSH 5709.16 states aircraft, unless specifically defined, this shall include UAS.

Any Forest Service leased, contracted, owned, other Federal agency or cooperator UAS operations shall obtain approval through the Forest Service UAS Program Manager.

Unmanned Aircraft Systems and UAS pilot approval for cooperators will adhere to existing cooperator aircraft and pilot approval policy in FSM 5712.4 and 5713.43.

Acquisition of Unmanned Aircraft Systems shall follow Federal Acquisition Regulations (FAR) as described in FSM 5718.1.

Employees who operate sUAS shall hold an FAA issued Remote Pilot with a sUAS rating as the minimum FAA certification. Additional agency training is required as referenced in the FSH 5709.16. Employee UAS pilots will be approved by the WO Branch Chief, Pilot Standardization or their designee. Employee sUAS pilots shall only fly approved government owned or leased UAS for conducting any flight for government benefit.

Aircraft tracking and reporting requirements, as described by the General Services Administration (GSA) and USDA, will be met. Reference the FSH 5709.16, National UAS Operations Plan and National UAS Desk Guide for specific reporting and tracking information.

#### **FSM 5718.1- Aircraft Acquisition**

All decisions to acquire or lease aircraft will be approved by the Washington Office, Director, Fire and Aviation Management.

1. A completed Office of Management and Budget, OMB Circular A-11, Part 7, Aviation Business Case (formerly known as an Exhibit 300) completed by the Washington Office will be submitted to the Director, Fire and Aviation Management, for any new aircraft acquisition or investments (including contract and leasing).
2. Forest Service owned and operated aircraft are assigned to the Washington Office - Boise. Regions host the aircraft and are responsible for operation, maintenance, and validation of aircraft use and operation. A Memorandum of Understanding must be in place to clarify responsibilities of both the Washington Office and Regional Office levels.
3. Forest Service owned and operated aircraft will be reassigned based on agency priorities and annual operations and used to optimize aircraft use across the entire agency.
4. Aviation business cases for all Forest Service aircraft must be formally re-validated every five (5) years by the unit the aircraft is assigned to for their operation and submitted to the Director, Fire and Aviation Management for approval.

#### **5718.2 - Financial Management of Owned and Operated Aircraft**

All Forest Service owned and operated aircraft valued over \$25,000 will be managed through the Working Capital Fund (WCF). Units cannot opt out. All Forest Service unmanned aircraft systems valued under \$25,000 will be managed in accordance with GSA, USDA and Forest Service regulations. The Forest Service is required to comply with Federal Management Regulations for aircraft management which requires financial sustainability (41CFR 102-33).

**Effective on this date, FSH 5709.16, 11.22; 11.22e; 11.24a; 11.26; 12.13; 16; 16.4; 36.7; 42.31; 42.33; 44; 44.2; 44.4; 45.5 and 46.1 will read as follows:**

#### **FSH 5709.16 Chapter 10**

##### **11.22 - Contract Pilot Qualifications**

(For related direction, see FSM 5703.1, 5703.4, and 5710.34.)

1. Forest Service or interagency Aircraft Pilot Inspectors shall approve contract pilots provided to the Forest Service under contract or rental agreement.
2. Contract pilots are required to possess the appropriate FAA certificates, ratings, and authorizations for the type of operation conducted and to meet the following minimum requirements:
  - a. Except for aviation operations requiring an airline transport pilot certificate under the FARs, pilots shall possess a current FAA commercial pilot certificate, instrument rating, and aircraft ratings (multi-engine, helicopter, and so on) appropriate for the mission.
  - b. Pilots shall possess a valid FAA medical certificate; second class for those operations requiring a commercial pilot certificate; or first class for those operations requiring an airline transport pilot certificate.

- c. For small UAS operations, contract pilots must possess a valid FAA Remote Pilot certificate with a small UAS rating.

#### **11.22e - Experience Standards - Contract UAS Pilots**

1. Contract pilots are required to possess a valid FAA certificate for the aircraft size to be flown.
2. Flight and training records of contract UAS pilots will be reviewed by the WO Fire & Aviation Branch Chief Pilot Standardization or their designee.
3. Pilots who fly UAS under contract may be required to complete a performance based evaluation.
4. All contract UAS pilots will be approved by the Branch Chief, Pilot Standardization.

#### **11.24a – General Requirements**

1. Aircraft furnished to the Forest Service under contract or rental agreement must possess a standard or transport category airworthiness certificate, except aircraft contracted for special missions requiring only "restricted" category certifications, such as airtankers.
2. Unless authorized by an approved FAA aircraft flight operations manual's minimum equipment list, aircraft must not be approved or used if any accessory or instrument listed on the aircraft type certificate data sheet is inoperative.
3. Aircraft upholstery, paint, and plexiglass must be in good condition.
4. Aircraft must not be approved if any engine, component, or propeller time in service exceeds the manufacturer's recommended time between overhaul, unless approved under an FAA time extension in hours or calendar months.
5. New or newly overhauled piston engines must accumulate three (3) hours of operating time, including two (2) continuous hours in flight, prior to Forest Service use.
6. Agency personnel shall not be carried in helicopters under the following conditions:
  - a. Helicopters powered with reciprocating engines.
  - b. Civil helicopters registered in the restricted category.
  - c. Helicopters not meeting the requirements of this chapter, including the helicopters not meeting the requirements in the Interagency Helicopter Operations Guide referenced in section 06.
7. Unmanned aircraft furnished to the Forest Service under contract or rental agreement must meet FAA Part 107 airworthiness requirements and be approved by the Branch Chief, Airworthiness or their designee.

#### **11.26 - Operational Requirements - All Pilots**

Requirements for all pilots flying Forest Service missions are as follows:

1. Instrument Flight Conditions. Use only multi-engine aircraft for such flights, except as provided in FSM 5716.12.
2. Night Flights. For night flights use only multi-engine aircraft, except:
  - a. This restriction does not apply to pilots flying night vision goggle missions in single-engine helicopters.
  - b. Single-engine aircraft flights at night are authorized for ferry and cargo missions at the option of the vendor, agency, and pilot-in-command. (See FSM 5716.2 and FAR 91 for additional direction.)
3. Flight below 500 Feet. Except for special mission activities approved in FSM 5716.3, or landings and takeoffs, flight below 500 feet above ground level (AGL) in fixed-wing manned airplanes is prohibited.

#### **12.13 – Experience and Qualification Standards - Employee sUAS pilots**

Employees who operate sUAS for the Forest Service must be approved by the WO Branch Chief, Pilot Standardization or their designee. Regional Aviation Officers must make certification recommendations to

the WO UAS Program Manager who will coordinate with the Branch Chief Pilot Standardization before agency certification training occurs. All Forest Service sUAS pilots must:

1. Possess a current FAA issued Remote Pilot with a small UAS rating. Employee sUAS pilots must:
2. Complete a manufacturer's UAS specific training course, or Federal agency equivalent for each make and model of UAS to be flown.
3. Pass an initial qualification evaluation administered by an approved UAS Pilot Inspector using the agency practical test standard for UAS.
4. Fly each of the aircraft they are approved for at least once every six months. Pilots failing to meet this requirement shall fly under the supervision of a carded and current Forest Service UAS pilot. Operational flights are acceptable to maintain currency.
5. A biennial evaluation conducted by an approved Interagency UAS Pilot Inspector is required.

Employee sUAS pilot approval card may be revoked at any time by the WO Branch Chief Pilot Standardization if pilots no longer meet FAA or agency requirements or if clear, factual, and logical findings as to the pilot's ability to safely and effectively perform Forest Service missions are demonstrated.

## **16 - CONTRACT AIRCRAFT DATA AND APPROVAL RECORD**

Aircraft Inspectors shall complete form FS-5700-21, Airplane Data Record, FS-5700-21a, Helicopter Data Record, or FS-5700-21b, Unmanned Aircraft Systems Data Record for each aircraft inspected, except airtankers (sec.16.3). Maintain forms for the appropriate retention period per FSH 6209.11, 41 part 07.

### **16.4 - sUAS Data Record**

Document sUAS inspections by completing form FS-5700-21b Unmanned Aircraft Systems Data Record. Ensure all entries recorded are accurate and include the operators' name and contract number.

## **5709.16 Chapter 20**

### **21.8 - Small UAS Qualifications**

Employees who operate sUAS for the Forest Service must be approved by the WO Branch Chief, Pilot Standardization or their designee. Regional Aviation Officers must make certification recommendations to the WO UAS Program Manager who will coordinate with the Branch Chief Pilot Standardization before agency certification training occurs. All Forest Service sUAS pilots must:

1. Possess a current FAA issued Remote Pilot with a small UAS rating. Employee sUAS pilots must:
2. Complete a manufacturer's UAS specific training course, or Federal agency equivalent for each make and model of UAS to be flown.
3. Pass an initial qualification evaluation administered by an approved UAS Pilot Inspector using the agency practical test standard for UAS.
4. Fly each of the aircraft they are approved for at least once every six months. Pilots failing to meet this requirement shall fly under the supervision of a carded and current Forest Service UAS pilot. Operational flights are acceptable to maintain currency.
5. A biennial evaluation conducted by an approved Interagency UAS Pilot Inspector is required.

Employee sUAS pilot approval card may be revoked at any time by the WO Branch Chief Pilot Standardization if pilots no longer meet FAA or agency requirements or if clear, factual, and logical findings as to the pilot's ability to safely and effectively perform Forest Service missions are demonstrated.

## **FSH 5709.16 Chapter 30**

### **36.7- Small UAS Operations**

1. Only Agency approved UAS of any size may be used for Forest Service missions.
2. All UAS operations shall comply with agency policy for privacy, reporting, tracking, data management and transparency. The National UAS Operations Plan provides operational guidelines and further references to policy.
3. All Unmanned Aircraft Systems missions will adhere to the Project Aviation Safety Plans (PASP), or Operations Plan, as applicable.

## **FSH 5709.16 Chapter 40**

### **42.31 – General Aircraft Standards**

1. Aircraft furnished to the Forest Service under a contract or rental agreement must possess a standard or transport category airworthiness certificate, except aircraft that are contracted for special missions requiring only “restricted” category certifications.
2. Unless authorized by an approved FAA minimum equipment list, aircraft must not be approved or used if any accessory or instrument listed on the aircraft type certificate data sheet is inoperative.
3. Aircraft upholstery, paint, and plexiglass must be in good condition.
4. Aircraft must not be approved if any engine, component, or propeller time in service exceeds the manufacturer’s recommended time between overhaul, unless approved under a FAA time extension in hours or calendar months.
5. New, rebuilt, or overhauled piston engines must accumulate 3 hours of operating time, including 2 continuous hours in flight, prior to Forest Service use.
6. Agency personnel shall not be carried in helicopters under the following conditions:
  - a. Helicopters powered with reciprocating engines.
  - b. Civil helicopters registered in the restricted category.
  - c. Helicopters not meeting the requirements of this chapter, including the requirements in the Interagency Helicopter Operations Guide referenced in section 06.
7. The above standards do not apply to small UAS. Small unmanned aircraft must meet FAA Part 107 airworthiness requirements and be approved by the Branch Chief, Airworthiness or their designee.

### **42.33 - General Avionics Standards**

1. As a minimum, aircraft must be equipped with the following functioning avionics equipment for day visual flight rules (VFR) operations:
  - a. One 760-channel VHF-AM transmitter/receiver for airplane and rotorcraft operations.
  - b. Two 760-channel VHF-AM transmitter/receivers for airplane fire operations.
  - c. An Automated Flight Following (AFF) System (except law enforcement).
  - d. One VHF-FM transmitter/receiver for fire operations.
2. Multi-engine aircraft must meet FAR 135 avionics requirements for night and instrument flight rules (IFR) passenger flights prior to dispatch or use for that type of mission.
3. Authorized Forest Service employees shall check and ensure that any Government-furnished communications equipment is maintained.
4. Avionics must be installed so as not to interfere with passenger space, comfort, or safety, yet be easily accessible for servicing.
5. Under the terms of the contract, the contractor shall be liable for loss or damage to Government-furnished equipment while it is installed in the vendor’s aircraft.
6. The above standards do not apply to small UAS. Avionics for unmanned aircraft systems will adhere to FAA and USFS standards to ensure security of flight control and data collection.

## **44 - CONTRACT AIRCRAFT DATA AND APPROVAL RECORDS**

Aircraft Inspectors shall complete form FS-5700-21, Airplane Data Record, FS-5700-21a, Helicopter Data Record or FS-5700-21b, Unmanned Aircraft System Data Record for each aircraft inspected, except airtankers (sec. 44.5). This may be done in hard copy or electronically. Maintain forms for appropriate retention period per FSH 6209.11, 41-Part 07.

#### **44.2 - Aircraft Approval Cards**

Provided the aircraft is free of discrepancies, or when the Contractor has cleared any identified discrepancies, the Aircraft Inspector may complete form FS-5700-21, Aircraft Data Record, FS-5700-21a, Helicopter Data Record or FS-5700-21b Unmanned Aircraft System Data Record, and issue a card to the Contractor for display in the aircraft, with a copy to be retained by the Aircraft Inspector and a copy by the Contracting Officer or their representative.

Point-to-Point designations are identified on the Point-to-Point Data Card and on the back of the Pilot Approval Cards. See section 44.5 for Airtanker approvals.

#### **44.4 - Aircraft Inspection Forms Management**

1. Forest Service Aircraft Inspectors have the responsibility to ensure all applicable aircraft inspection forms, status reports, and approval cards are complete, and the Contractor has been briefed as to the status of each aircraft.
2. Inspectors shall ensure the Contractor has received the appropriate copies of each inspection form and status report.
  - a. When discrepancies have been identified, the Inspectors ensure that the Contractor is fully briefed on the nature of the discrepancies and on what corrective action is necessary before issuing form FS-5700-21, Aircraft Data Record; or form FS-5700-21a, Helicopter Data Record; or form FS-5700-21b Unmanned Aircraft System Data Record; or form FS-5700-4, Aircraft Approval Card, for airtankers
3. Aircraft Inspectors shall maintain copies of the inspection documentation for each aircraft. The Forest Service Contracting Officer receives the complete file.

#### **45.5 - Contractor's FAA Operating Authority**

Aircraft Inspectors shall verify the contractor's FAA operating authority by reviewing the operating certificates (CFR 91, 107, 121, 133, 135, 137, and 145, as applicable). Aircraft Inspectors shall ensure the following publications specifications and personnel and equipment listings are in place:

1. Approved operations and maintenance manuals.
2. Federal Aviation Administration-approved operations specifications.
3. Current list of approved aircraft by serial identification numbers.
4. Current list of maintenance personnel, certificate numbers, experience, and training record.

#### **46.1 Standards for State and Local Cooperator Aircraft Offered for Federal Use (including Federal Excess Personal Property (FEPP))**

All cooperator aircraft offered for use on National Forest system lands will be subject to equivalent standards as Forest Service contracted aircraft. This standard will be in accordance with NASF Cooperator Aviation Standards for Interagency Fire, as amended. This standard is based on the Federal Aviation Regulations (14 CFR), Forest Service Call When Needed helicopter and Light Fixed-wing contract standards, and the Interagency Fire Helicopter Standards.

Aircraft not covered by the NASF Cooperator Standards shall meet current FS approval standards for that aircraft or mission until specific standards are incorporated into the NASF Cooperator Standards, for example UAS or airtankers.

Cooperators shall be approved by letter by the Regional Aviation Officer based on this standard following review by a designated Regional Aircraft Inspector.

Forest Service units may use aircraft approved by Cooperator and State inspectors for special missions without re-inspection provided the Inspector's authorizations have been approved by the Regional Aviation Officer and have been added to the Forest Service approved inspector list by the National Airworthiness Branch Chief. These Inspectors have to be sponsored by their cooperating Forest Service Region and meet all Forest Service inspector qualifications, training, and recurrent requirements.

**This policy change will be in effect until superseded by more current policy or rescinded.**

Questions regarding this policy change should be directed to Jami Anzalone, [amianzalone@fs.fed.us](mailto:amianzalone@fs.fed.us), at (505) 362-7024.



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Enclosure