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

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

August 11, 2015

Exemption No. 12417
Regulatory Docket No. FAA–2015–2203

Mr. Michael Broker
NE3RD LLC
P.O. Box 6135
Navarre, FL 32566

Dear Mr. Broker:

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 21, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of NE3RD LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial data collection.

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 are a 3D Robotics IRIS+, Event 38 - E384, and DJI Phantom 2 Vision Plus.

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, NE3RD LLC 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, NE3RD LLC 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 3D Robotics IRIS+, Event 38 - E384, and DJI Phantom 2 Vision Plus 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 August 31, 2017, unless sooner superseded or rescinded.

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

Enclosures

Michael Broker
NE3RD LLC
P.O. Box 6135
Navarre, FL 32566
Cell (832) 819-3009
Email: nerd@ne3rd.com

May 21, 2015

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

RE: Exemption Request Section 333 of the FAA Reform Act of 2012

Attachments: 1) IRIS-Plus-Operation-Manual-vH-web
2) E384Operations Manual
3) E384TrainingSyllabus
4) E384 Maintenance Manual
5) Phantom 2 Vision+ User Manual V1.6 20141112
6) Phantom 2 Vision Plus (Quick Start Guide) 20141118
7) Phantom pilot training guide V1.1 20140407
8) Flight Checklists

References: 1) FAA Exemption No. 11138, Regulatory Docket No. FAA20140481
In the matter of the petition of DOUGLAS TRUDEAU
2) FAA Exemption No. 11136, Regulatory Docket No. FAA–2014–0508 in the matter of the petition of ADVANCED AVIATION SOLUTIONS LLC
3) FAA Exemption No. 11080 Regulatory Docket No. FAA20140355
In the matter of the petition of FLYING CAM INC

Dear Sir or Madam,

In accordance with the FAA's *Guidelines for Submitting a Petition for Exemption under section 333 of the FAA Modernization and Reform Act of 2012*, NE3RD LLC, referred to hereafter as the petitioner, request exemption from the following sections of
Title 14, Code of Federal Regulations §§

Part 21, Subpart H; 61.113(a); 61.113(b); 91.119(c); 91.121; 91.151(a);, 91.405(a); 91.407(a)(1); 91.409
(a)(1); 91.409(a)(2); 91.417(a) & (b);

In order to operate small unmanned aircraft systems (sUAS) commercially in airspace regulated by the Federal Aviation Administration (FAA) for the purposes of aerial data collection including: environmental mapping, crop surveying, aerial photography, cinematography, videography that can be performed safely and more cost effectively with the use of small sUAS

at low altitude within the U.S. national airspace system as compared to a manned aircraft. Operations will be performed only at the request of and with the authorization and permission of clients or their authorized agents in order to facilitate commerce and raise awareness of the beneficial uses of small unmanned air systems. So long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333. The conditions identified and proposed by the petitioner are drawn from references 1-3.

The FARs

The petitioner seeks exemption from the above mentioned FARs for the following reasons;

14 C.F.R. 21, Subpart H, entitled Airworthiness Certificates, sets forth requirements for procurement of necessary airworthiness certificates in relation to FAR § 91.203(a)(1). The size, weight and enclosed operational area of my UAS permits exemption from Part 21 because my UAS meets (and exceeds) an equivalent level of safety pursuant to Section 333 of the Reform Act. The FAA is authorized to exempt aircraft from the airworthiness certificate requirement under both the Act (49 U.S.C. § 44701 (f)) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA to exempt UAS's from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. My current and projected UAS's meet or exceed each of the elements.

61.113(a) & (b); The petitioner requests relief in order to facilitate the utilization of pilots, who hold a SPORT PILOT (or greater) certificate. We can achieve an equivalent level of safety as achieved by current Regulations because our sUAS do not carry any pilots or passengers. The risks attended to the operation of our sUAS is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. § 61, et seq. Thus, allowing us to operate the sUAS in a manner that meet and exceed current safety levels in relation to 14 C.F.R. §61.113 (a) & (b). In addition, Grant of Exemption No. 11062 to Astraeus Aerial (Astraeus), the FAA determined that a PIC with a private pilot certificate operating the Astraeus UAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

91.119(c) Establishes safe altitudes for operation of civil aircraft. Specifically, 91.119(c) limits aircraft flying over areas other than congested areas to 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.

As set forth herein, the sUAS will not operate at higher than 400 feet AGL. The sUAS will, however, be operated to avoid congested or populated areas. Because aerial data collection must be accomplished at relatively low altitudes and at altitudes less than 500 feet AGL, an exemption from Section 91.119(c) is needed. The equivalent level of safety will be achieved given the size, weight, speed, and material with which the sUAS are built. Also, no flight will takeoff or land without the permission of the land owner or those who control the land. Because of the advance notice to the landowner, all affected individuals will be aware of the flights.

Compared to operations conducted with aircraft or rotorcraft weighing far more than the sUAS, and carrying flammable fuel, any risk associated with these operations will be significantly less than those currently allowed with conventional aircraft operating at or below 500 feet AGL.

Indeed, the low-altitude operations of the sUAS will maintain separation from operations of conventional aircraft that must comply with Section 91.119.

91.121 As discussed in Exemption 11138 (DOUGLAS TRUDEAU) is inapplicable since the UAS does not have an altimeter and instead utilizes electronic GPS with a barometric sensor for altitude information. To provide an equivalent level of safety, the sUAS autopilots calculate the ground level with the on-board GPS during the pre-flight tests. The GPS and barometer data are merged with their respective precisions. The GPS provides reliable information to correct potential barometric bias, while rapid variations in altitude are detected through the barometer.

91.151(a) As discussed in Exemption 11136 (ADVANCED AVIATION SOLUTIONS LLC) prior relief has been granted for manned aircraft to operate at less than the prescribed minimums, including Exemption Nos. 2689, 5745, and 10650. In addition, similar UASspecific relief has been granted in Exemption Nos. 8811, 10808, and 10673 for daytime, VFR conditions. The UAS provides battery power remaining in percent to the PIC. The UA batteries provide approximately 10-25 minutes of powered flight for the IRIS+ and Phantom 2 Vision Plus and 100 minutes for the E384. An equivalent level of safety can be achieved by maintaining the manufacturer recommended minimum minutes of reserve fuel, which would be more than adequate to return the UAS to its planned landing zone from anywhere in its operating area given that the systems are designed to be flown within direct VLOS of the PIC. Information provided in the operating documents discusses procedures regarding remaining battery power management. Those documents contain a condition in which the PIC will initiate a landing procedure when battery remaining reaches a specified level. Given the limitations on proposed operations and the location of those proposed operations, The FAA found that a reduced minimum power reserve for flight in daytime VFR conditions was reasonable.

91.405(a); 91.407(a)(1); 91.409 (a)(1) & (2); 91.417(a) & (b) As discussed in Exemption 11138 (DOUGLAS TRUDEAU), The petitioner proposes to inspect and ensure that the UAS is in a condition for safe flight in accordance with the operating documents. The FAA found that adherence to the petitioner's operating documents and the conditions and limitations specified, describing the requirements for maintenance, inspection, and recordkeeping, were sufficient to ensure that safety would not be adversely affected. An equivalent level of safety will be achieved because the sUAS are small in size, will solely operate in restricted predetermined areas and are not complex mechanical devices. We will perform all maintenance and inspections in accordance with the manufacturers' manuals and any required manufacturer Safety or Service Bulletins. In addition, the PIC will conduct a preflight inspection of the sUAS and all associated equipment to account for all discrepancies

The sUAS

3D Robotics IRIS+

The 3D Robotics IRIS+ is a highly successful consumer grade small rotorcraft in the quadcopter configuration with an advertised max gross takeoff weight of 62 ounces (1746g) designed primarily to carry aloft a high definition camera. It has an advertised maximum speed of less than 30 knots (15m/s). It is powered by four electric motors with a distance between motors of less than 20 inches. It utilizes an internal inertial measuring unit (IMU) with integrated barometric sensor augmented with global positioning system (GPS) to maintain its geospatial orientation and position. It is controlled primarily through an FCC certified radio control (RC) unit and a ground control station (GCS) for autonomous missions. Real time video and telemetry information is transmitted back to a GCS allowing the operator and/or PIC to monitor battery level, GPS signal strength, altitude (AGL), distance from PIC, camera imagery, and control camera angle. It has failsafe modes of operation for either loss of battery, telemetry, RC or GPS signal. Altitude can be limited by the onboard flight controller and maximum altitude can be preprogrammed by the PIC. Battery life limits flight times to approximately 12 minutes. The onboard flight controller will warn the pilot via telemetry and external lighting cues before reaching a low battery state. An automatic termination of flight and landing will be initiated when the battery reaches a predetermined low state. It is anticipated that flights will usually last less than 10 minutes. More information is available in attachment 1 or at:
http://3drobotics.com/iris/info

Event 38 – E384

The E384 fixed wing sUAS, which is manufactured by Event38 of Akron, Ohio. The principle construction material for the E384 airframe is EPO foam, carbon fiber tail boom with an all up weight (AUW) no greater than 10lbs. The E384 is powered by a single lithium polymer battery that drives a single brushless motor. The E384 has a maximum flight time of 100 minutes with operating speed of 27 mph. The pilot in command (PIC) will communicate with the E384 with a 2.4 ghz remote control radio and a 915mhz data telemetry radio connected to a ground control (GC) computer. The E384 aircraft has several failsafe systems in place: 1) In the event of the loss of remote control (unlikely due to visual line of sight (VLOS) operations under 400ft) the E384 will perform a "return to home" command. 2) In the event of the loss of ground control connection (unlikely due to VLOS operations under 400ft) the E384 will perform "return to home" command. 3) In the event of a low battery (less than 20%) the E384 will perform a "return to home" command. In addition to the above failsafes, a gps guided "Geofence" will prevent the E384 from flying beyond its intended flight path. More information is available in attachment 2 or at: http://event38.wikispaces.com/E384+Getting+Started

DJI Phantom 2 Vision Plus

The DJI Phantom 2 Vision Plus is a highly successful consumer grade small rotorcraft in the quadcopter configuration with an advertised weight of less than 44 ounces (1242g) designed primarily to carry aloft a high definition camera. It has an advertised maximum speed of less than 30 knots (15m/s) and a maximum climb rate of less than 1200 feet per minute (6 m/s). It is powered by four electric motors with a distance between motors of less than 14 inches (350mm) It utilizes an internal inertial measuring unit (IMU) with integrated barometric sensor augmented with global positioning system (GPS) to maintain its geospatial orientation and position. It is

controlled primarily through an FCC certified radio control (RC) unit. Real time video and telemetry information is transmitted back to a ground control station allowing the operator and/or PIC to monitor battery level, GPS signal strength, altitude (AGL), distance from PIC, camera imagery, and control camera angle. It has failsafe modes of operation for either loss of RC or GPS signal. Altitude can be limited by the onboard flight controller and maximum altitude can be preprogrammed by the PIC. Battery life limits flight times to approximately 25 minutes. The onboard flight controller will warn the pilot via telemetry and external lighting cues before reaching a low battery state. An automatic termination of flight and landing will be initiated when the battery reaches a predetermined low state. It is anticipated that flights will usually last less than 10 minutes. More information is available in attachment 5.
http://www.dji.com/product/phantom2visionplus

Risk mitigation
The petitioner has reviewed FAA exemptions references 1-3
Conditions and Limitations section and believe that the procedures specified therein are reasonable and will be utilized in order to manage and mitigate risk and ensure public safety. A preflight checklist is employed to ensure that the UA airworthiness will be verified before launch. Airworthiness will be maintained by performance of routine inspections before each flight, maintaining flight and maintenance logs to record time on failure prone components.

The petitioner request that in a manner similar to reference 3, he be allowed to operate within 5 miles of an airport provided that;

"The UA may not operate in Class B, C, or D airspace without written approval from the FAA. The UA may not operate within 5 nautical miles of the geographic center of a non-towered airport as denoted on a current FAA published aeronautical chart unless a letter of agreement with that airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request."

Operations within 5 miles of an airport are not anticipated to be routine but the petitioner is requesting a mechanism to facilitate such activities without requesting a new and separate exemption(s) should the need arise. Operations within class B airspace are not requested due to the lack of mode C transponder.

In addition to the minimum pilot certifications required by the FAA, our pilots will:

1) Have flown and logged a minimum of 150 flight cycles and 25 hours of total time as a sUAS pilot for a given category of sUAS (rotorcraft or fixed-wing) and at least 10 hours logged as a sUAS pilot with a similar UAS type (single blade or multi-rotor).

2) Have flown and logged a minimum of five hours as UAS pilot with the make and model of the sUAS as well as three take-offs and landings in the preceding 90 days.

Public interest

Use of the sUAS in lieu of a manned aircraft would enhance safety and reduce the environmental impact as compared to similar operations conducted with manned aircraft of greater proportions, carrying a crew and flammable fuel. Additionally, use of the sUAS in order to facilitate commerce will lead to economic growth. Operations for this petition will enable service for property owners or their designees seeking an enhanced perspective for characteristics, amenities, and benefits of their desired photographic subjects that cannot be displayed through ground level videography/photography. Environmental aerial mapping, damage assessment, infrastructure monitoring and inspections can decrease the tax burden to the public (as existing methods currently require costly manned aircraft operations), increase work site efficiency, improve volumetric estimations and reduce safety risks associated with accessing difficult to reach locations. Crop surveying applications will lead to decreased use of pesticides and fertilizer and conservation of water as well as increased crop yields and decreased costs. Aerial photography is a valuable tool that can lead to increased commerce and economic growth. The petitioner will provide clients with photographic data for these purposes on a 'for hire' basis acting as an independent contractor. A visual observer will be utilized. Liability insurance will be obtained commensurate with the granting of this request for exemption. Flight data including sUA flight time, Control Unit operation time, incident, accident, and details concerning any deviations from normal operations will be available to FAA for use in collecting data regarding the use of UAS as part of this application. This data may be submitted to FAA via traditional means, e.g. COA Monthly Reports, or other means as required.

Summary

The petitioner is requesting this exemption for the purposes of "aerial data collection including: environmental mapping, crop surveying, aerial photography, cinematography and videography". The reason for such a general and broad based request is that the petitioner wishes to utilize a strategy of horizontal integration and maximize economies of scope in order to capitalize on opportunities as they may arise in the future without the long turnaround time associated with additional exemptions. The petitioner's business model is based on the idea of offering ad hoc small sUAS services to individuals or companies who wish to employ these services as a safe, effective, and legal option to enhance their business or hobby. Although videography and photography are included in the request, the primary objective will be aerial environmental mapping and for precision agriculture.

The grant of the requested exemption is in the public interest based on the clear direction in Section 333, the Federal Aviation Act, as the high and equivalent level of safety of the proposed operations, and the significant public benefit, including enhanced safety and cost savings to be realized by the public as a result of the use of sUAS for aerial data collection. Accordingly, I respectfully request that the FAA grant the requested exemption without delay.

Respectfully submitted,
NE3RD LLC

Michael Broker