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

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

July 14, 2015

Exemption No. 12029
Regulatory Docket No. FAA–2015−1292

Mr. Jonathan Cook
Windshear Media LLC
305 Charl Court
Stevensville, MD 21666

Dear Mr. Cook:

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 17, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Windshear Media, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography, data collection, agricultural assessment, news gathering, training and education, support services for public entities, inspections of structures, real estate photos and videos, closed-set film and movie production.[1]

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

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

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 1, DJI Phantom 2, DJI Inspire 1, and DJI S1000.

[1] By email dated June 18, 2015, the petitioner withdrew its request for closed-set filming and movie productions.

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 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.[2] 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, Windshear Media, LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

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

Conditions and Limitations

In this grant of exemption, Windshear Media, LLC is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 1, DJI Phantom 2, DJI Inspire 1, and DJI S1000 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 July 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

WINDSHEAR MEDIA LLC
Video Production
Motion Graphics | Visual Effects

April 17, 2015

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

Petition of Windshear Media LLC. for Exemption Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012.

To Whom It May Concern:

Windshear Media LLC. (WM), hereby applies for an exemption from Federal Aviation Regulations (FARs) identified below, to allow commercial operations of small unmanned aerial systems (i.e., sUAS) pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14 CFR Part 11.

This exemption is in accordance with protocols outlined in this petition for exemption, the enclosed WM's Operations Manual, the UAS manufacturer's operations and/or instructions manual, UAS User's Manuals, sUAS Quick Start Guides, and any other requirements established by the FAA pursuant to Section 333 of the Reform Act.

Windshear Media LLC respectfully requests a waiver on the 45-day comment period, as this application is identical in description to other Section 333 Exemptions that have already been granted.

This exemption would permit commercial operations by Windshear Media LLC, to use the DJI Phantom 1, DJI Phantom 2, DJI Inspire 1, and the DJI S1000, to conduct aerial photography and videography, agricultural assessment of crops and data collection, news gathering, training and education, support services for public entities, inspections and assessments of structures, real estate photography and videography, and closed set film and movie production. WM's operation under the exemption will be subject to specific operating requirements and conditions to ensure an equivalent level of safety to currently authorized operations using manned aircraft and under conditions as may be modified by the FAA as required by Section 333.

Windshear Media LLC submits the Operations Manual as a confidential document under 14 CFR § 11.35(b), the entire content of this manual contains confidential information that WM has not and will not make available to others. This manual contains operating procedures and additional information that is not available to the public and are protected from release under the Freedon of Information Act, 5 USC § 552 (b) (4).

WM has assembled a team of UAS personnel, including pilots with Commercial and Instructor Ratings, and will be operate sUAS within the National Airspace(NAS) under controlled VFR conditions at or below 400' AGL. They will operate the sUAS with pilots who are current and qualified with a FAA Pilot Certificate and have completed WM's training program.

Windshear Media LLC respectfully submits this request for an exemption because it operates sUAS. Currently, the operations of WM will be conducting will be in lieu of comparatively hazardous operations now conducted with fixed wing and rotary conventional aircraft. The FAA can have confidence that the operations will be conducted at an equivalent level or greater level of safety. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities under Section 333(c) of the Reform Act to "establish requirements for the safe operation of such aircraft systems in the national airspace system."

For your convenience, WM has organized this Exemption request as follows:

I. Petitioner's Description:

Windshear Media LLC, headquartered in Stevensville, Maryland, is a Production Company that also provides film and movie production services, support to news services, real estate photography, services to first responders, photographic assessment of agriculture, education, and sUAS demonstration flights in a compliant and safe environment. WM plans on providing a wide range of sUAS services as the market expands.

The management at WM has over 45 years combined experience in aviation with both helicopter and fixed-wing aircraft (including Search and Rescue, Medevac, Law Enforcement, disaster assessment, and Homeland Security.), and over 4 years experience operating sUAS. The Chief Pilot has over 8500 hours in both rotorcraft and fixed wing aircraft, has been a commercial pilot for 29 years, is a Certified Flight Instructor and Instrument Instructor in both Helicopter and Single Engine Land and has been an IP for 20 years. The Chief Pilot is intimately familiar with operational control procedures and overseeing the safe operations of an aviation event. The President has over 24 years working in an aviation and first responder environment as well as over seventeen years in video production and understands the requirements to integrate the sUAS into

open and closed set television and movie locations.

WM's goal is to operate in an accident-free environment by:

- Demonstrating a commitment by management and all employees' to operator in a compliant manner.
- Identify hazard and risk while eliminating or controlling all these risk. They will use steps to intervene and report when unsafe work practices appear to exist.
- Train all employees involved in flight operations to operate at the highest standard level.

The contact information for Petitioner is as follows:

Windshear Media LLC.
Attn: Jonathan Cook
305 Charl Court
Stevensville, MD 21666
Ph: 443-497-0539
Email: Info@WindshearMedia.com

II. Relevant Statutory Authority:

This petition for exemption is submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. Congress has directed the FAA "to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system." Pursuant to Section 333 of the Reform Act, the FAA Administrator is to consider whether certain unmanned aircraft systems may operate safely in the National Airspace ("NAS") before completion of the formal UAS rulemaking, based on the following considerations:

- The UAS's size, weight, speed, and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within the visual line of sight of the operator.

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".

Additionally, the FAA Administrator has general authority to grant exemptions from its safety regulations and minimum standards when the Administrator decides a requested exemption is in the public interest. A party requesting an exemption must explain the reasons why the exemption: (1) would benefit the public as a whole, and (2) would not adversely affect safety (or how it would provide a level of safety at least equal to the existing rules).

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, from the requirement that all civil aircraft must have a current airworthiness certificate and those regulations requiring commercial pilots to operate aircraft in commercial service:

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any of sections.

III. Qualifications for Approval Under Section 333 of the Reform Act

The proposed operations in this petition for exemption qualify for expedited approval under Section 333 of the Reform Act. Each of the statutory criteria and other relevant factors are satisfied.

The proposed operations would permit WM the use of small UAS under controlled conditions in airspace that is: (1) predetermined; (2) controlled as to access; and that (3) provides an Increased level of safety beyond that existing when fixed or rotor wing aircraft are used to accomplish the same purpose.

WM uses UASs that are multi-rotor, weighing less than 55 pounds including payload. They operate, under normal conditions, at speeds not to exceed 50 mph. The multi-rotor has the capability to hover and move in the vertical and horizontal plane. WM's UAS will operate in line of sight, during daylight hours, and will only operate within a sterile area described in the enclosed Operations Manual. WM will operate at or below 400 feet AGL and will file a NOTAM for each flight operated in controlled airspace that is required. All required permissions and permits would be obtained from territorial, state, county or city jurisdictions, Including local law enforcement, fire, or other appropriate governmental agencies prior to operating a sUAS.

IV. Details of Proposed sUAS Operations

The enclosed Operations Manual describes, in detail, the policies and procedures for WM's proposed sUAS operations. To assist the FAA in its safety assessment of WM's proposed sUAS operations, below is a summary of operational limitations and conditions that will ensure an equivalent or higher level of safety to operations conducted under current regulatory guidelines:

1. The sUAS will weigh less than 55 pounds.

2. Flights will be operated within line of sight of the PIC and visual observer.

3. Maximum total flight time for each operational flight will be limited to 20 minutes or the amount of time the sUAS can be flown and still maintain a reserve battery power or fuel quantity of no less than 25%.

4. Flights will be operated at an altitude of no more than 400 feet AGL or, not more than 200 feet above an elevated platform from which filming is planned.

5. Flights will be operated at a lateral distance of least 100 feet from any inhabited structures, buildings, vehicles, vessels, people not associated with the operation or who have not signed a waiver in advance of the operation.

6. Minimum crew for each operation will consist of the sUAS Pilot in Command and a Visual Observer. Additional crewmembers may consist of additional observers and a Camera Operator.

7. The sUAS Pilot in Command will be an FAA licensed airman with a minimum of a private pilot's certificate and a third class medical.

8. WM will designate a Pilot in Command ("PIC") for each mission.

9. A briefing will be conducted in regard to the planned sUAS operations prior to each day's flight activities. It will be mandatory for all personnel performing duties within the boundaries of the safety perimeter be present for this briefing.

10. Prior to the operations at a particular location, a site inspection and mission briefing will have been conducted. On the day of the mission, the management person with operational control and the PIC will concur on dispatching of the mission.

11. The PIC and Observer will remain in close enough proximity so as to be able to communicate by voice.

12. All sUAS will be maintained in accordance with the manufacturer's guidelines.

13. In the event of an accident involving a WM sUAS, they will cease operations and report the accident to the NTSB and AFS-80.

14. Pilot in Command and Visual Observer will at all times be able to communicate by voice

15. All PICs, VOs, and Camera Operators will be training and tested on their proficiency to operate with the UAS environment.

16. All required permissions and permits would be obtained from territorial, state, county or city jurisdictions, including local law enforcement, fire or other appropriate governmental agencies.

17. In compliance with approved Waiver, WM management will submit a written "Plan of Activities" to the local Flight Standards District Office (FSDO) having jurisdiction over the area of proposed filming three days in advanced of operations during film or movie productions.

18. If the sUAS loses communications signal, the sUAS will have the capability to return to a pre-determined location within the closed set and land.

19. Contingency plans will be in place to safely terminate flight if there is a loss of communication between the pilot and the observer.

20. The sUAS has the capability to abort a flight in case of unpredicted obstacles or emergencies.

V. Regulations From Which Exemption is Requested

- 14 CFR Part 21
- 14 CFR 45.23(b)
- 14 CFR 61.113 (a) & (b)
- 14 CFR 91.7 (a)
- 14 CFR 91.9 (b) (2)
- 14 CFR 91.103
- 14 CFR 91.109
- 14 CFR 91.119
- 14 CFR 91.121
- 14 CFR 91.151 (a)
- 14 CFR 91.203 (a) & (b)
- 14 CFR 91.405 (a); 407 (a) (1);409 (a) (2); 417 (a) (b)

A. 14 CFR Part 21, Subpart H: Airworthiness Certificates 14 C.F.R. §91.203 (a) (1)

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by The Aerial Filming Company, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. 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, in the restricted environment and under the conditions 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.

The sUAS to be operated is less than 55 lbs. fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable fuels, and operates exclusively within a secured area. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by both the operator, and under the requirements and in compliance with local public safety requirements. The FAA will have advance notice of all operations. These safety enhancements, which already apply to civil aircraft, provide a greater degree of safety to the public and property owners than conventional operations conducted with airworthiness certificates issued under 14 C.P.R. Part 21, Subpart H. Application of these same criteria demonstrates that there is no credible threat to national security posed by the UAS, due to its size, speed of operation, location of operation, lack of explosive materials or flammable liquid fuels, and inability to carry a substantial external load.

B. 14 CFR § 45.23 (b). Marking of the Aircraft

The regulation requires:

> When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in

letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

Even though the UAS will have no airworthiness certificate, an exemption may be needed as the UAS will have no entrance to the cabin, cockpit or pilot station on which the word "Experimental" can be placed. Given the size of the sUAV, two-inch lettering will be impossible. The word "Experimental" will be placed on the fuselage in compliance with §45.29 (f).

The equivalent level of safety will be provided by having the sUAV marked on its fuselage as required by §45.29 (f) where the pilot, observer and others working with the sUAV will see the identification of the UAS as "Experimental." The FAA has issued the following exemptions to this regulation to Exemptions Nos. 10700,8738, 10167 and 10167A.

C. 14 CFR § Part 61.113 (a) and (b) Private Pilot Privileges and Limitations; Pilot in Command

Sections 61.113 (a) & (b) 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 to operate this sUAS.

Unlike a conventional aircraft that carries the pilot and passengers, the sUAS is remotely controlled. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance. The level of safety provided by our requirements exceeds that provided by a single individual holding a commercial pilot's certificate operating a conventional aircraft. The risks associated with the operation of the sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS as requested with a private pilot as the PIC exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b).

D. 14 CFR §91.7(a): Civil aircraft airworthiness.

The regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. As there will be no airworthiness certificate issued for the aircraft, should this exemption be granted, no FAA regulatory standard will exist for determining airworthiness. Given the size of the aircraft and the requirements contained in our operations manual for maintenance and use of safety check lists prior to each flight, as set forth in Sections J, L, and Q, an equivalent level of safety will be provided.

E. 14 CFR § 91.9 (b) (2): Civil Aircraft Flight Manual in the Aircraft.

Section 91.9 (b) (2) provides:

> No person may operate a U.S.-registered civil aircraft...
> (2) For which an Airplane or Rotorcraft Flight Manual is not required by §21.5 of this chapter, unless there is available in the aircraft a current approved airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

The sUAS, given its size and configuration has no ability or place to carry such a flight manual on the aircraft, not only because there is no pilot on board, but because there is no room or capacity to carry such an item on the aircraft.

The equivalent level of safety will be maintained by keeping the flight manual at the ground control point where the pilot flying the sUAS will have immediate access to it. The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738,9299, 9299A, 9565, 9565B, 10167, 10167A, 10602,32827, and 10700.

F. 14 CFR § 91.103: Preflight action

This regulation requires each PIC to take certain actions before flight to insure the safety of flight. As FAA approved rotorcraft flight manuals will not be provided for the aircraft an exemption will be needed. An equivalent level of safety will be provided as set forth in our confidential operating manual. The PIC will take all actions including reviewing weather, flight battery requirements, landing and takeoff distances and aircraft performance data before initiation of flight.

G. 14 CFR §91.109: Flight instruction

Section 91.103 provides that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.

sUASs/remotely piloted aircraft, by their design do not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos.5778K & 9862A. The equivalent level of safety provided by the fact that neither a pilot nor passengers will be carried in the aircraft and by the size and speed of the aircraft.

H. 14 CFR §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. As this exemption is for a sUAS that is a helicopter and the exemption requests authority to operate at altitudes up to 400 AGL, an exemption may be needed to allow such operations. As set forth herein, the sUAS will never operate at higher than 400 AGL. It will however be operated in an area where buildings and people will not be exposed to operations without their pre-obtained consent.

The equivalent level of safety will be achieved given the size, weight, and speed of the UAS as well as the location where it is operated. No flight will be taken without the permission of the property owner or local officials. Because of the advance notice to the property owner and participants in the filming activity, all affected individuals will be aware of the planned flight operations. Compared to flight operations with aircraft or rotorcraft weighing far more than the maximum 55lbs. proposed herein and 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 sUAS will ensure

separation between these small- UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

I. 14 CFR §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 sUAS may not have a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. Our sUAS has a barometric, telemetric data feed. This altitude information will be generated by equipment installed on the aircraft, GPS triangulation or any combination thereof. Before each flight, a zero altitude initiation point will be established and confirmed for accuracy by the PIC.

J. 14 CFR § 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."

The battery powering the sUASs provides a maximum of approximately 40 minutes of powered flight. To meet the 30-minute reserve requirement in 14 CFR §91.151, sUAS flights would be limited to approximately 10 minutes in length. Given the limitations on the UAS's proposed flight area and the location of its proposed operations within a predetermined area, a longer time frame for flight in daylight or night VFR conditions is reasonable.

We believe that an exemption from 14 CFR §91.151(a) falls within the scope of prior exemptions. See Exemption 10673 (allowing Lockheed Martin Corporation to operate without compliance with FAR 91.151 (a)). Operating the small UAS, in a tightly controlled area where only people and property owners or official representatives who have signed waivers will be allowed, with less than 30 minutes of reserve fuel, does not incur the type of risks that Section 91.151(a) was intended to alleviate given the size and speed of the sUAS. Additionally, limiting sUAS flights to 10 minutes would greatly reduce the utility for which the exemption will be granted.

We believe that an equivalent level of safety can be achieved by limiting flights to 20 minutes or 25% of battery power whichever happens first. This restriction would be more than adequate to return the sUAS to its planned landing zone from anywhere in its limited operating area.

Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

K. 14 CFR §91.203 (a) and (b): Carrying Civil Aircraft Certification and Registration

The regulation provides in pertinent part:

> (a) Except as provided in§ 91.715, no person may operate a civil aircraft unless it has within it the following:

(1) An appropriate and current airworthiness certificate....
(b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The sUAS fully loaded weighs no more than 55 lbs and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the sUAS.

An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the sUAS will have immediate access to them, to the extent they are applicable to the sUAS. The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions includes Exemption Nos. 9565,9665,9789, 9789A, 9797, 9797A, 9816A, and 10700.

L. 14 CFR §91.405 (a);407 (a) (1); 409 (a) (2); 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...," 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 our operations. Maintenance will be accomplished by the operator pursuant to the manuals and operating handbooks for each respective sUAS (included with the submission of this petition). An equivalent level of safety will be achieved because these sUAS are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the sUAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in the Manual, the operator will ensure that the sUAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance performed. 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.

VI. PUBLIC INTEREST

Granting Windshear Media LLC. an exemption furthers the public interest. National policy set by Congress favors early integration of UAS into the national airspace in controlled, safe working environments such as those propose in this petition. Windshear Media's goal is to help facilitate safe integration of sUASs into mainstream USA in the following areas:

- Videography and Photography
- Agricultural Assessment of Crops and Data Collection
- News Gathering
- Training and Education
- Support Services for Public Entities
- Inspections and Assessments of Structures
- Real Estate
- Closed Set Film and Movie Production

VII. PRIVACY

All flights will be conducted in accordance with any federal, state or local laws regarding privacy.

VIII. FEDERAL REGISTER SUMMARY

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register, should it be determined that publication is needed: Applicant seeks an exemption from the following rules:

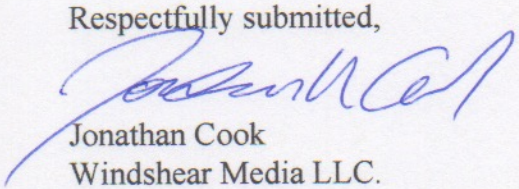
14 C.F.R. §21, subpart H; 14 C.F.R 45.23(b);14 C.F.R. §§ 61.113(a) & (b);91.7 (a); 91.9 (b) (2);91.103(b);91.109; 91.119; 91.121; 91.151(a);91.203(a) and (b); 91.405 (a); 91.407 (a) (1); 91.409 (a) (2); 91.409 (a) (2) and 91.417 (a) & (b) to operate commercially a small unmanned vehicle (55lbs or less).

IX. CONCLUSION

Approval of exemptions allowing commercial operations of sUASs as requested will enhance safety by reducing risk. Conventional operations, using jet or piston power aircraft, operate at extremely low altitudes and in extreme proximity to people and structures; and present the risks associated with vehicles that weigh approximately 5,000lbs carrying large amounts of fuel. Such aircraft must fly to and from the film location. In contrast, a sUAS weighing fewer than 55 lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The sUAS will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights.

The operation of small UASs, weighting less than 55 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein, including exempting the applicant from the requirements of Part 21 and allowing commercial operations. These lightweight aircraft operate at slow speeds, close to the ground, and in a secure environment and, as a result, are far safer than conventional operations conducted with turbine helicopters operating in close proximity to the ground and people.

Respectfully submitted,



Jonathan Cook
Windshear Media LLC.