



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

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

June 15, 2015

Exemption No. 11815
Regulatory Docket No. FAA-2015-1101

Mr. Jonathan Rupprecht
Counsel for Enviroskycam
324 Datura Street
Suite 200
West Palm Beach, FL 33401

Dear Mr. Rupprecht:

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 April 14, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Enviroskycam (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct environmental monitoring and wildlife conservation.

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 +.

In accordance with the statutory criteria provided in Section 333 of Public Law 112-95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation

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

The Basis for Our Decision

You have requested to use a UAS for aerial data collection¹. 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, Enviroscopycam 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, Enviroscopycam is hereafter referred to as the operator.

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.

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 + 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.nts.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 June 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan

Director, Flight Standards Service

Enclosures



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April 14, 2015

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

Re: Request for Exemption under Section 333 of the FAA Modernization and Reform Act and Part 11 of the Federal Aviation Regulations from 14 C.F.R. 61.23(a) and (c); 61.101(e)(4) and (5); 61.113(a); 61.315(a); 91.119(c); 91.121; 91.151(a)(1); 91.405(a); 91.407(a)(1); 91.409(a)(1) and (2); 91.417(a) & (b).

PETITION FOR SUMMARY EXEMPTION

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, Enviroscopycam, operator of small Unmanned Aircraft Systems (UAS) equipped to conduct aerial imaging for environmental monitoring and wildlife conservation, hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its small UAS, 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.

QUICK REFERENCE SUMMARY:

- Types of aircraft to be flown:
 - DJI Phantom 2 Vision + (previously granted in Exemption # 11313).
- The operations will be aerial imaging for environmental monitoring and wildlife conservation. (Exemption # 11259 was granted to allow environmental monitoring.)
- We already agree to all the restrictions listed in Exemption # 11259 which are listed below.
- The PIC is a commercial pilot who has 35 years of R/C building and flying experience.

Based upon the FAA's recent guidance, this petition is eligible for summary exemption and should be granted immediately.



Enviroskycam requests that the publication and comment procedures be waived in accordance with 14 C.F.R. § 11.87 which states:

§ 11.87 Are there circumstances in which FAA may decide not to publish a summary of my petition for exemption?

The FAA may not publish a summary of your petition for exemption and request comments if you present or we find good cause why we should not delay action on your petition. The factors we consider in deciding not to request comment include:

- (a) Whether granting your petition would set a precedent.
- (b) Whether the relief requested is identical to exemptions granted previously.
- (c) Whether our delaying action on your petition would affect you adversely.
- (d) Whether you filed your petition in a timely manner.

Corresponding to the above sub-sections, Enviroskycam has good cause to request the FAA to waive the comment period and not delay action on the petition because:

- (a) Enviroskycam would not set any precedent. Enviroskycam agrees to the **SAME** exact limitations exact limitations as Exemption # 11259.
- (b) Enviroskycam agrees to the SAME exact limitations as Exemption # 11259.
- (c) Delaying the granting of this petition **would adversely affect the public, the FAA, and Enviroskycam** The public, as well as the FAA, would be better served by the FAA quickly granting this petition and thereby freeing up limited FAA resources and allowing FAA inspectors to dedicate their time and attention to much higher priorities. Moreover, Enviroskycam is adversely affected by the above listed regulations.
- (d) The petition has been filed in a timely manner.



Petitioner's contact info:

Enviroskycam
Attn: Gus Calderon
Phone: 760-519-1941
Address: 878 Hollyhock Court, Carlsbad, CA 92011

Rupprecht Law, P.A.
Attn: Jonathan Rupprecht
Phone: 561-222-6979
Email: jon@jrupprechtlaw.com
Address: 324 Datura Street, Suite 200, West Palm Beach, Florida 33401

Regulations from which the exemption is requested:

- 14 C.F.R. § 61.23(a) and (c)
- 14 C.F.R. § 61.101(e)(4) and (5)
- 14 C.F.R. § 61.113(a)
- 14 C.F.R. § 61.315(a)
- 14 C.F.R. § 91.7(a)
- 14 C.F.R. § 91.119(c)
- 14 C.F.R. § 91.121
- 14 C.F.R. § 91.151(a)(1)
- 14 C.F.R. § 91.405(a)
- 14 C.F.R. § 91.407(a)(1)
- 14 C.F.R. § 91.409(a)(1) & (2)
- 14 C.F.R. § 91.417(a) & (b)

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the FAA Modernization and Reform Act of 2012. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rulemaking required under Section 332 of the FAA Modernization and Reform Act. In making this determination, the Secretary is required to determine which types of UA do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

- The UA's size, weight, speed, and operational capability;
- Operation of the UA in close proximity to airports and populated areas; and,



- Operation of the UA within visual line of sight of the operator (VLOS).¹

If the Secretary determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." *Id.* § 333(c) (emphasis added).²

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority by its terms includes exempting civil aircraft, as the term is defined under § 40101 of the Act that includes UAS's, from the requirement that all civil aircraft must have a current airworthiness certificate.

"The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of this title if the Administrator finds the exemption in the public interest." 49 U.S.C. § 44701(f). *See also* 49 U.S.C. § 44711(b).

ABOUT THE PETITIONER

Enviroscopycam is an aerial imaging company that has been conducting commercial operations in a Beechcraft Bonanza A-36 since 2006. Since the large size and high cruising speed of a fixed-wing manned aircraft preclude sensitive environmental monitoring and related operations at a low altitude, the applicant has acquired a *DJI Phantom 2 Vision+* that weighs less than 3 lbs. including payload in order to conduct commercial operations with its UAS. Applicant has developed a confidential Flight Operations & Procedures Manual (FOPM) and Aircraft Flight Manual (AFM) hereinafter referred to as the "Operator's Manual." The pilot in command also has 35 years of experience building and flying remote-controlled aircraft. Such operations will ensure that the UAS will "not create a hazard to users of the national airspace system or the public."

¹ FAA Modernization and Reform Act of 2012 at § 333(a).

² Applicant interprets this provision to place the duty on the Administrator to not only process applications for exemptions under section 333, but for the Administrator to craft conditions for the safe operation of the UAS, if it should be determined that the conditions set forth herein do not fulfill the statutory requirements for approval.



OPERATING DOCUMENTS

Enviroscopycam will operate only within the limitations below and the limitations listed in the DJI User's Manual, Flight Operations & Procedures Manual (FOPM), and Aircraft Flight Manual (AFM). The FOPM and AFM are considered proprietary and will be submitted confidentially via email. If there is a conflict between the documents, the limitations below from the previously granted exemption will take precedence over any manual.

AIRCRAFT AND EQUIVALENT LEVEL OF SAFETY

The applicant proposes that the exemption requested herein applies to civil aircraft that have the characteristics and that operate with the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure.

These limitations and conditions are identical to Exemption # 11259, except for the difference in aircraft. Enviroscopycam agrees to be bound when conducting commercial UA operations. The list of limitations and conditions include the following:

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision + 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 Colombia, 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 predetermined location within the private or controlled-access property.
19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.
20. 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.nts.gov.

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.

STATUTORY CRITERIA PROVIDED IN SECTION 333

The Federal Aviation Act (49 U.S.C. § 44701 (f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular UAS. In all cases, an analysis of these criteria demonstrates that the UAS operated without an airworthiness certificate and under the restrictions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

Since the UA fully loaded weighs no more than 55 lbs. and is operated without an onboard pilot, there is no ability or place to carry certification and registration documents or to display them on the unmanned aircraft. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UA will have immediate access to them. Given the size of the unmanned aircraft, the FAA registration number will be displayed on the airframe in as large a font as possible.

14 C.F.R. § 61.23(a) & (c): MEDICAL CERTIFICATES

Exemption # 11221, # 11284, and many others have provided that a U.S. driver's license could be used in lieu of the medical certificate.



14 C.F.R. § 61.101(e)(4) & (5): RECREATIONAL PILOT PRIVILEGES AND LIMITATIONS & 14 C.F.R. § 61.315(a): SPORT PILOT LIMITATIONS.

Exemption # 11221, # 11284, and many others have provided that the “PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate.” Likewise, Enviroskycam is also performing commercial UAS work and is asking for the same restrictions which have been previously deemed to provide an equivalent level of safety as the burdensome regulations.

14 C.F.R. § 61.113 (a): PRIVATE PILOT PRIVILEGES AND LIMITATIONS: PILOT IN COMMAND.

Sub-sections 61.113(a) limit private pilots to non-commercial operations. Because the UAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by requiring the PIC operating the aircraft to have a private pilot's license rather than a commercial pilot's license to operate this small UAS. Unlike a conventional aircraft that carries the pilot and passengers, the UAS is remotely controlled with no living thing on board.

14 C.F.R. § 91.7(a): CIVIL AIRCRAFT AIRWORTHINESS.

Exemption # 11313 previously determined that a DJI Phantom 2 Vision + should not be required to have an airworthiness certificate based upon the authority of Section 333 of the FAA Modernization and Reform Act of 2012.

14 C.F.R. § 91.119: MINIMUM SAFE ALTITUDES

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA.

Because of the lack of flammable fuel, any risk associated with these operations is far less than those presently presented with conventional aircraft operating at or below 500 AGL. In addition, the low-altitude operations of the UAS will ensure separation between these small UAS operations and the operations of conventional aircraft that must comply with Section 91.119.



14 C.F.R. § 91.121: ALTIMETER SETTINGS

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "... to the elevation of the departure airport or an appropriate altimeter setting available before departure." As the UAS may not have a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the user's manual.

14 C.F.R. § 91.151(a): FUEL REQUIREMENTS FOR FLIGHT IN VFR CONDITIONS

Section 91.151 (a) prohibits an individual from beginning "a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing, and, assuming normal cruising speed - (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes."

14 C.F.R. § 91.405 (a); § 91.407 (a) (1); § 91.409 (a) (2); § 91.417(a) & (b): MAINTENANCE INSPECTIONS

These regulations require that an aircraft operator or owner "shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter"³ and others shall inspect or maintain the aircraft in compliance with Part 43. Given that these sections and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to the applicant. An equivalent level of safety will be achieved because these small UAS's are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. Moreover, the operator is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

³ 14 C.F.R. § 91.405(a).



CONCLUSION:

The operation of Enviroskycam using a small UAS, weighing less than 55 lbs., conducted under the proposed restrictions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein.

If I can be of any assistance to further expedite this petition, please do not hesitate to contact me at (561)222-6979 or at my email jon@jrupprechtlaw.com

Sincerely yours,

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO
Enviroskycam

324 Datura Street
Suite 200
West Palm Beach, FL 33401

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

Operation of DJI Phantom 2 Vision + Unmanned Aircraft Systems at or below 200 feet Above Ground Level (AGL) for the purpose of aerial data collection.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

N/A

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

Note-This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Special Provisions are set forth and attached.

This certificate FAA-2015-1101-333E is effective from June 23, 2015 to June 30, 2017 and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative.

BY DIRECTION OF THE ADMINISTRATOR

/S/

FAA Headquarters, AJV-115
(Region)

Jacqueline R. Jackson
(Signature)

June 15, 2015
(Date)

Manager, UAS Tactical Operations Section
(Title)

STANDARD PROVISIONS

A. General.

1. The approval of this COA is effective only with an approved FAA Grant of Exemption.
2. A copy of the COA including the special limitations must be immediately available to all operational personnel at each operating location whenever UAS operations are being conducted.
3. This authorization may be canceled at any time by the Administrator, the person authorized to grant the authorization, or the representative designated to monitor a specific operation. As a general rule, this authorization may be canceled when it is no longer required, there is an abuse of its provisions, or when unforeseen safety factors develop. Failure to comply with the authorization is cause for cancellation. The operator will receive written notice of cancellation.

B. Safety of Flight.

1. The operator or pilot in command (PIC) is responsible for halting or canceling activity in the COA area if, at any time, the safety of persons or property on the ground or in the air is in jeopardy, or if there is a failure to comply with the terms or conditions of this authorization.

See-and-Avoid

Unmanned aircraft have no on-board pilot to perform see-and-avoid responsibilities; therefore, when operating outside of active restricted and warning areas approved for aviation activities, provisions must be made to ensure an equivalent level of safety exists for unmanned operations consistent with 14 CFR Part 91 §91.111, §91.113 and §91.115.

a. The pilot in command (PIC) is responsible:

- To remain clear and give way to all manned aviation operations and activities at all times,
- For the safety of persons or property on the surface with respect to the UAS, and
- For compliance with CFR Parts 91.111, 91.113 and 91.115

b. UAS pilots will ensure there is a safe operating distance between aviation activities and unmanned aircraft (UA) at all times.

c. Visual observers must be used at all times and maintain instantaneous communication with the PIC.

d. The PIC is responsible to ensure visual observer(s) are:

- Able to see the UA and the surrounding airspace throughout the entire flight, and
 - Able to provide the PIC with the UA's flight path, and proximity to all aviation activities and other hazards (e.g., terrain, weather, structures) sufficiently for the PIC to exercise effective control of the UA to prevent the UA from creating a collision hazard.
- e. Visual observer(s) must be able to communicate clearly to the pilot any instructions required to remain clear of conflicting traffic.
2. Pilots are reminded to follow all federal regulations e.g. remain clear of all Temporary Flight Restrictions, as well as following the exemption granted for their operation.
 3. The operator or delegated representative must not operate in Prohibited Areas, Special Flight Rule Areas or, the Washington National Capital Region Flight Restricted Zone. Such areas are depicted on charts available at http://www.faa.gov/air_traffic/flight_info/aeronav/. Additionally, aircraft operators should beware of and avoid other areas identified in Notices to Airmen (NOTAMS) which restricts operations in proximity to Power Plants, Electric Substations, Dams, Wind Farms, Oil Refineries, Industrial Complexes, National Parks, The Disney Resorts, Stadiums, Emergency Services, the Washington DC Metro Flight Restricted Zone, Military or other Federal Facilities.
 4. All aircraft operated in accordance with this Certificate of Waiver/Authorization 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.

C. Reporting Requirements

1. Documentation of all operations associated with UAS activities is required regardless of the airspace in which the UAS operates. NOTE: Negative (zero flights) reports are required.
2. The operator must submit the following information through <mailto:9-AJV-115-UASOrganization@faa.gov> on a monthly basis:
 - a. Name of Operator, Exemption number and Aircraft registration number
 - b. UAS type and model
 - c. All operating locations, to include location city/name and latitude/longitude
 - d. Number of flights (per location, per aircraft)
 - e. Total aircraft operational hours
 - f. Takeoff or Landing damage

- g. Equipment malfunctions. Reportable malfunctions include, but are not limited to the following:
 - (1) On-board flight control system
 - (2) Navigation system
 - (3) Powerplant failure in flight
 - (4) Fuel system failure
 - (5) Electrical system failure
 - (6) Control station failure
- 3. The number and duration of lost link events (control, performance and health monitoring, or communications) per UA per flight.

D. Notice to Airmen (NOTAM).

A distant (D) NOTAM must be issued when unmanned aircraft operations are being conducted. This requirement may be accomplished:

- a. Through the operator's local base operations or NOTAM issuing authority, or
- b. By contacting the NOTAM Flight Service Station at 1-877-4-US-NTMS (1-877-487-6867) not more than 72 hours in advance, but not less than 24 hours prior to the operation, unless otherwise authorized as a special provision. The issuing agency will require the:
 - (1) Name and address of the pilot filing the NOTAM request
 - (2) Location, altitude, or operating area
 - (3) Time and nature of the activity.
 - (4) Number of UAS flying in the operating area.

AIR TRAFFIC CONTROL SPECIAL PROVISIONS

A. Coordination Requirements.

- 1. Operators and UAS equipment must meet the requirements (communication, equipment and clearance) of the class of airspace they will operate in.
- 2. Operator filing and the issuance of required distance (D) NOTAM, will serve as advance ATC facility notification of UAS operations in an area.
- 3. Operator must cancel NOTAMs when UAS operations are completed or will not be conducted.
- 4. Coordination and deconfliction between Military Training Routes (MTRs) is the operator's responsibility. When identifying an operational area the operator must

evaluate whether an MTR will be affected. In the event the UAS operational area overlaps (5 miles either side of centerline) an MTR, the operator will contact the scheduling agency 24 hours in advance to coordinate and deconflict. Approval from the scheduling agency is not required. Scheduling agencies are listed in the Area Planning AP/1B Military Planning Routes North and South America, if unable to gain access to AP/1B contact the FAA at email address <mailto:9-AJV-115-UASOrganization@faa.gov> with the IR/VR routes affected and the FAA will provide the scheduling agency information. If prior coordination and deconfliction does not take place 24 hours in advance, the operator must remain clear of all MTRs.

B. Communication Requirements.

1. When operating in the vicinity of an airport without an operating control tower, announce your operations in accordance with the FAA Aeronautical Information Manual (AIM) 4-1-9 Traffic Advisory Practices at Airports without Operating Control Towers.

C. Flight Planning Requirements.

Note: For all UAS requests not covered by the conditions listed below, the exemption holder may apply for a new Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA) at <https://oeaaa.faa.gov/oeaaa/external/uas/portal.jsp>

This COA will allow small UAS (55 pounds or less) operations during daytime VFR conditions under the following conditions and limitations:

- (1) At or below 200 feet AGL; and
- (2) Beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, seaplane base and military airports listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.
 - a) 5 nautical miles (NM) from an airport having an operational control tower; or
 - b) 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
 - c) 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
 - d) 2 NM from a heliport, gliderport or seaplane base

D. Emergency/Contingency Procedures.

1. Lost Link/Lost Communications Procedures:

- 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 and land.
- The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

2. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries defined in this COA must be reported to the FAA via email at <mailto:9-AJV-115-UASOrganization@faa.gov> within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov

AUTHORIZATION

This Certificate of Waiver or Authorization does not, in itself, waive any Title 14 Code of Federal Regulations, nor any state law or local ordinance. Should the proposed operation conflict with any state law or local ordinance, or require permission of local authorities or property owners, it is the responsibility of the operator to resolve the matter. This COA does not authorize flight within Special Use airspace without approval from the scheduling agency. The operator is hereby authorized to operate the small Unmanned Aircraft System in the National Airspace System.