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

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

September 3, 2015

Exemption No. 12740
Regulatory Docket No. FAA−2015−1792

Mr. Kirk Vriesman
Beargrass Imaging
747 Hi Francis Road
Arlee, MT 59821

Dear Mr. Vriesman:

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 May 5, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. You requested to operate an unmanned aircraft system (UAS) to conduct aerial photography, videography, inspections, surveys, and mapping.

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 Phantom 3 Professional.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. 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 the requested 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, Mr. Kirk Vriesman dba Beargrass Imaging 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, Mr. Kirk Vriesman dba Beargrass Imagery 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 Phantom 3 Professional 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

May 5, 2015

Kirk Vriesman
Beargrass Imaging
747 Hi Francis Road
Arlee, MT 59821

U.S. Department of Transportation, Docket Operations
West Building Ground Floor, Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Sir or Madam:

The purpose of this letter is to petition the Federal Aviation Administration (FAA) for an exemption from certain Federal Aviation Regulations (FARs) in order that I, Kirk Vriesman doing business as (DBA) Beargrass Imaging, am permitted operate an Unmanned Aerial System (UAS) for the purpose of aerial photography and videography, inspections, surveys, and mapping.

Beargrass Images will acquire a DJI Phantom 3 Professional quadcopter for the intent of operating it commercially upon receiving permission from the FAA. The exemption request would permit the operation for business purposes of the ultra-light weight, unmanned (piloted by remote control) UAS in tightly controlled and limited airspace.

I, Kirk Vriesman, owner of Beargrass Imaging, will detail in this petition the specific regulations for which I seek relief, offering alternative and equivalent ways of producing a level of safety at least equal to the existing rules. This petition focuses on public benefit and public safety.

Accordingly, and pursuant to 14 CFR §§ 11.61-.103 and Section 333 of the FAA Modernization and Reform Act of2012, PL 112-95 (Feb. 14, 2012), the petitioner is submitting the following information with this request:

Identity of the petitioner:

Kirk Vriesman
747 Hi Francis Road
Arlee, MT 59821

Kirk Vriesman seeks an exemption form the following FARs:

14 CFR Part 21, Subpart H
Certification procedures for products and parts, Airworthiness Certificates
14 CFR Part 36

Noise standards: Type and airworthiness
14 CFR § 45.23
Display of marks; general
14 CFR Part 61
Certification: Pilots, flight instructors, and ground instructors
14 CFR § 91.7
Civil aircraft airworthiness
14 CFR § 91.9
Civil aircraft flight manual, marking, and placard requirements
14 CFR § 91.103
Preflight action
14 CFR § 91.105
Flight crewmembers at stations
14 CFR § 91.109
Flight instruction
14 CFR § 91.119
Minimum safe altitudes
14 CFR § 91.121
Altimeter settings
14 CFR § 91.151
Fuel requirements for flights in VFR conditions
14 CFR §91.173
ATC clearance and flight plan in IFR
14 CFR § 91.203
Civil aircraft: Certifications required
14 CFR § 91.207
Emergency locator transmitters
14 CFR Part 91, Subpart E
Maintenance

Extent of Relief Sought, and Reasons for Seeking the Exemption:

14 CFR Part 21, Subpart H. Part 21 establishes the procedures for issuance of certificates of airworthiness, as mandated by 49 U.S.C. § 44704. Under Section 333 and 49 U.S.C. § 44701(b), the FAA may exempt aircraft from airworthiness certification. The petitioner requests an exemption from the requirements of this Part because the size, weight, speed, operational capability and proximity to airports in which the Subject UAS will operate poses significantly less of a risk that the risks posed by conventional aircraft. Manned aircraft pose risks to the life and safety of the crew; that is not a consideration with the Subject UAS. Risks to third parties are also minimized given the lightweight and slow speed at which the Subject UAS would operate. Nor are there risks of fuel spillage or fire in the event of an accident. Thus, the petitioner requests that the FAA waive the requirement that the Subject UAS, particularly the aircraft portion, requiring an airworthiness certificate.

14 CFR Part 36. FAR Part 36, Subparts A, F and 0, establish certain noise standards for certification of various aircraft types. Because the Subject UAS would not have an airworthiness certificate, and given its small size and negligible noise impact, the petitioner requests an exemption from FAR Part 36.

14 CFR § 45.23. FAR Part 45.23 establishes marking requirements for aircraft; paragraph (b) mandates that the registration number be displayed in letters not less than two inches in height. The Subject UAS is small enough that it cannot accommodate the type-size requirement. Accordingly, the petitioner requests an exemption from this part.

14 CFR Part 61. FAR Part 61 sets forth the certification requirements for pilots. The petitioner requests an exemption that would allow him, or his employee or associate, in possession of the proper FAA credentials, to operate the Subject UAS for compensation or hire as part of an aerial imaging business for the reasons articulated in *In re Trudeau,* FAA Exemption No. 11138, and *In re Astraeus,* FAA Exemption No. 11062. The petitioner, or his employee or associate, will operate the Subject UAS over property where the owner or owner's representative has requested that the operation occur.

14 CFR § 91.7. Under FAR 91.7, no person may operate an aircraft unless it is in an airworthy condition. To the extent that "airworthy" is defined as requiring an airworthiness certificate, the petitioner requests an exemption from this FAR for the same reasons identified in his request for an exemption of 14 CFR Part 21, Subpart H. Petitioner will not, however, operate the Subject UAS if it is not in a condition for safe flight, as required under FAR 91.7(b).

14 CFR § 91.9. Petitioner requests exemption from the requirement of FAR 91.9, which requires that all aircraft have certain markings, placards and on-board flight manuals for the same reasons as stated in his request for exemption under 14 CFR Part 21, Subpart H, and for a deviation from the marking requirements of 14 CFR Part 36, Subparts A, F, and 0.

14 CFR § 91.103. FAR 91.103 mandates certain pre-flight action. The petitioner will take all necessary pre-flight action, but requests an exemption from this requirement insofar as it is interpreted as requiring pre-flight actions appropriate to manned aircraft only (e.g., that flights originate from an airport, etc.).

14 CFR § 91.105. FAR 91.105 mandates that crewmembers be at designated stations, have safety belts fastened, etc. The petitioner would be at a designated ground station for each mission, but requests an exemption to accommodate the fact that the Subject UAS is unmanned.

CFR *§* 91.109. This FAR requires that all flight instruction be conducted in aircraft that have dual controls, or throw-over controls, with an instructor. From time to time the petitioner will conduct his own refresher training, but requests an

exemption insofar as this FAR would be interpreted to require that the ground control station have a second controller or dual- control capability.

14 CFR *§* 91.119. FAR 91.119 sets forth the minimum safe altitudes over various areas. The petitioner requests an exemption from this this FAR in order to accomplish the intended function of the mission for which he seeks an exemption.

14 CFR § 91.121. FAR 91.121 mandates various altimeter settings in order to maintain level flight. The petitioner requests and exemption from this FAR as the Subject UAV will not have an altimeter that matches the requirements of this FAR. Operations with the Subject UAV will, however, maintain altitude below the 300' AGL ceiling by the petitioner monitoring the altitude of the UAS and through the Subject UAS's technological ability to establish a flight zone that cannot exceed the ceiling.

14 CFR § 91.151. The petitioner requests an exemption from the VFR-flight fuel carrying requirements because the Subject UAS will operate on battery power. Operations with the Subject UAS will, however, maintain a five-minute reserve battery time.

19 CFR § 91.173. The petitioner requests an exemption from the IFR-clearance requirement for flights into controlled airspace. It is possible the petitioner may operate the Subject UAS in conditions that are IFR within controlled airspace (e.g., a flight on a day with less than three miles visibility in a neighborhood that falls within the Class D airspace). The petitioner would request that, after contacting ATC for the controlled airspace, he would be allowed to operate in what might be IFR conditions, but where he still has complete and unfettered line of sight visibility with the Subject UAS.

14 CFR § 91.203. FAR 91.203 requires that a civil aircraft have an airworthiness certificate and a registration certificate. The petitioner requests that he be exempt from complying with this FAR insofar as it mandates issuance of an airworthiness certificate, for the reasons stated in his request for an exemption under 14 CFR Part 21, Subpart H.

14 CFR § 91.207. FAR 91.207 prohibits operation of a US-registered aircraft unless it is equipped with an emergency locator transmitter. Given the limited distance of flights of the Subject UAS, the petitioner requests and exemption from this FAR.

14 CFR Part 91, Subpart E. FAR 91, Subpart E requires that owners or operators of aircraft have the aircraft inspected at certain intervals, and by certain mechanics. The petitioner requests an exemption from this Subpart because the Subject UAS has a trouble-shooting and maintenance program that is best executed by the owner/operator, and is simply different from the maintenance of manned aircraft. Petitioner will, however, maintain a maintenance log and any maintenance records of repair of the Subject UAS, and follow any and all manufacturer safety bulletins.

Description of Operations:

A. The UAS that is the Subject of this Petition.

The petitioner will operate a DJI Phantom 3 Professional unmanned aircraft and its associated portable ground station controller (together the "Subject UAS"). The Subject UAS is a quad-copter with a camera mounted beneath it, piloted via a portable ground station. It has a weight of approximately 1,280 grams. The DJI Phantom 3 Professional is a widely known unmanned aircraft manufactured by a well-respected company.

The portable ground station used by the petitioner to pilot the unmanned aircraft is a wireless communication device using an FCC-compliant 2.4 GHz transmitter. The Subject UAS is equipped with lost-link capability, which enables the Phantom 3 to enter a fail-safe Return-to-Home Mode in the event that the link between the aircraft and the ground station is lost. The Subject UAS can operate for a total of approximately 23 minutes on one battery charge. It has a maximum range from the ground station of 2,000 meters. However, it also has programmable height and radius limits to establish an operations area.

B. The UAS Petitioner

Mr. Vriesman is a photographer that received a Master of Fine Arts degree from Syracuse University. He has been associated with several entrepreneurial businesses, and currently works as an information professional in a public library system. He has also received a Master of Library and Information Science degree from San Jose State University.

With regard to the operation UAS systems, Mr. Vriesman has made numerous flights as a hobbyist, and has accumulated more than 20 hours of flight time with UAS aircraft.

C. UAS Operating Parameters

The vast majority of the petitioner's operations will be conducted in the Western Montana region. However, his business may take him to adjacent areas. Because the operations may be conducted at various locations in the area during the period that the exemption would be in effect, there are not specific locations at which the petitioner intends to operate.

The petitioner would adopt the following UAS Operating Parameters:

1. All missions will be conducted below 300' AGL, and within a radius distance of 800' from the portable ground station.
2. Each mission will consist of one flight.

3. The pilot in command (PIC) will establish a fixed location where he will be positioned with the portable ground station, and utilize a visual observer (VO) during all flights.
4. The PIC and VO will have direct visual observation of the aircraft at all times, and operate only within a visual line of sight (VLOS).
5. Prior to the start of a flight, the PIC will activate and use the UAS's global positioning system flight safety procedure and lost-link procedure to ensure return of the aircraft in the event of a lost link or compromised communication.
6. On each mission, the aircraft will return to the control pad with no less than five minutes of battery power remaining.
7. Each mission will last for no more than eighteen minutes of flight time.
8. In the event that any mission would ever occur within the airspace of a specific airport or controlled airspace, the petitioner shall obtain the permission of that control tower to operate in that airspace or from the appropriate control authority.
9. In the event that any mission will occur within five miles of an airport, the petitioner shall ensure the airport is notified of the estimated flight time, flight duration, elevation of flight, and pertinent information.
10. The petitioner will conduct all flights in permissible weather, and during daylight hours.

Public Interest and Benefit Considerations:

Aerial imaging services generally require use of a manned aircraft. Existing close-proximity aerial photography is extremely difficult to do, and requires the use of a helicopter or slow-moving aircraft at an appropriate distance over a populated area. The operation must be conducted in VFR conditions, and adds aircraft to already congested airspace.

By using the Subject UAS, the petitioner aims to provide the public with quality aerial imaging services at a lesser cost than would be associated with manned flight. The risks associated with manned flight would be significantly reduced considering the Subject UAS conducting the operation weighs less than three pounds, would remain below 300' AGL, does not operate with combustible fuel, and can operate within a very confined space directly over the location being imaged. In addition, because the Subject UAS has no emissions, ecological impact is minimized. Thus the public will be better served by having more affordable aerial imaging options available thereby driving economic growth, having a low-impact ecological option available for aerial imaging, and by having safe UAS operation from a licensed pilot closely following established operating procedures.

Why the Exemptions Would Not Adversely Affect Safety:

The proposed operations will not adversely affect safety for three primary reasons.

First, the operations will be conducted in airspace where there is typically no activity among other users of the NAS. Flights are limited to property over which the owner has requested that the Subject UAS operate, so the owners will be fully aware of the flight operation. The petitioner fully recognizes the dangers that a small UAV could pose to all types of manned aircraft. The operations the petitioner is proposing to undertake pending approval are operations taking place where manned aircraft will not fly. There would be a rigid separation between where a manned aircraft can fly (particularly due to FAR 91.119 which establishes minimum safe altitudes, to include an absolute prohibition of operating an aircraft within 500' of any structure) and where the petitioner would operate the UAV.

Second, the Subject UAS is not a large aircraft. Weighing less than 3 pounds, the likelihood that it would damage property or injure a person is low, even in the event of a mishap. In addition, aerial imaging is typically done via manned aircraft, and the risk there is at least equal to the risk posed by the proposed operation.

Third, the Subject UAS has inherent lost-link capabilities to bring it back to its operating base during a mission. It is a redundant system that addresses a failed communications problem in the event that it does arise.

Language for Inclusion in the Federal Register:

Mr. Vriesman proposes that the following language be included in the Federal Register:

Petition for Exemption.

Federal Aviation Regulations from which Petitioner seeks exemption: 14 CFR 14 CFR Part 21, Subpart H; Part 36; § 45.23; Part 61; §§ 91.7; 91.9; 91.103; 91.105; 91.109; 91.119; 91.121; 91.151; 91.173; 91.203; 91.207; and 14 CFR Part 91, Subpart E.

Description of Relief Sought: The petitioner is seeking an exemption from the above-referenced Federal Aviation Regulations to conduct aerial imaging using a light, unmanned aerial vehicle for the purpose of aerial photography and videography, inspections, surveys, and mapping.

Conclusion:

I would like to thank the FAA for considering this request. Please do not hesitate to contact me should there be a need for additional information. I look forward to working with the FAA and taking part in the discussion of how the FAA will ultimately regulate commercial UAV use in the United States.

Sincerely,

Kirk Vriesman

Enclosures / Attachments (2)

DJI Phantom 3 Users Manual v1.0 part 1.pdf

DJI Phantom 3 Users Manual v1.0 part 2.pdf