



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

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

August 4, 2015

Exemption No. 12322
Regulatory Docket No. FAA-2015-2042

Mr. Gregory S. Walden
Akin Gump Strauss Hauer and Feld LLP
Counsel for Ascend Aerials LLC
Robert S. Strauss Building
11333 New Hampshire Avenue NW.
Washington, DC 20036

Dear Mr. Walden:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated May 18, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Ascend Aerials LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial cinematography, sensor data collection, survey, inspection, photogrammetry, aerial communication services, news gathering services, and airborne emergency services support.

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 Phantom 3, DJI Inspire 1, DJI S900, DJI S 1000, and 3DR Solo.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112–95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data 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, Ascend Aerials 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

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.

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, Ascend Aerials 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 Phantom 3, DJI Inspire 1, DJI S900, DJI S 1000, and 3DR Solo 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan

Director, Flight Standards Service

Enclosures

Akin Gump

STRAUSS HAUER & FELD LLP

GREGORY S. WALDEN

+1 202.887.4213/fax: +1 202.887.4288
gswalden@akingump.com

May 18, 2015

United States Department of Transportation
Federal Aviation Administration
Docket Management System
1200 New Jersey Avenue, NE
Washington, DC 20590

Filed in www.regulations.gov

Re: Petition for Exemption of Ascend Aerials LLC under Section 333 of the FAA
Modernization and Reform Act, 49 U.S.C. 44701(f), and 14 C.F.R. Part 11

On behalf of Ascend Aerials LLC ("Ascend Aerials"), we hereby seek an exemption from certain Federal Aviation Regulations enumerated below, as authorized by Section 333 of the FAA Modernization and Reform Act ("Section 333"), Subsection 44701(f) of the Federal Aviation Act, and pursuant to the procedures set forth in Part 11 of the Federal Aviation Regulations, to allow Ascend Aerials to operate the DJI Phantom 1, DJI Phantom 2, DJI Phantom 3, DJI Inspire One, DJI S900, DJI S1000, and 3DR Solo, to provide:

- Aerial cinematography services
- Aerial sensor data collection
- Aerial survey, inspection, and photogrammetry
- Aerial communication services (Wi-fi hotspots, FM radio transmission, VHF repeater, cellular)
- News gathering services
- Airborne emergency services support (reconnaissance and communications)

Except in three respects, as explained below, Ascend Aerials will comply with the same conditions and limitations as provided in numerous Section 333 exemptions granted recently. Accordingly, we respectfully ask the FAA to grant this petition in summary fashion, and obviate Federal Register publication and public comment.

Ascend Aerials is an Atlanta based, full service, aerial video production house that provides a comprehensive offering of marketing, documentation, and exploratory services. Specializing in the utilization of Unmanned Aircraft Systems for capturing aerial photography and video, Ascend Aerials delivers a diverse product offering which provides its clients with the very best in creative aerial and multimedia marketing tools by leveraging state-of-the-art technologies

in order to provide the aforementioned services at a fraction of traditional operating costs. This savings is at the heart of Ascend Aerials' mission focus, and the operation of UAS is integral to its relevance in the space described above.

The name of the applicant is Ascend Aerials LLC. The primary contact is Mr. Louie Northern, 1630 W. Peachtree Street NE #6, Atlanta, Georgia 30309. Telephone is 706-246-1958. His email is louie@ascendaerials.com and Ascend Aerial's web address is www.AscendAerials.com.

Exemptions requested

14 C.F.R. Part 21 (airworthiness certification)
14 C.F.R. Part 27 (normal category rotorcraft)
14 C.F.R. 61.113 (a) and (b) (pilot certification and qualification)
14 C.F.R. 91.7(a) (airworthiness)
14 C.F.R. 91.119(b) and (c) (minimum safe altitudes)
14 C.F.R. 91.151(a) and (b) (fuel requirements in VFR conditions)
14 C.F.R. 91.405 (a) and (b) (maintenance)
14 C.F.R. 91.407(a)(1) (approval for return to service)
14 C.F.R. 91.409(a) (annual and airworthiness certification inspection)
14 C.F.R. 91.417(a) and (b) (maintenance records)

Safety equivalence or no adverse effect on safety

Unmanned Aerial Vehicles and Systems

The DJI flight controller, the common control platform in the listed devices, in addition to the 3DR Solo, has a number of technological capabilities to demonstrate its airworthiness. In the event of a loss of GPS signal, the UAS will lock in its position and automatically go to ATTI mode and remain stable. Loss of connection to the remote control transmitter (or software navigation controller) causes the vehicle to immediately achieve a preset altitude, and then return to its home point and land in a controlled way.

All of the UASs intended for use contain a power storage monitoring system and fail-safe modes to force controlled landing before the power supply drops below operational levels. Should there be a loss of power, the UAVs are designed to perform a vertical hard landing with propellers providing stabilizing resistance during descent.

If the UAV encounters an unexpected obstacle, the pilot will either divert the flight or maintain the UAV in a safe hover position away from the obstacle.

Given its small size, operational capabilities, and restricted area in which the UAS will operate, an exemption from Part 21, Subpart H, Airworthiness Certificates, and 14 C.F.R. 91.7(a), is warranted, as Ascend Aerials' UAS satisfies the equivalent level of safety as compared with

manned aircraft and meets the criteria in section 333. Operating the UAS without an airworthiness certificate in the restricted environment over vacant private property under the conditions proposed will be safer than operating a manned helicopter operating with an airworthiness certificate and not subject to such conditions.

Each UAV (with payload) is less than 55 pounds, carry no explosive materials or flammable liquid fuels, and would operate outside controlled airspace, with no passengers or crew on board. As the FAA has found in granting an exemption to Clayco, Exemption No. 11109, at page 10:

The limited weight significantly reduces the potential for harm to participating and nonparticipating individuals or property in the event of an incident or accident. The risk to an onboard pilot and crew during an incident or accident is eliminated with the use of a UAS for the aerial operations.

For the reasons outlined above, Ascend Aerials also seeks an exemption from the certification requirements for normal category rotorcraft in Part 27.

In support of Ascend Aerials' request for an exemption from 14 C.F.R. 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), Ascend Aerials will adhere to the following inspection and maintenance program: Ascend Aerials will inspect the UAS before and after each operation, as well as perform daily, weekly, monthly, and annual inspections, as set forth in its operations manual. Before each flight, the pilot in command will inspect the UAS to ensure it is in a safe condition for flight. The preflight inspection will account for any discrepancy, such as an inoperable component, item, or equipment. Ascend Aerials will not initiate a flight if the inspection reveals a condition that adversely affects the safety of operations, and will not operate that UAS until it is found to be in a safe condition. Any UAS that has undergone maintenance or an alteration that affects the UAS's operation or flight characteristics will undergo a functional flight test before return to service.

Ascend Aerials will follow the manufacturer's UAS requirements relating to components, maintenance, overhaul, replacement, inspection and life limits. Ascend Aerials will record all maintenance, alterations, and the functional flight test in the UAS logbook, including total flight hours, description of work accomplished, and the signature of the UAS technician who returned the UAS to service.¹

Ascend Aerials' UASs are equipped with an altimeter that provides the pilot with real-time telemetry data in addition to a constant digital display of altitude, speed, and UAS proximity. Moreover, the UASs will be operated within the visual line of sight of the pilot in command and observer and below 400 feet AGL. In addition, the flight controllers are programmed not to allow the aircraft to exceed the 400 feet ceiling, even if the pilot command input is in-conflict, or

¹ Manufacturer and operating manuals will be provided separately.

if communication with the remote control transmitter fails. Accordingly, Ascend Aerials does not believe an exemption from 14 C.F.R. 91.121 is required.

In support of Ascend Aerials' request for an exemption from fuel requirements in 14 C.F.R. 91.151(a) and (b), we note that its UAS is battery-powered and is operated for brief periods of time, within the battery capacity of the UAS.

The remote control transmitter/receiver combinations will work within the 2.4 GHz and 5.8 Ghz FCC-approved ranges.

UAV and UAS Operator Qualifications and Training

In support of Ascend Aerials' request for an exemption from the pilot certification and qualifications requirements in 14 C.F.R. 61.113(a) and (a), Ascend Aerials asserts that an equivalent level of safety is achieved by the UAS-specific experience of its Pilots. Each Ascend Aerials pilot, before conducting a commercial operation under the requested exemption, will have successfully completed an aeronautical knowledge test, performed at least 20 takeoffs and landings of the particular UAV, and flown the particular UAV for at least 10 hours.

Ascend Aerials recognizes the FAA's position that section 333 does not allow the FAA to waive the requirement of a UAS operator to hold an airman certificate, relying on section 44711. Section 333 is a more recent enactment and provides explicit authority to the FAA to exempt a UAS operator from *any* certification requirement. Section 333 instructs the FAA to consider *whether* to require airworthiness certificates, certificates of waiver, and certificates of authorization, "*at a minimum.*" Thus, Congress vested FAA with discretion to waive certificate requirements other than an airworthiness certificate, including an airman and medical certificates.

Even if the pilot certification requirement is not waived, FAA has exemption authority under section 44701(f) to exempt UAS operators from the particular requirements of Parts 61 and 67 – such as the requirement to conduct flight training on board an aircraft – and develop airman certification requirements specifically designed for small UAS operations. Applying manned aircraft pilot certification requirements to small UASs is not necessary as a matter of safety, and does not make sense as a matter of public policy.

Ascend Aerials believes that FAA's determination in the Astraeus Aerial and other exemptions that a commercial pilot certificate is not required for the operators of UASs for closed set filming, set forth below (emphasis added), applies equally to the nature of its UAS operations:

[T]he experience obtained beyond a private pilot certificate in pursuit of a commercial pilot certificate in manned flight does not necessarily aid a pilot in the operational environment proposed by the petitioner; *the FAA considers the overriding safety factor for the limited operations proposed by the petitioner to be the airmanship skills acquired*

through UAS-specific flight cycles, flight time, and specific make and model experience, culminating in verification through testing.

Ascend Aerials believes this reasoning supports a UAV/UAS-focused training and experience regimen that should obviate not only a commercial pilot certificate but also a private pilot certificate because any training will be focused on the particular skills of operating the particular small UAS and the particular nature of UAS operations.

Ascend Aerials notes that the FAA has proposed in its recent sUAS Notice of Proposed Rulemaking that a small UAS operator would be required to successfully complete an aeronautical knowledge test, but would not be required to obtain a commercial or private pilot certificate. Also, medical certification would be obviated by a pilot's self-certification before flight that the pilot is physically and mentally fit to operate the UAS.

Accordingly, the FAA should grant appropriate exemption relief *and revise the standard term on PIC certification to permit Ascend Aerials to use pilots who have successfully completed commercial UAS training and have also gained flying experience using the aforementioned UAS's.* In the event the FAA does not grant such relief, however, Ascend Aerials will employ a suitably certificated private pilot.

UAV and UAS Operating Parameters

Ascend Aerials will operate its UASs in full compliance with the applicable manufacturer manual. Ascend Aerials' typical flight will be operated under 400 feet AGL and within 2 km of the operator.

All flights will be conducted within the visual line of sight of the pilot in command, within non-controlled airspace, with the consent of any property owner and/or developer. Although the UAS may be operated in a metropolitan area, it will be controlled and monitored only by authorized personnel, and be flown below 400 feet AGL, except in rare occasions where a sponsoring agency or organization requires data from higher altitudes, or where the terrain below would require extreme maneuvers to comply with the altitude restriction. However, in such rare cases, appropriate pre-flight site surveys would be undertaken (where possible) to minimize any risk of collision or any negative impact with any aircraft operations in that airspace, and in any event all such operations would be within the visual line of sight of the operator. For any operations over 400 feet AGL, Ascend Aerials will coordinate with Air Traffic Control and obtain a Certificate of Authorization if required. Thus, these rare and brief operations at an altitude over 400 feet AGL will pose no risk to manned aircraft. Accordingly, *Ascend Aerials requests that the standard term on altitude be revised to permit Ascend Aerials to operate its UASs higher than 400 feet AGL when authorized by Air Traffic Control.*

Ascend Aerials will also notify the appropriate Flight Standards District Office ("FSDO") and Air Traffic Control for any operation within five miles of an airport.

Ascend Aerials will conduct a briefing before each day's operations, which all personnel participating in the operations must attend. Ascend Aerials will obtain written consent of any person who will be participating in the operations or otherwise be on the private property where operations are to take place. Ascend Aerials will provide notice to any adjacent buildings or structures. Ascend Aerials will limit its operations to daytime Visual Flight Rules ("VFR").

Ascend Aerials seeks an exemption from the requirement in 14 C.F.R. 91.119, subsection (b), that an aircraft must remain at least 1,000 feet above any congested area or open air assembly of persons, and subsection (c), that an aircraft must remain at least 500 feet above any person or structure in an area other than populated or congested, and not closer than 500 feet to any person, vehicle, or structure. These requirements were adopted with fixed-wing, manned aircraft operations in mind. While Ascend Aerials may operate its UASs in a metropolitan area, the operations will be carefully pre-planned to minimize risk to persons or property, avoid intrusion into unauthorized airspace, and avoid a public annoyance. Its UASs will not be operated *over* a highly-congested area or open air assembly of persons.

Ascend Aerials will make every reasonable effort to ensure that no unauthorized person will be on the land over which the UASs will be operated, and will provide notice to adjacent buildings and furnish proctors as may be necessary to ensure that unauthorized persons do not come within the narrow parameters in which the UASs will be operated. Combined with the technological capabilities of the UASs and that the UASs will be operated within the visual line of sight of the pilot and an observer, Ascend Aerials submits that its operational limitations provides an equivalent level of safety to that provided in section 91.119.

For news gathering operations as well as for emergency services support, *Ascend Aerials seeks a revision to standard term and condition 27*, which provides that "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." For news gathering and emergency services support operations, it would be impractical to require advance notice and approval from private property owners. Precautions outline above will be taken by Ascend Aerials to minimize any risk to persons on the ground.

Public interest

Ascend Aerials' UAS operations will substantially benefit public and private organizations which have an interest in gathering critical information – atmospheric, situational, etc. – to support their operations. Depending on the use-case, these scenarios may include:

- aerial cinematography or photography (in support of government, commercial, or non-profit organizations),
- the gathering of sensor data to document to provide real-time awareness of potential radiological or biohazards present in an operational area,

- traffic or construction monitoring,
- ecological, agricultural, or land management surveying,
- infrastructure surveying, inspection, and improvement
- area-specific communications (specifically FM radio, Wi-Fi, and cellular - in accordance with existing FCC guidance).

Additionally, news-gathering organizations that would normally utilize fixed cameras, mobile ground camera crews, or manned aircraft in support of their news operations, would be able to receive transmitted video via Ascend Aerials' UAS's without risking aircrews during potentially hazardous situations, while also minimizing intrusion into the airspace above the situation of interest.

Operating UASs under the limitations proposed by Ascend Aerials will avoid any risk of harm to pilots as well as persons and people on the ground that would be present during the operation of manned helicopters. UAS operations will also require a much smaller energy footprint than with manned helicopters.

Operations limited to the United States

Under the requested exemption, Ascend Aerials will operate its UASs within the United States, including over the territorial waters of the United States, and over the high seas provided it will remain within the U.S.-controlled Flight Information Region.

Summary for Federal Register

Should the FAA determine that publication of a summary is required, Ascend Aerials submits the following summary to be included in the Federal Register:

Ascend Aerials seeks an exemption to operate the DJI Phantom 1, DJI Phantom 2, DJI Phantom 3, DJI Inspire One, DJI S900, DJI S1000, and 3DR Solo unmanned aircraft systems to perform commercial and emergency services.

Sincerely,



Gregory S. Walden

Copy to: Louie Northern