U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

September 17, 2015

Exemption No. 12895
Regulatory Docket No. FAA–2015–2619

Mr. Doug Benson
Safford Aviation Service Inc.
P.O. Box 516
3546 South Hangar Drive
Coolidge, AZ 85128

Dear Mr. Benson:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated June 16, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Safford Aviation Service Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography for inspections, mapping, surveying, construction, special events, and mining.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Inspire 1.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited

operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Safford Aviation Service Inc. is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

[1] Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

Conditions and Limitations

In this grant of exemption, Safford Aviation Service Inc. is hereafter referred to as the operator.

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Inspire 1 when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents,

the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on September 30, 2017, unless sooner superseded or rescinded.

Sincerely,
/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

To: U.S. Department of Transportation, Docket Operations
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Washington, DC 20590

From: Safford Aviation
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Coolidge, AZ 85128
520-723-7544
saffordaviation@aol.com

Date: 16 June 2015

Re: Exemption request pursuant to Section 333 of the FAA Modernization and Reform Act of 2012

In accordance with the FAA Modernization and Reform Act of 2012 (FMRA), Section 333 Special Rules for Certain Unmanned Aircraft Systems, Safford Aviation Service, Inc. (Safford Aviation) seeks an exemption from FAA regulations restricting COMMERCIAL operation of small Unmanned Aircraft System (sUAS).

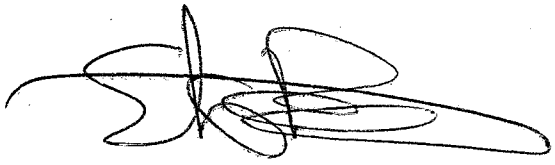
Safford Aviation Service, Inc. specifically requests exemption from the listed FAA Regulations to permit COMMERCIAL operation of sUAS under the conditions outlined herein or as may be established by the FAA.

Safford Aviation Service, Inc. also request exemption from such other FARS as the FAA deems appropriate to enable Safford Aviation's requested operations.

The FAA make any modifications it determines necessary in the granting of this Section 333 Exemption request.

Safford Aviation Service, Inc. seeks exemption to permit commercial operations utilizing sUAS to conduct aerial photography and video for agriculture, construction and mining inspections and surveying, Federal and State wildland and wildlife mapping, and for special events. We will gladly discuss any changes, modifications or amendments to our manuals, procedures or practices to satisfy FAA requirements for approval of this exemption.

Thank you,



Doug Benson

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■B. ABBREVIATIONS USED

sUAS	small Unmanned Aircraft System	Unmanned Aircraft - Light weight – less than 55 Lbs. Gross Vehicle weight including payload
FPV	First Person View	FPV is the video feed from the camera mounted in the sUAS that is displayed to the Flight Crew on the ground.
AGL	Above Ground Level	Above Ground Level
NAS	National Air Space	National Air Space
Flight Crew	Flight Crew	Flight Operator (Pilot) Visual Observer (VO)
PIC	Pilot in Command	Pilot in Command
VO	Visual Observer	Member of the Flight Crew. Responsible for visual observation and visual assistance to the Flight Operator (Pilot)
GPS	Global Positioning System	A navigational system using satellite signals to accurately determine a user's location.
AMA	Academy of Model Aeronautics	Academy of Model Aeronautics
FAA	Federal Aviation Administration	Federal Aviation Administration
FAR	Federal Aviation Regulation	Federal Aviation Regulation
AC	Advisory Circular	FAA issued publication to provide guidance for compliance with airworthiness regulations.
FCC	Federal Communications Commission	Federal Communications Commission

■C. COVER LETTER INTRODUCING THE FIRM

16 June 2015

Thank you for the opportunity to introduce our company.

Safford Aviation Service, Inc. is a Woman-owned Small Business, incorporated in 1977, and owned and operated since May 1993 by the current principals, Andrea Benson, President, and Doug Benson, Secretary/Treasurer.

Andrea Benson has served as President of the company since its purchase in 1993. She received a BA degree from Fort Hays State University in 1990, and served summer internships at Merrill Lynch business operations in New York City. Andrea is in charge of Safford Aviation's financial, logistical, and general company operations.

Doug Benson attended Fort Hays State University, and had been involved full-time in aviation since 1988. Doug currently serves as Director of Operations for Safford Aviation's FAA Air-Carrier Certificate, and holds FAA Commercial Pilot, Instructor, Airframe & Powerplant Mechanic, and FAA Inspection Authorization Certificates.

Together we have over 44 years of aviation management experience. In that time Safford Aviation has grown the FAR Part 135 operation and now operate six Beechcraft Barons. We are able provide grid coverage over large complex Wildland fires and have done so every season under our ownership. In 2003, we assisted FEMA in the mapping and recovery of the Space Shuttle Columbia disaster.

Continued growth and expansion is a vital part of Safford Aviation and our goal to provide a safe service. Because of this, we are asking for exemption to provide commercial sUAS services for aerial photography and video for agriculture, construction and mining inspections and surveying, Federal and State wildland and wildlife mapping, and for special events.

We sincerely appreciate your consideration.

Sincerely,

Doug and Andrea Benson

Safford Aviation Service, Inc.

■D. OVERVIEW

In accordance with the FAA Modernization and Reform Act of 2012 (FMRA), Section 333 Special Rules for Certain Unmanned Aircraft Systems, Safford Aviation seeks an exemption from FAA regulations restricting COMMERCIAL operation of small Unmanned Aircraft System (sUAS).

Safford Aviation specifically requests exemption from the listed FAA Regulations to permit COMMERCIAL operation of small Unmanned Aircraft System (sUAS) under the conditions outlined herein or as may be established by the FAA.

Safford Aviation also request exemption from such other FARS as the FAA deems appropriate to enable Safford Aviation's requested operations.

The FAA make any modifications it determines necessary in the granting of this Section 333 Exemption request.

Existing FAA Regulations burden Safford Aviation's sUAS operations by preventing Safford Aviation from performing commercial sUAS operations to conduct aerial video, photography, and mapping services.

Safford Aviation seeks exemption to permit commercial operations utilizing sUAS to conduct aerial photography and video for agriculture, construction and mining inspections and surveying, Federal and State wildland and wildlife mapping, and for special events.

All Safford Aviation sUAS flights will operate in a tightly controlled area, below 400 feet AGL, and over private or controlled property and with the permission of the property owner.

Safford Aviation seeks exemption from these FAA Regulations because:

1) Existing FAA Regulations provide and undue burden upon Safford Aviation's commercial sUAS operations.
    a. Safford Aviation operations are briefly described in section C
2) Equivalent Level of Safety
    a. Operation of small Unmanned Aircraft Systems (sUAS) by Safford Aviation with the sUAS Aircraft, sUAS Flight Crew, sUAS Operating Parameters, sUAS Maintenance and sUAS training requirements as outlined in this request for a Section 333 exemption provide an equivalent level of safety
3) Public interest
    a. Granting these requested exemptions is in the public interest.
    b. For the public interest is described in detail in section K (For the Good of the Public)

The FAA's authority to issue exemptions from current operating rules and regulations, and the Secretary's authority granted by section 333 of P.L. 112-95 (Special Rules for Certain Unmanned Aircraft Systems) provides an opportunity to authorize certain sUAS operations into the National Airspace System (NAS) prior to implementation of the final sUAS rule. Granting of this exemption request will permit Safford Aviation to safely and legally utilize sUAS in the NAS.

Enclosed are the following documents to support Safford Aviation's Section 333 Exemption request:

1) DJI T600 User's Manual
2) DJI Quadcopter Pilot Training Guide

* * *

Safety is achieved through the relentless pursuit of quality training and adherence to FAA Approved Operating Procedures and FAA Regulations.

Our approach to the safe operation of small Unmanned Aircraft Systems (sUAS) is three fold: Operational Procedures (Adherence to FAA Regulations) - Training – Intelligent Aircraft.

* * *

Safford Aviation will operate sUAS weighing less than 55 lbs. These intelligent GPS enabled sUAS have the ability to "auto hover" and "auto return to home" in the event of a loss of RF control signal.

sUAS aircraft operated by Safford Aviation is discussed in detail in Section F (sUAS Aircraft). Since aviation is ever changing, amending this document and pending subsequent FAA approval will provide additional aircraft to be used by Safford Aviation and provide the FAA to approve said amendment.

* * *

Flight crew for Safford Aviation sUAS operations will be a Flight Operator (Pilot) and a Visual Observer (VO). The Flight Operator (Pilot) will possess a current FAA private pilot license or higher and a current FAA Class III medical certificate or United States Drivers License. The Visual Observer (VO) will have received required Safford Aviation training to qualify for Visual Observer (VO) duties.

Safford Aviation Flight Crew requirements are discussed in detail in Section G (sUAS Flight Crew).

* * *

Safford Aviation flight operations are to be conducted over private or over controlled access property, below 400 feet AGL and with the permission of the property owner/controller or authorized representative.

During Safford Aviation's flight operations the sUAS will always be within visual line of sight (VLOS) of either the Flight Operator (Pilot) or the Visual Observer (VO). sUAS flight operations will always be operated in areas that are clear of people, except for personal directly involved with sUAS operations.

Safford Aviation flight operations are discussed in detail in Section H (sUAS Operating Parameters).

■E. REGULATION EXEMPTIONS

Listed below are FAA regulations for which Safford Aviation is seeking exemptions. Safford Aviation also request exemption from such other FARS as the FAA deems appropriate to enable Safford Aviation's requested operations.

14 CFR § 61.23 (a) (2)

§61.23 Medical certificates: Requirement and duration.

(a) Operations requiring a medical certificate. Except as provided in paragraphs (b) and (c) of this section, a person—

(2) Must hold at least a second class medical certificate when exercising:

(i) Second-in-command privileges of an airline transport pilot certificate in part 121 of this chapter (other than operations specified in paragraph (a)(1)(ii) of this section); or

(ii) Privileges of a commercial pilot certificate; or

(3) Must hold at least a third-class medical certificate—

(i) When exercising the privileges of a private pilot certificate;

Exemptions from 14 CFR § 61.23 (a) (2) is sought from the requirement to hold a Second Class Medical Certificate for commercial flight operations. For sUAS operations, a Third Class Medical Certificate (as required for Private Pilot Privileges or a valid United States Driver's License) provides an equivalent level of safety as that of a Second Class Medical Certificate given that:

1) No persons (crew/passengers) or cargo are carried onboard the sUAS.

2) The sUAS has the ability to "auto hover" and "auto return to home" at the touch of a button.

3) In the event of incapacitation of the Flight Operator (Pilot), the sUAS will automatically begin a descent and landing when the battery level falls to below the manufacture's predetermined Critical Low Battery level.

14 CFR § 61.113 (a) and (b)

§61.113 Private pilot privileges and limitations: Pilot in command.

(a) Except as provided in paragraphs (b) through (h) of this section, no person who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.

(b) A private pilot may, for compensation or hire, act as pilot in command of an aircraft in connection with any business or employment if:

(1) The flight is only incidental to that business or employment; and

(2) The aircraft does not carry passengers or property for compensation or hire.

Exemptions from 14 CFR § 61.113 (a) and (b) is sought from the requirement for the sUAS Flight Operator (Pilot) to hold a FAA Commercial Pilot Certificate.

Safford Aviation Flight Operator (Pilot) will hold a FAA Private Pilot Certificate or higher.

A FAA Commercial Pilot Certificate requires demonstration of further airmanship skills to safely carry passengers and cargo for hire. Safford Aviation sUAS will not carry onboard any persons (passengers/crew) or cargo for hire.

These enhanced airmanship skills are not utilized in flight of the sUAS, thus a Flight Operator (Pilot) holding a FAA Private Pilot Certificate or higher with sUAS flight training will provide an equivalent level of safety.

In the granting of exemption, #11062, to Astraeus Aerial the FAA determined that a PIC with a FAA Private Pilot Certificate operating the sUAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

In similar fashion to Astraeus Aerial operations, Safford Aviation operations are conducted over private property or over controlled access property and with the permission of the property owner/controller or authorized representative.

The FAA has previously issued an exemption to this rule [14 CFR § 61.113 (a) and (b)] in exemption #11062 to Astraeus Aerial.

14 CFR § 91.7 (a)

§91.7 Civil aircraft airworthiness.

(a) No person may operate a civil aircraft unless it is in an airworthy condition.

Exemption from 14 CFR § 91.7 (a) is sought requiring Civil Aircraft Airworthiness because:

1) The sUAS will not receive and Airworthiness Certificate under 14 CFR § 21.
2) Compliance with Safford Aviation Operating Documents will provide a means of insuring an equivalent level of safety.
3) The Flight Operator (Pilot) of the sUAS has final authority to determine whether the sUAS in a safe condition for flight.

In the granting of exemption #11188 to State Farm the FAA determined that even though the sUAS is not required to have an airworthiness certificate per 14 CFR § 21 Subpart H, exemption from the requirements of 14 CFR § 91.7 (a) [Civil Aircraft Airworthiness] is required.

The FAA considers compliance with operating documents to be a sufficient means of determining an airworthy condition in accordance with the requirements of this part.

Additionally, in accordance with 14 CFR § 91.7 (b), the PIC is responsible for determining whether the aircraft is in a condition for safe flight. The FAA found in the granting of exemption #11188 to State Farm Mutual Automobile Insurance Company that the PIC can comply with this requirement.

The FAA has previously issued an exemption to this rule [14 CFR § 91.7 (a)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.119 (c)

§91.119 Minimum safe altitudes: General.

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Exemption from 14 CFR § 91.119 (c) is sought because:

1) All sUAS flights are conducted below 500 feet AGL.

2) All sUAS flights operate in a tightly controlled area below 400 feet AGL over private or controlled property with permission of the property owner.

In the granting of exemption #11188 to State Farm Mutual Automobile Insurance Company the FAA determined that sUAS operations should remain 500 feet from all persons not directly involved with sUAS operations. The FAA also has determined that operations of closer than 500 feet may be permitted if:

1) All non-participating persons are protected by a suitable shelter.

2) Permission has been granted by the property owner/controller or authorized representative.

The FAA has previously issued an exemption to this rule [14 CFR § 91.119 (c)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.121

§91. 121 Altimeter settings.

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—

(1) Below 18,000 feet MSL, to—

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in paragraph (a)(1)(I) of this section, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure; or

(2) At or above 18,000 feet MSL, to 29.92" Hg.

(b) The lowest usable flight level is determined by the atmospheric pressure in the area of operation as shown in the following table:

(c) To convert minimum altitude prescribed under §§91.119 and 91.177 to the minimum flight level, the pilot shall take the flight level equivalent of the minimum altitude in feet and add the appropriate number of feet specified below, according to the current reported altimeter setting:

Exemption from 14 CFR § 121 is sought because:

1) The sUAS is not equipped with an altimeter.

2) All sUAS flights operate in a tightly controlled area below 400 feet AGL over private or controlled property and with the permission of the property owner.

3) All sUAS flights are conducted below 400 feet AGL.

a. GPS altitude information from the sUAS will be via a data down-link and will be displayed to the Flight Operator (Pilot) in real-time.

4) This provides an equivalent level of safety.

In the granting of exemption #11188 to State Farm Mutual Automobile Insurance Company the FAA determined that:

1) All sUAS flights operate in a tightly controlled area below 400 feet AGL over private or controlled property and with the permission of the property owner and within VLOS of the Flight Operator (Pilot) or Visual Observer (VO).

2) The use of onboard GPS altitude information is provided via a data down-link and to the PIC

The FAA has previously issued an exemption to this rule [14 CFR § 91.121] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.151 (a) and (b)

§91.151 Fuel requirements for flight in VFR conditions.

(a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

(1) During the day, to fly after that for at least 30 minutes; or

(2) At night, to fly after that for at least 45 minutes.

(b) No person may begin a flight in a rotorcraft under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 20 minutes.

Exemptions from 14 CFR § 91.151 (a) and (b) is sought because:

1) Complying with the 30 minute fuel reserve would unnecessarily limit the length of the sUAS flights. The DJI T600 has an endurance limit of 18 minutes.

2) All sUAS flights operate in a tightly controlled area below 400 feet AGL over private or controlled property and with the permission of the property owner.

3) The DJI T600 sUAS has the enhanced safety feature that it will automatically descend and land when the battery level falls to below the manufacture's predetermined Critical Low Battery level. Upon landing the DJI T600, motors will stop.

4)

5) The DJI T600 sUAS provides the Flight Operator (Pilot) real-time display of available remaining battery power for flight.

6) An equivalent level of safety can be achieved by limiting flights when remaining battery life falls to 25% capacity.

7) The DJI T600 sUAS operated by Safford Aviation is a rotorcraft (multi- rotor / quad-rotor) unmanned aircraft.

The FAA has previously issued an exemption to this rule [14 CFR § 91.151 (a) (1)] in e x e m p t i o n #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.405 (a)

§91.405 Maintenance required.

Each owner or operator of an aircraft—

(a) Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter;

Exemption from 14 CFR § 91.405 (a) is sought because:

1) Given that these sections and Part 43 apply to Certificated Aircraft, these

sections do not apply to the operation of sUAS.

2) Maintenance and preventative maintenance will be performed in accordance with the sUAS manufacturer (DJI) operation and maintenance instructions.

The FAA has previously issued an exemption to this rule [14 CFR § 91.405 (a)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.407 (a) (1)

§91.407 Operation after maintenance, preventive maintenance, rebuilding,or alteration.

(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—

(1) It has been approved for return to service by a person authorized under §43.7 of this chapter; and

Exemption from 14 CFR § 91.407 (a) (1) is sought because:

3) Given that these sections and Part 43 apply to Certificated Aircraft, these sections do not apply to the operation of sUAS.

4) Maintenance and preventative maintenance will be performed in accordance with the sUAS manufacturer (DJI) operation and maintenance instructions.

The FAA has previously issued an exemption to this rule [14 CFR § 91.407 (a) (1)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.409 (a) (1) and (2)

§91.409 Inspections.

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—

(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by §43.7 of this chapter; or

(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.

Exemptions from 14 CFR § 91.409 (a) (1) and (2) is sought because:

1) Given that these sections and Part 43 apply to Certificated Aircraft, these sections do not apply to the operation of sUAS.

2) Maintenance and preventative maintenance will be performed in accordance with the sUAS manufacturer (DJI) operation and maintenance instructions.

The FAA has previously issued an exemption to this rule [14 CFR § 91.409 (a) (1) and (2)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

14 CFR § 91.417 (a) and (b)

§91.417 Maintenance records.

(a) Except for work performed in accordance with §§91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:

(1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—

(i) A description (or reference to data acceptable to the Administrator) of the work performed; and

(ii) The date of completion of the work performed; and

(iii) The signature and certificate number of the person approving the aircraft for return to service.

(2) Records containing the following information:

(i) The total time in service of the airframe, each engine, each propeller, and each rotor.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required.

(vi) Copies of the forms prescribed by §43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances.

(b) The owner or operator shall retain the following records for the periods prescribed:

(1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.

(2) The records specified in paragraph (a) (2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(3) A list of defects furnished to a registered owner or operator under

§43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.

Relief from 14 CFR § 91.417 (a) and (b) is sought because:

1) Given that these sections and Part 43 apply to Certificated Aircraft, these sections do not apply to the operation of sUAS.

The FAA has previously issued an exemption to this rule [14 CFR § 91.417 (a) and (b)] in exemption #11188 to State Farm Mutual Automobile Insurance Company.

■E. sUAS AIRCRAFT

sUAS Operated by Safford Aviation

sUAS operated by Safford Aviation do not carry onboard any persons (crew or passengers). No property belonging to any persons or group other than Safford Aviation is carried onboard Safford Aviation sUAS during Safford Aviation flight operations.

1) sUAS Operated by Safford Aviation are as follows:
   a. DJI T600
   b. None Other

DJI T600 Inspire 1

1) The DJI T600 is a multi-rotor battery powered aircraft. It does not carry or contain onboard any flammable fuel, explosives or weapons systems.
2) Make (Manufacturer): DJI
   a. DJI is a world leader in innovation and manufacturing of sUAS. DJI has a well-known commitment for creating safe, easy to operate sUAS.
3) Model: T600
4) Type: Rotorcraft (multi-rotor / quad-rotor)
5) Specifications:
   a. Size: 22 inches (diagonal)
   b. Maximum Weight: 7.5 lbs.
   c. Maximum Horizontal Speed: 49 mph (22 m/s)
   d. Maximum flight time: ~18 minutes
   e. RF Control range: 1.2 miles (2 km)
6) Airframe
   a. Quad-Rotor Electric Propulsion System
   b. Power Source (Removable/Rechargeable Battery System)
7) GPS
8) Digital Compass
9) 5.8 GHz (flight controller)
10) 2.4 GHz (video and data communication)
11) All RF components are FCC certified.
12) Digital Camera and Camera Gimbal

DJI T600 Safety Features:

1) The DJI T600 has an onboard Intelligent Flight Control System with built-in GPS providing accurate position information.
2) The DJI T600 provides Flight Telemetry Data in real-time to the Flight Operator (Pilot) with the following information:
    a. Display real-time Altitude (AGL),
    b. Display real-time Flight Speed and Distance from the Flight Operator (Pilot).
    c. Display real-time number of GPS satellites in view
    d. Display real-time available remaining battery power for flight.
        i. Audible and visual alarms alert the operator on the operator display when battery level is reduced.
3) When the battery level is reduced to "critical low", the DJI T600 will begin an automatic descent and landing. Upon landing the DJI T600 motors will stop. The T600 will not crash upon inadvertent exhaustion of its power source.
4) The DJI flight display provides real-time location and heading relative to the Flight Operator (Pilot).
5) The intelligent Flight Control System coupled with the GPS position information onboard the DJI T600 provides the ability for the Flight Operator (Pilot) to permit the sUAS to auto-hoover in position with compensation for wind and drift.
6) The intelligent Flight Control System coupled with the GPS position information onboard the DJI T600 provides the ability for the Flight Operator (Pilot) to command the sUAS to automatically return to its point of departure.
7) The DJI T600 will return to its point of departure, land and shut down the motors automatically in the event of a loss of RF Control from the Flight Operator (Pilot). Loss of signal will be displayed on the Flight Operators (Pilot) display.
8) The DJI T600 is programmed via software to not permit operation above 400 feet AGL. This prevents inadvertent flight above the 400 feet AGL ceiling mandated by the FAA.
9) The DJI T600 is programmed via software to prevent motor start within five nautical miles of an airport or in restricted or in prohibited airspace. This prevents inadvertent flight within five nautical miles of a restricted airport or otherwise restricted airspace.
10) These highly advanced capabilities insure that the DJI T600 will not create a hazard to the public and can be safely operated in the National Airspace System (NAS) with an equivalent level of safety as a certified manned aircraft.

■G. sUAS FLIGHT CREW

Private Pilot Certificate

Safford Aviation sUAS Flight Operator (Pilot) will hold a current FAA Private Pilot Certificate or higher.

Flight Operator (Pilot) Requirements:

1) Flight Operator (Pilot) must possess at a minimum:
    a) FAA issued Private Pilot Certificate.
    b) Must meet FAA flight currency requirements for FAA pilot license held.

c) Current FAA Third Class Medical Certificate or a valid United States driver's license.
d) Flight Operator (Pilot) must have received all required initial and recurrent training.

Visual Observer (VO) Requirements:

1) Visual Observer (VO) must have received all required initial and recurrent training.
2) The Visual Observer (VO) is NOT required to possess a FAA Pilot License or a FAA Medical Certificate.

■H. sUAS OPERATING PARAMETERS

sUAS Requirements for Flight:

1) sUAS operator must have continuously available telemetry from the sUAS including:
   a) Display of sUAS distance from the operator.
   b) Display of sUAS altitude from the operator.
   c) Display of sUAS remaining battery life.
2) sUAS may not continue mission objectives with less than 25% useful battery life.
3) sUAS may not carry any weapon systems onboard.

sUAS Documentation Requirements

Due to the sUAS size and weight limitations and the fact that the sUAS does not contain an operator, these documents will be with the Flight Operator (Pilot) during all flight operations.

1) Flight Operators (Pilot) must have the following manuals and documents for flight.
   a) FAA Exemption
   b) DJI T600 User's Manual

sUAS Pre-Flight Requirements

A qualified person will perform pre-flight checks prior to each flight and predefined intervals as part maintenance schedule.

1) Remote controller, aircraft battery, and mobile device are fully charged.
2) Propellers are mounted correctly and firmly.
3) Calibrate compass per DJI manual if mission is in a new location, status indicators are blinking red and yellow, if drifting occurs in flight.
4) Micro-SD card has been inserted, as required.
5) Gimbal is functioning as normal.
6) Motors can start and are functioning as normal.
7) DJI Pilot app connected to the aircraft.

sUAS Flight Requirements

All Safford Aviation sUAS flights are performed within a small geographical area defined by line-of-sight of the Flight Operator (Pilot) or Visual Observer (VO) and with a maximum flight altitude of 400 feet Above Ground Level (AGL). Given that all sites are not flat, Safford Aviation will use the

elevation of the highest topographical point within the mission boundary and line of site to establish the 400 feet ceiling. In the granting of exemption, #11593 to Freeport-McMoRan, Inc. the FAA determined that this 400-foot ceiling for operating the sUAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

All Safford Aviation sUAS flights operate over private or controlled property and with the permission of the property owner.

1) The Flight Operator (Pilot) is has final authority for safety of flight.
2) A pre-flight briefing will be performed before every flight by the Flight Operator (Pilot) with all personal involved in planned sUAS flight operations. This briefing will include at a minimum:
    a) Safety
    b) Emergency Procedures
    c) Planned Operations
3) A pre-flight safety inspection will be performed before every flight segment.
4) sUAS operations will always utilize a Visual Observer (VO)
5) The Flight Operator (Pilot) and Visual Observer (VO) must maintain verbal or radio communications at all times.
6) sUAS Flight Operator (Pilot) or Visual Observer (VO) must maintain visual line of sight and visual contact with the sUAS at all times.
    a) Visual line of sight requires the unaided (corrective lenses and /or sunglasses excepted) contact between a pilot in command and an unmanned aircraft sufficient to maintain safe operational control of the aircraft, know its location, and be able to scan the airspace in which it is operating to see and avoid other air traffic or objects aloft or on the ground.
7) No member of the Flight Crew may participate in sUAS flight while under the influence of alcohol or any drug that would adversely affect the ability to safely participate in the flight of the sUAS.
8) sUAS Flight
    a) sUAS may not be flown in a careless or reckless manner.
    b) sUAS will yield the right-of-way to all manned aircraft.
9) Flight Restrictions
    a) All Safford Aviation sUAS flights will operate in a tightly controlled area over private or controlled property with permission of the property owner.
    b) Maximum sUAS operating altitude of 400 feet above ground level.
    c) sUAS may not be flown at an airspeed exceeding 87 Knots (100 mph).
    d) sUAS Flight Operator (Pilot) may not operate the sUAS from any moving vehicle.
        i) Exception: sUAS operation from a boat that is located at least of ¼ mile from shore is permitted.
    e) sUAS flight will "RETURN TO HOME" when remaining battery falls to 25% capacity.
10) Operation in the Vicinity of Airports
    a) An airport as is designated on current FAA Aeronautical Chart.
    b) sUAS operation within 5 nautical miles of an airport WITH an operating Air Traffic Control Tower is permitted provided:
        i) The sUAS Flight crew must be in continuous communication with and receive clearance from the active Air Traffic Control Tower.

c) sUAS operation within 5 nautical miles of an airport WITHOUT an operating control tower is permitted provided:
   i) The Flight crew must monitor and transmit position/intention reports on the local Unicom frequency when operating within this area.

Accident/Incident Reporting

Any incident or accident that inflicts serious injury or death up a person or causes property damage in excess of $25,000 must be reported to the local FAA Flight Safety District Office (FSDO) within 72 hours of the occurrence.

■I. sUAS MAINTENANCE

Proper inspection and maintenance is critical to safe sUAS operation.

Preventative Maintenance

Maintenance, Preventative Maintenance and Inspections will be performed in accordance with DJI maintenance and inspection recommendations contained in the latest DJI Manual.

■J. sUAS TRAINING

Safety is achieved through the relentless pursuit of quality training and adherence to FAA Approved Operating Procedures and FAA Regulations.

This section describes the policies and procedures for training performed by Safford Aviation. Safford Aviation will use all training sources and methods available to provide employees with the information necessary for them to perform their assigned duties and tasks correctly and safely. The majority of the training provided by this organization will use on-the-job (OJT) methodology.

Training Sources

Safford Aviation will use any and all training materials deemed necessary by Safford Aviation and/or the FAA to provide training to Safford Aviation Flight Crew members. The following is a list of materials that will be used to provide training:

1) FAA Far-AIM
2) VFR Sectional Chart
3) Safford Aviation Section 333 Exemption
4) DJI Quadcopter Pilot Training Guides
5) DJI T600 User's Manual

■K. FOR THE GOOD OF THE PEOPLE

Public Interest

Today's current methods of commercial aerial photography and commercial aerial inspection require the use of a certified manned aircraft or a certified manned helicopter and a pilot with a FAA Commercial Pilot License. A low flying aircraft or a low altitude helicopter (operating in strict compliance with existing FAA regulations) hovering and circling over a small confined area creates an inherent safety risk. It can often create a nuisance of noise pollution in the affected area as well.

The use of a sUAS rather than a manned aircraft in such applications will further the public interest in several areas including but not limited to the following:

1) The sUAS carries no passengers, pilot or crew, thereby increasing pilot, passenger and worker safety.
2) The sUAS carries no flammable fuel thereby increasing safety to the public.
3) The sUAS has a lower noise signature than a typical helicopter thereby improving public welfare.
4) The sUAS has fewer emissions thereby reducing the environment impact over traditional manned aircraft.
5) The sUAS is less expensive to operate than a traditional manned aircraft thereby decreasing the cost of imagery. This allows companies the option to inspect more frequently, more thoroughly, and thereby increase public welfare.
6) The sUAS is less expensive to acquire than a manned aircraft thereby allowing more crews to operate concurrently.
7) The sUAS may respond to natural disasters and storm-related damage quicker than manned-aircraft.

Privacy

All sUAS flights operate in a tightly controlled area, at altitude of less than 400 feet AGL and over private or controlled property with permission of the property owner. sUAS operated by Safford Aviation within the operating parameters outlined herein present no risk to the privacy of the public.

Conclusion

Continued growth and expansion is a vital part of Safford Aviation and our goal to provide a safe service. Because of this, we are asking for exemption to provide commercial sUAS services for aerial photography and video for agriculture, construction and mining inspections and surveying, wildland and wildlife mapping, and for special events.

As we have provided in this request, sUAS operations for commercial as Safford Aviation service Inc. has outlined:

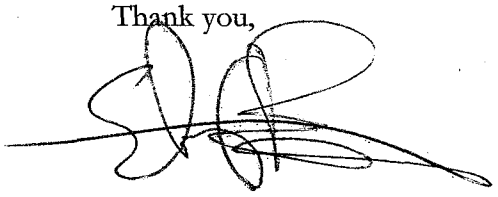
1) Will provide an equivalent level of safety as certified manned aircraft.
2) Will not adversely affect safety in the National Airspace System
3) Will reduce airspace congestion.
4) Will reduce airborne noise.
5) Will not pose a hazard the public
6) Will present no risk to the privacy of the public
7) Will provide an economic benefit to American Citizens.
8) Is in the interest of the public.

The FAA's authority to issue exemptions from current operating rules and regulations, and the Secretary's authority granted by section 333 of P.L. 112-95 (Special Rules for Certain Unmanned Aircraft Systems) provides an opportunity to authorize certain sUAS operations into the National Airspace System (NAS) prior to implementation of the final sUAS rule.

Granting this Section 333 exemption request for Safford Aviation Service Inc. for commercial operation of sUAS within the operating parameters outlined herein IS in the public interest.

Safford Aviation has shown just cause exist for the FAA to grant exemption from these Federal Aviation Regulations.

Thank you,



Doug Benson