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

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

April 24, 2015

Exemption No. 11425
Regulatory Docket No. FAA–2015–0174

Ms. Elisabeth Bisschops
Owner
Elevated Images
4515 Scenic View Circle
Doylestown, PA 18902

Dear Ms. Bisschops:

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.

The Basis for Our Decision

By letter dated January 22, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Elevated Images (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography.

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 2 Vision+ “V1.0” quadcopter.

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. 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, Elevated Images 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.

Conditions and Limitations

In this grant of exemption, Elevated Images 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 2 Vision+ "V1.0" quadcopter 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 April, 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

January 22, 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 the Federal Aviation Regulations

Dear Sir or Madam,

I, Elisabeth Bisschops, owner of Elevated Images, am writing pursuant to the FAA Modernization and Reform Act of 2012 and the procedures contained within 14 C.F.R. 11, to request that Elevated Images, a photography business specializing in Community Outreach and Real Estate, be exempted from the Federal Aviation Regulations ("FARs") listed below so that we may operate a small ultra-lightweight unmanned aircraft system ("sUAS") commercially in airspace regulated by the Federal Aviation Administration ("FAA").

As described herein I, Elisabeth Bisschops, am chief photographer / videographer at Elevated Images, which has acquired a DJI Phantom 2 Vision+ "V1.0" Quadcopter with FPV HD Video Camera with intent to operate it for commercial aerial photography / videography following exemption and approval by the FAA. Johannes Bisschops is an FAA licensed Commercial Pilot, as well as an active Certified Flight Instructor (certificate # 3366338CFI), also experienced in flying hobby aircraft for recreational purposes. Johannes will be chief pilot at Elevated Images for the proposed use of the sUAS.

Exemption request would permit operation of ultra-light weight, unmanned (piloted by remote control) and comparatively inexpensive sUAS(s) in tightly controlled and limited airspace photographing or videographing within property boundaries for individual property owners with their permission as well as the professional realtor's permission.

I, Elisabeth Bisschops, owner of Elevated Images, will detail in this petition the specific regulations for which we seek relief, offering alternate and equivalent ways of providing a level of safety at least equal to the existing rules. This petition focuses on public safety and public benefit.

Appendix A – Elevated Images Operating Procedures

Attachment B - Phantom 2 Vision Plus (User Manual 1.6)

I. Contact Information:

Elisabeth Bisschops,

Elevated Images

4515 Scenic View Circle

Doylestown PA 18902

Phone: 215.588.7735

Email: Liesbeth@elevated-images.com

Website: www.elevated-images.com

II. The Specific Sections of Title 14 of the Code of Federal Regulations From Which Elevated Images Requests Exemption are:

14 C.F.R. Part 21 subpart H; 14 C.F.R. 45.23(b); 14 C.F.R. 61.113(a)&(b); 14 C.F.R. 91.7(a); 91.9(b) (2); 91.103(b); 91.109; 119.121; 91.151(a); 91.203(a)&(b); 91.405(a); 91.407(a) (1); 91.409(a) (2); 91.417(a)&(b)

III. The Extent of relief Elevated Images seeks and the Reason She Seeks Such Relief:

I, Elisabeth Bisschops, submit this application in accordance with the Reform Act, 112 P.L. 95 §§ 331-334, seeking relief from any currently applicable FARs operating to prevent Elevated Images' contemplated commercial use of an sUAS for photographic and videographic use within the national airspace system. The Reform Act in Section 332 provides for such integration of civil unmanned aircraft systems into our national airspace system as it is in the public's interest to do so. Elevated Images' ultra-lightweight sUAS meets the definition of "small unmanned aircraft" as defined in Section 331 and therefore the integration of my ultra-lightweight sUAS is expressly contemplated by the Reform Act. I would like to operate my ultra lightweight sUAS prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft. Thereby, providing direct experience and valuable information for formal regulation that can be administered uniformly to all related sUAS aerial photography & videography. The Reform Act guides the Secretary in determining the types of sUASs that may operate safely in our national airspace system. Considerations include: The weight, size, speed and overall capabilities of the sUASs; whether the sUAS will be operated near airports or heavily populated areas; and, whether the sUAS will be operated by line of sight. 112 P.L. 95 § 333 (a). Each of these items reflect in favor of an exemption for Elevated Images. My sUAS utilizes four (4) counter-rotating propellers for balance, control and stability. My sUAS is equipped with GPS and auto return safety technology. Weighing less than five (5) pounds (far below the maximum 55 pound limit); including camera with gimbal. I, Elisabeth Bisschops, consider safety the utmost importance with every flight. My small unmanned aircraft is designed to hover in place via GPS and operate in less than a 16 knot (17 mph) wind. For safety, stability and fear of financial loss I will not fly in winds exceeding 12 knot (13 mph). Built in safety systems include a GPS mode that allows my sUAS to hover in place when radio controls are released. When pilot communication is lost, the sUAS is designed to slowly descend to the point of take-off. Elevated Images will not operate sUAS near airports, Hospitals nor Police heliports, and will not operate near areas where general public is within thirty to one hundred (30-100) yards depending on location, conditions and weather. We utilize a crew of two (2), a pilot ("PIC"), and a

spotter who are constantly on alert for any manned aircraft (Police/Medical helicopters, etc.) and prepared to land / abort immediately to the nearest and safest ground point should a manned aircraft approach the area of operation. Our sUAS is capable of vertical and horizontal operations, and is flown only within line of sight of the PIC. Utilizing battery power rather than combustible fuels, flights generally last between ten (10) to fifteen (15) minutes, with an altitude under two hundred (200) feet. Elevated Images will utilize a fresh fully charged battery with each flight as a safety precaution; full flight time limit for each battery is twenty (20) to twenty-five (25) minutes as tested. Elevated Images will not operate sUAS at or below the manufacturer recommend minimum charge levels for operation; preferring to remain well within a safe operating range to insure adequate communication between radio control and sUAS to eliminate potential for crash, loss of control or hazards. Reserve batteries are at hand with each mission to insure replacement for sufficient safe level of operation. We do not believe in taking risks that may cause a crash, which could create hazards to the public / property / manned aircraft, and we have no desire to lose our investment. The crew will always include an FAA licensed and current pilot. The crew at Elevated Images have done scores of practice flights in remote areas on private property as hobbyists simulating flights for future commercial use to gain familiarization with the characteristics of this specific sUAS's performance under different temperature and weather conditions.

Elevated Images chief pilot will be Johannes Bisschops, an FAA licensed Commercial Pilot and active CFII. He is extremely cautious when operating our sUAS / ultra-lightweight unmanned aircraft and will not "create a hazard to users of the national airspace system or the public." 112 P.L. 95 § 333 (b). Given the small size and weight of my sUAS it falls well within Congress's contemplated safety zone when it promulgated the Reform Act and the corresponding directive to integrate sUASs into the national airspace system. My Phantom 2 sUAS, used in hobby flight, has a demonstrated safety record and does not pose any threat to the general public.

IV. How Elevated Images Request Will Benefit the Public As A Whole:

Elevated Images is a small business serving realtors and news outlets in South-East Pennsylvania and Central New Jersey. Aerial photography has been around for a long time through manned fixed wing aircraft and helicopters and we have been using those at Elevated Images for the last ten+ years. In 2014, Elevated Images conducted well over 50 aerial photography missions using manned powered aircraft, most lasting over one hour each, and conducted at minimum safe altitudes at or above 500 to 1000 feet AGL. Some of these missions can be replaced with more cost effective, safer, and more environmentally friendly sUAS missions. In addition, for many small budget productions the expense of such aerial photography and videography using manned aircraft is cost prohibitive. We operate in a very competitive environment, competing with large nationwide photography and videography suppliers. We are able to compete on quality and service. The advent of sUAS's used in this business environment, and their ability to produce unique images will not only help our small business compete with larger businesses, but also provide our realtor customers with their own new business value, thus promoting commerce and economic development. Permitting Elevated Images to immediately fly within national air space furthers economic growth in our South-East Pennsylvania and Central New Jersey area, and provides a definite benefit to the Realtors and news outlets looking to use aerial photography and videography, both of which increase commerce and serve as a benefit and stimulus to the area economy and community.

V. Reasons Why Elevated Images' Exemption Will Not Adversely Affect Safety or How The Exemption Will Provide a Level of Safety At Least Equal To Existing Rule:

Elevated Images has the utmost respect for everyone's safety and comfort. Our chief pilot, Johannes Bisschops, as a current Commercial Pilot and active Flight Instructor, has a solid understanding of the National Airspace System, and a reputation and track record of conservative decisions concerning safety. As it concerns to sUAS operations:

Our sUAS (DJI Phantom 2 Vision+ "V1.0" Quadcopter with FPV HD Video Camera) weighs less than 5 pounds;

- Each mission will consist of a crew of 2: one PIC and one spotter;
- At least one of the crew is an FAA licensed commercial pilot with a current medical certificate and flight review;
- The PIC will have a minimum of 50 logged flights and 20 total hours in the make and model of the operating sUAS, including at least 3 flights in the last 90 days;
- We only operate our sUAS below 200 feet in day VFR conditions (well within the 400 foot permissible ceiling set by the FAA Modernization and Reform Act of 2012);
- We will not operate the sUAS in Class A, B, C, or D airspace without written approval from the FAA;
- We will not operate within 3 nautical miles of the geographic center of a nontowered 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 will be made available to the Administrator upon request;
- During operation of the sUAS, signs will be posted warning the public that: "Caution: Small Unmanned Aircraft Operation in Progress";
- If any unauthorized person moves within 200 feet of the operating sUAS, the mission will be aborted immediately;
- Our sUAS only operates for five (5) to ten (10) minutes per flight, severely limiting the exposure of any safety concerns towards the public or property;
- We pilot our sUAS through remote control only by visual line of sight, keeping the sUAS within 500 feet of the operator at all times;
- Our sUAS has GPS controlled failsafe, a flight safety feature whereby it hovers and then slowly lands if communication with the remote control pilot is lost;
- We actively record and analyze flight data and other sources of information to constantly update and enhance safety protocols;
- Before each flight we assess the environment and we only proceed to operate in reasonably safe environments that are controlled, are away from power lines, elevated lights, airports and actively populated areas;
- We conduct extensive pre-flight inspections and protocol, during which safety carries primary importance;
- We always obtain all necessary permissions prior to operation; and we have procedures in place to abort flights in the event of safety breaches or potential danger.

VI. **A Summary: The FAA May Publish in the Federal Register:**

A. 14 C.F.R. 21 and 14 C.F.R. 91: Airworthiness Certificates, Manuals and the Like.

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 Elevated Images' sUAS permits exemption from Part 21 because our sUAS 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 sUASs from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. Elevated Images' sUAS meets or exceeds each of the elements.

14 C.F.R. 91.7(a) prohibits the operation of an aircraft without an airworthiness certificate. As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable.

14 C.F.R. § 91.9 (b) (2) requires an aircraft flight manual in the aircraft. As there are no on board pilots or passengers, and given the size of the sUASs, this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a safety/flight manual delineating areas of where safety can be defined. The FAA has previously issued exemptions to this regulation in Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 10700 and 32827.

14 C.F.R. § 91.121 regarding altimeter settings is inapplicable insofar as our sUAS utilizes electronic global positioning systems with a barometric sensor, and altitude information will be provided to the pilot via a digitally encoded telemetric datalink to a realtime display.

14 C.F.R. § 91.203 (a) and (b) provides for the carrying of civil aircraft certifications and registrations. They are inapplicable for the same reasons described above. The equivalent level of safety will be achieved by maintaining any such required certifications and registrations by Elevated Images.

B. 14 C.F.R. § 45.23: Marking of the Aircraft. Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. My sUASs are, by definition, unmanned. They therefore do not have a cabin, cockpit or pilot station on which to mark certain words or phrases. Further, two-inch lettering is difficult to place on such small aircraft with dimensions smaller that minimal lettering requirement. Elevated Images will mark the sUAS in the largest possible lettering by placing the word "EXPERIMENTAL" on its fuselage as required by 14 C.F.R. §45.29 (f) so that the PIC, or anyone assisting the PIC as a spotter will see the markings. The FAA has previously issued exemptions to this regulation through Exemptions Nos. 8738, 10167, 10167A and 10700.

C. 14 C.F.R. § 61.113: Private Pilot Privileges and Limitations: PIC. Pursuant to 14 C.F.R. §§ 61.113 (a) & (b), private pilots are limited to non-commercial operations. Elevated Images can achieve an equivalent level of safety as achieved by current Regulations. The PIC will have a Commercial Pilot certificate with a current Medical, and will meet the flight review requirements specified in 14 CFR § 61.56.

D. 14 C.F.R. § 91.119 prescribes safe altitudes for the operation of civil aircraft. It allows helicopters to be operated at lower altitudes in certain conditions. Our sUAS will never operate at an altitude greater than 200 feet AGL, only in safe areas away from the public and traffic. Given the small size and weight of the sUAS, its maneuverability and speed profile, we can achieve an equivalent level of safety.

E. 14 CFR § 91.151(a) requires a thirty (30) minute fuel reserve for flight in VFR conditions. Since maximum flight time is limited to battery capacity, and is less than 30 minutes for our sUAS, we will operate our sUAS for no longer than ten (10) to fifteen (15) minutes on a full charge. A full charge would allow for a flight time of at least twenty (20) minutes, providing a 25% to 50% safety margin. The FAA has previously issued exemptions for manned aircraft to operate at less than the minimums prescribed in 14 CFR § 91.151(a), including Exemption Nos. 2689, 5745, and 10650. In addition, similar UAS-specific relief has been granted in Exemption Nos. 8811, 10808, and 10673 for daytime, Visual Flight Rules (VFR) conditions.

F. 14 C.F.R. 91.405 (a); 407 (a) (1); 409 (a) (2); 417(a) & (b): Maintenance Inspections. The above-cited Regulations require, amongst other things, aircraft owners and operators to "have [the] 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. . . ."
To comply with this regulation, the PIC, before each mission, will check the manufacturers' internet service pages, and ensure applicable software and hardware is up to date as required, and ensure compliance with any safety bulletins posted. In addition, the Operators Manual as provided by the sUAS manufacturer will be revised to include specific operating procedures and limitations to comply with the exemptions sought as described in section V (see appendix A). The revised Operators Manual will be in possession of the crew during operation of the sUAS, and must be made available to the Administrator or any law enforcement official upon request.

In summary, Elevated Images seeks an exemption from the following Regulations:
14 C.F.R. 21, subpart H; 14 C.F.R. 45.23(b); 14 C.F.R. § 61.113 (a) & (b); 14 C.F.R. §91.7 (a); 14 C.F.R. §91.9 (b)(2); 14 C.F.R. § 91.103(b); 14 C.F.R. § 91.109; 14 C.F.R. §91.119; 14 C.F.R. § 91.121; 14 C.F.R. §91.151(a); 14 C.F.R. § 91.203(a) and (b); 14 C.F.R. § 91.405 (a);14 C.F.R. § 91.407 (a)(1); 14 C.F.R. §91.409 (a)(2); and, 14 C.F.R. § 91.417(a) & (b) to commercially operate Elevated Images' small unmanned vehicle/lightweight unmanned aircraft vehicle in community awareness and aerial photography and videography operations. Elevated Images will utilize safety protocols and the implementation of a flight operations manual that exceeds currently accepted means and methods for safe flight. Elevated Images will conduct formal collection of information of its operation of the sUAS, which will be shared with the FAA, and will contribute to the enhancement of the FAA's internal efforts to establish protocols for complying with the FAA Modernization and Reform Act of 2012. Elevated Images' operation of the sUAS, weighing less than 5 pounds and travelling at low speeds within limited controlled areas will provide an equivalent level of safety as that achieved under current FARs. Accordingly Elevated Images respectfully requests that the FAA grant our exemption request.

Respectfully submitted,

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Appendix A – Elevated Images Operating Procedures

Safety is our main concern. Owner and crew must be familiar with, and follow these operating procedures:

1) Owner must:
    a. Document all maintenance, alterations, and updates in the aircraft records.
    b. Any maintenance or alterations that affect the sUAS operation or flight characteristics, e.g. replacement of a flight critical component, must undergo a functional test flight in accordance with the operator's manual. The PIC who conducts the functional test flight must make an entry in the UAS aircraft records of the flight.
2) Prior to each mission:
   The PIC must familiarize him/herself with all possible safety aspects of the mission. This includes but is not limited to:
        i. Software versions required (manufacturers web site)
        ii. Weather
        iii. Wind (less than 12 knots)
        iv. NOTAMS
        v. Proximity of airports or SUA
3) Prior to each flight:
   the PIC must inspect the sUAS and Ground Station to ensure they are in a condition for safe flight. 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. This includes but is not limited to:
        i. Batteries (full sUAS battery required for each flight, check battery levels for transmitter and range extender)
        ii. Inspect propellers, motors, wings and lights
        iii. The documents required under 14 CFR §91.9 and §91.203 must be available to the PIC at the Ground Control Station of the sUAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

   The PIC performs a safety assessment. This includes but is not limited to:
        iv. If operating within 3 miles of an uncontrolled airport, check that a letter of agreement that covers the current mission with the airport manager is available to the PIC, and that the operation is conducted under a current NOTAM.
        v. Inspect flight area for light poles, trees, utility wires, proximity to helipads, hospitals, schools, busy roadways, gatherings of people, SUA.
        vi. The PIC provides a safety briefing to the spotter. An agreement is made under which conditions the flight must be aborted.
        vii. Check placement of warning signs: "Caution: Small Unmanned Aircraft Operation in Progress"
        viii. Identify take off and landing area.

   The PIC performs pre-flight checks:
        i. Check all controls neutral

ii. Turn on Power transmitter first, then on sUAS, and Range Extender
iii. Perform GPS alignment according to manufacturers operating manual
iv. If alignment successful, flight can start from a safe take-off point
v. Immediately after takeoff perform the following checks:
    a. Hover 5-10 feet
    b. Check data link
    c. Check video link
    d. Check altimeter
    e. Check GPS
    f. Check time

4) During each flight:
    a. The sUAS may not be operated by the PIC from any moving device or vehicle.
    b. The sUAS may not be operated at an altitude exceeding 200 feet AGL.
    c. The sUAS may not be operated at night or at altitudes less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles.
    d. The sUAS must remain clear and yield the right of way to all other manned operations and activities at all times (including, but not limited to, ultralight vehicles, parachute activities, parasailing activities, hang gliders, etc.).
    e. Flight time is limited to maximum fifteen (15) minutes.
    f. sUAS must remain within line of sight and within 500 feet of PIC.

5) Emergency during flight. This could include but is not limited to:
    i. Pilot distracted
    ii. Spotter signals abort
    iii. Sudden change in weather or wind
    iv. Manned aircraft in the vicinity
    v. People getting within safety perimeter
    vi. Birds

    Immediately:
    b. Determine closest safe landing location to sUAS
    c. Land

6) After each flight:
    a. Check and log flight time and remaining battery level.
    b. Turn off power to sUAS first, then turn off power to transmitter and range extender
    c. Inspect sUAS for any damage
    d. Remove warning signs

Attachment B - Phantom 2 Vision Plus (User Manual 1.6)

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