



DEPARTMENT OF
TRANSPORTATION
SECRET OPERATIONS

December 3, 2014

2014 DEC -03 12:03

U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, DC 20590

Re: Petition of Scott R. Hess (d/b/a Flying Cross Aerial Productions) for an Exemption Request Pursuant to Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 C.F.R. Part 21, Subpart H; 61.113(a) & (b); 91.119(c); 91.121; 91.151(a); 91.405(a); 91.407(a)(1); 91.409(a)(2); 91.417(a) & (b).

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, Scott R. Hess (d/b/a Flying Cross Aerial Productions), ("FCAP") does hereby apply for an exemption from the Federal Aviation Regulations ("FAR's") identified below, to allow commercial use of small unmanned aerial systems ("sUAS") for the purpose of aerial photography and filmmaking under certain conditions set forth in the FCAP confidential Flight Operations Manual and **identical conditions** set forth in the FAA-issued "Exemption No. 11062", and related exemptions issued to operators for closed set filming.

Also, pursuant to 14 CFR § 11.87, we request that the FAA not publish this petition request in the Federal Register and not delay action based on the following:

1. This petition for exemption does not set precedent. Previous identical exemption requests have been approved.
2. The requested relief is identical to exemptions granted previously, specifically, Exemption(s) Nos. 11062 (Astraeus Aerial), 11066 (Aerial MOB), 11065 (Helivideo), and others.
3. A delay in action on this petition would adversely affect pending requests for aerial filming operations and result in lost opportunity and wages for participating crew, and a delay in the public benefit of granting this petition. In addition, a competitive advantage for unapproved commercial sUAS operators exists and continues to grow every day.
4. We are filing this exemption petition immediately following the finalized operations manual with respect to newly acquired sUAS.

Notwithstanding the request not to publish this petition request in the Federal Register, FCAP has submitted supporting materials including the confidential "Flight Operations Manual" which are confidential documents pursuant to 14 CFR § 11.35(b) and are not available to the public.

Pursuant to 14 CFR § 11.87:

- a) The name and address of the applicant:

Scott R. Hess
d/b/a Flying Cross Aerial Productions
P.O. Box 26203
Austin, TX 78755
512-655-9974

- b) 14 C.F.R. - Regulations for which exemption is requested:

1. Part 21, Subpart H
2. 61.113(a) and (b)
3. 91.119(c)
4. 91.121
5. 91.151(a)
6. 91.405(a)
7. 91.407(a)(1)
8. 91.409(a)(2)
9. 91.417(a) and (b)

These regulation exemption requests are identical to the exemptions determined as necessary by the FAA in previously approved exemption petitions as described above.

- c.) The extent of relief sought, and reason for seeking relief:

1. Part 21, Subpart H: Airworthiness Certificates

The FAA has determined that no exemption is required of this section if a finding is made under the Reform Act that the sUAS selected provides an equivalent level of safety when compared to aircraft normally used for the same application. As the aircraft specified in this exemption request meet the size, weight, speed and other characteristics of sUAS aircraft specified in previously approved exemption requests as noted, no exemption is believed to be needed. If, however, an exemption is determined to be needed by the FAA after review of this petition, one is requested.

An equivalent or greater level of safety is obtained when sUAS physical and operating characteristics, safety systems, maintenance requirements and other operating procedures as set forth in the attached Confidential Flight Operations Manual are adhered to.

2. 61.113(a) and (b): Private Pilot Privileges and Limitations: Pilot in Command.

FCAP is seeking relief from this regulation as the requirement for a Commercial Pilot License with a second class medical would be an unnecessary burden on the operator with regard to obtaining and certifying UA pilots.

The UAS will not carry a pilot or passengers, and the proposed operations can achieve the equivalent level of safety by requiring the pilot to possess a private pilot's license only, with a valid third class medical. This level of knowledge and skill combined with the proposed operating procedures described in the Flight Operations Manual (VLOS only, closed-set requirements, etc.) will more than adequately allow safe operation within the national airspace system, and with regard to persons or property on the ground. The additional knowledge and skill requirements for a Commercial Pilot's license do not add any level of safety with respect to closed-set small UAS operations in the same manner they do with full scale, passenger-carrying aircraft.

An equivalent or greater level of safety is achieved by requiring UA pilots to have a minimum number of hours logged, flight sequences, knowledge and experience testing, etc. as described in the Flight Operations Manual.

3. 91.119(c): Minimum Safe Altitudes.

FCAP is seeking relief from this regulation as the primary purpose of the UAS operation is to provide 'low altitude' aerial cinematography and photography services.

This section prescribes that an aircraft may not be operated closer than 500 feet to any person, vessel, vehicle or structure in uncongested areas. As sUAS aircraft are much smaller, lighter, and operate at much slower speeds than full size aircraft, and do not carry explosive fuel, the potential for injury and damage to persons and property on the ground is significantly lower in the event of an uncontrolled descent. In addition, with respect to participating persons on the ground, a full safety briefing would be conducted describing flight operations, including any risk. This is similarly done with restrictions and guidelines for full size aircraft in accordance with an approved Motion Picture and Television Operations Manual, the applicable sections of which are included in the FCAP Flight Operations Manual.

An equivalent or greater level of safety is obtained than when using full size aircraft in similarly approved filming operations as the potential for injury and damage is significantly reduced when applying size, weight and speed restrictions on the UA. Also, the UA has built in safety features such as autoland, ability to control with loss of an engine, etc. that full size aircraft may not have.

4. 91.121: Altimeter Settings

FCAP is seeking relief from this regulation as the UA will not have a barometric altimeter.

An equivalent or greater level of safety exists as although the UA does not have a typical barometric altimeter onboard, it does report GPS AGL altitude to the PIC via radio telemetric feed. This is combined with the UA being operated within visual line of sight and below 400' AGL, and the pilot requirements to verify AGL reading prior to liftoff (as contained in the Flight Operations Manual).

5. 91.151(a): Fuel Requirements for Flight in VFR Conditions

FCAP is seeking relief from the fuel requirements of this FAR as current battery technology allows the UA to fly for approximately 15-30 minutes in normal conditions. As 91.151(a) requires a 30-minute reserve AFTER reaching the point of intended landing, there is no practical flight possible under this regulation.

An equivalent or greater level of safety exists as the exact battery level remaining is transmitted to the pilot via radio telemetry, and given that the operating area for the UA is in close proximity to the pilot (VLOS), an unsafe condition where the UA is unable to return for landing due to low battery condition is easily avoidable. Additionally, should a defective battery prematurely deplete, the UA is configured to autoland above the point at which the flight controller detects low voltage. And, as part of the FCAP Operations Manual, it is a requirement that any flight be terminated if telemetry is lost. Otherwise, a flight limit of 30 minutes or 25% battery remaining is prescribed.

6-9. 91.405(a), 91.407(a)(1), 91.409(a)(2); 91.417(a) and (b): Maintenance Inspections

FCAP is seeking relief from the above stated FAR's as the UA will not have an airworthiness certificate. Therefore there is no requirement to perform an inspection in order to maintain airworthiness as stated in Appendix D to Part 43 for 100hr. and annual inspections.

An equivalent or greater level of safety exists as the FCAP Flight Operations Manual does prescribe regular maintenance and inspections, compliance with manufacturer's service bulletins, test flights after maintenance, technician training, and so forth, in the spirit of the scope and detail of Appendix D to Part 43. In addition, while mechanical failures are not out of the question, a crash resulting from a catastrophic failure has a very small amount of risk of injury when compared to a failure in a passenger carrying full size aircraft, for which this regulation was intended.

d) Public Interest:

FCAP believes that allowing commercial use of small-unmanned aircraft will enhance the safety of filming operations by reducing the risk associated with low altitude full size aircraft operations. A manned, turbine powered helicopter operating in close proximity to production personnel and actors on the ground has a far greater risk of injury than a small, lightweight UA carrying no combustible fuel, especially when the UA is operating within the parameters of the FCAP Flight Operations Manual.

Additionally, the safe integration of sUAS within the national airspace is a growing concern amongst pilots, the FAA, and general public. This exemption would provide a safe stepping-stone to a more robust set of future sUAS rules.

e) Level of Safety:

As outlined in each of the FAR's above for which relief is sought (underlined).

f) Summary:

Flying Cross Aerial Production seeks exemption from the following rules for the commercial operation of a small unmanned aerial system in order to conduct filming and photography operations below an altitude of 400' AGL and within a limited operating area: 14 C.F.R. Part 21, Subpart H; 61.113(a) & (b); 91.119(c); 91.121; 91.151(a); 91.405(a); 91.407(a)(1); 91.409(a)(2); 91.417(a) & (b).

This exemption will enhance the level of safety currently able to be obtained using full sized manned helicopters for the same type of work.

g) Additional Information:

The applicant, Scott Hess, is a safety conscious member of the aviation community as both a commercially rated airman (3227668) with flight instructor ratings in single and multi-engine land, and as an aircraft and powerplant mechanic with Inspection Authorization, and over 36 blemish free years of flying. Also a radio control aircraft hobbyist and member of the Academy of Model Aeronautics (11689), Mr. Hess brings a unique perspective on the safe integration of sUAS in the national airspace system.


Mr. Hess has been providing video production services since 1982, including air-to-air and air-to-ground cinematography from turbine helicopters with many hundreds of flight hours. He has been a professional videographer for over 32 years including 16 years as a staff cameraman at CBS. As owner of Flying Cross Aerial Productions, he continues to provide aerial cinematography services from full size helicopters.

Additionally, the sUAS aircraft specified in the attached Flight Operations Manual are unmodified, commercially produced aircraft by the largest consumer sUAS manufacturer worldwide, and have the largest user base of any sUAS, with a proven safety record. Size, weight, speed limitations and other operating restrictions are described in the attached Flight Operations Manual and are consistent with other previously approved Section 333 exemptions for filmmaking. For reference, the UA specified have a gross weight of less than 55lbs and fly at a speed of no more than 50kts, carry neither a pilot nor a passenger, carry no explosive materials or flammable liquid fuels, and operate exclusively within a secured area as set out in the Flight Operations Manual. In addition, integrated safety features ensure the safety of persons and property within and surrounding the limited operating area by employing automatic 'return to home and land' in the event of command and control failure, and other safety features as described in the Flight Operations Manual.

The following document is included in this petition, marked as Proprietary and Confidential:

Flying Cross Aerial Productions
Small Unmanned Aerial Systems Flight Operations Manual
Rev. 1.0 dated 12-01-2014

Sincerely,



Scott Hess, Owner
Flying Cross Aerial Productions
P.O. Box 26203
Austin, TX 78755