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

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

September 17, 2015

Exemption No. 12888
Regulatory Docket No. FAA−2015−2707

Ms. Adrienne Krunich
SkySource, LLC
26522 Isabella Parkway
Santa Clarita, CA 91351

Dear Ms. Krunich:

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 June 6, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of SkySource, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial imaging, videography, and inspections.

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 3.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the

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

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, SkySource, LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

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

Conditions and Limitations

In this grant of exemption, SkySource, 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 3 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 September 30, 2017, unless sooner superseded or rescinded.

Sincerely,
/s/

John S. Duncan
Director, Flight Standards Service

Enclosures

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June 6, 2015

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

Subject: Exemption Request Section 333 of the FAA Reform Act of 2012 and Part 11 of the Federal Aviation Regulations from 14 C.F.R. Part 21,

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14 C.F.R. Part 11, SkySource hereafter referred to as "Petitioner" would like to apply for an exemption from the following Code of Federal Regulations (C.F.R) to be allowed commercial operation of lightweight Unmanned Aircraft Systems (UAS) for aerial imaging and video and inspections primarily in the Southern California Area.

SkySource requests relief from the following Regulations:

14 CFR Part 21, Subpart H
14 CFR 45.23 (b)
14 CFR 61.113 (a and 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
14 CFR 91.203
14 CFR 91.405 (a)
14 CFR 91.407 (a)
14 CFR 91.409 (a)
14 CFR 91.417 (a and b)

SkySource's scope of operations may include the following:
Event Photography and Videography
Real Estate Photography and Videography
Aerial Filmmaking and Photography
Agricultural Inspections

General Photogrammetry
Aerial Surveying/Mapping of Construction Sites

Equipment to be Used
The UAS that SkySource will principally operate is the DJI Phantom 3. This UAS consists of an unmanned quad-copter, high definition camera, 3 access gimbal, and a mobile ground station which includes the flight controller and a paired mobile device. The DJI Phantom 3 weighs 1280 grams, and its diagonal length is 590 mm. Four independent electric motors turn the fixed pitch rotors and are powered by a single Lithium Polymer battery. The DJI Phantom 3 is a commercial off the shelf product currently in use by many other companies operating UAVs commercially under their recently approved 333 exemptions.

Some relevant safety Features of the Phantom 3 include Auto Take Off/Landing, Return to Home, Fail Safe Intelligent Flight Battery and Vision Positioning System. In addition to these safety features, the Intelligent Orientation Control modes allow more precise control over the aircraft and include Home Lock and Course Lock features, leading to even more predictable and plannable flights. Home lock allows the UAV to return to an established home point by simple activation on the controller. The control lock is an auto-pilot type course feature. The vision positioning system allows the aircraft to hover accurately in place even if GPS is unavailable, making it safer and more stable. Return to Home (Smart RTH, Low Battery RTH, and Failsafe RTH). Smart RTH allows the aircraft, at the touch of a button, to return to the home point which was pre-recorded using the GPS upon initialization. Low Battery level failsafe RTH is triggered with the intelligent flight battery is depleted to a pre-set point. Failsafe RTH will be automatically activated if the remote controller signal is lost for more than 3 seconds. The Phantom 3 has a proven safety record and all information regarding its performance and safety features can be referenced in the safety guidelines. The full user's manual which includes FCC information, checklists, and graphics supporting the No-Flight Zone information can be found here:
http://www.dji.com/product/phantom-3/download

Please see attached documents in support of this petition:
Phantom 3 Professional Safety Guidelines
Phantom 3 Intelligent Flight Battery Safety Guidelines

Public Good
Aerial photography/videography for geographical awareness and for real estate marketing and inspections has been around for a long time through manned fixed wing aircraft and helicopters. But for small business owners, its expense has been cost-prohibitive.
Granting this exemption would allow the Petitioner to provide this service at a much lower cost to the public. Furthermore, the small UAS's being utilized in this application will pose no threat to the public given its small size and lack of combustible fuel when compared to larger manned aircraft. The operation of the UAS's are environmentally friendly and promote economic growth by providing information to businesses and individuals in the Southern California Area.

The Petitioner, a certified commercial pilot and flight instructor with over 2000 hours of logged flight time, will ensure that all of SkySource's operations are conducted with utmost regard to safety, minimizing risk, being a responsible user of the NAS, and ensuring compliance with all applicable regulations to ensure this exemption and will provide a level of safety at least equal to existing rules. The petitioner will only operate in a safe environment that is strictly controlled. This exemption request would permit operation of ultra light-weight, unmanned UASs in predetermined areas away from the general public, airports, heliports and vehicular traffic, under 200 feet AGL, during daylight hours and under visual meteorological conditions (VMC) Operation would commence only after carefully reviewing, inspecting and examining the area of aerial observation. Petitioner will conduct extensive preflight inspections and protocols, during which safety carries primary importance. Pre-flight and post-flight checklist usage will be mandatory. This would allow for videos and photos within property boundaries for individual homeowner real estate listing. This would also allow for event photography and videography.

14 C.F.R. 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 UAS's, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part11 and §333 of the Reform Act. The Federal Aviation Act (49U.S.C.§44701 (f)) and §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 UAS's to be operated by the petitioner are less than 5 kgs with maximum payload consisting of camera, carries neither no persons, carries no explosive or flammable materials including combustible 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 pilot (PIC) and or the Visual Observer. The Visual Observer role is designated to act as both the remote sensing controller and secondary monitor for safety issues. These enhancements to current safety practices and regulations, which already apply to civil aircraft, provide a greater degree of safety to the public and property owners than conventional aircraft operations conducted with airworthiness certificates issued under 14 C.P.R. Part 21, Subpart H. Lastly, application of these same criteria demonstrates that there is no 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.

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14 C.F.R. §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 UAS, two-inch lettering will be impossible. Petitioner understands the need for markings and will mark Our UAS's in the largest possible lettering by placing the word "Experimental" or assigned number or name (based on a request or ruling by the FAA) on its fuselage as required by §45.29(f) so that anyone assisting the visual observer will see the markings. Further markings include a front LED indicator light and markings designating forward and aft orientation.

14 C.F.R. §61.113 (a) & (b): Private Pilot Privileges and Limitations: Pilot in Command (PIC)

§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 a ground crew member to have a private pilot's license rather than a commercial pilot's license to operate this UAS. Unlike a conventional aircraft that carries the pilot and passengers, the UAS is remotely controlled with no persons on board. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance. The risks associated with the operation of the UAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations as requested with a private pilot in the ground crew exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b). Although the principal operator (Petitioner) holds a Commercial Pilot's Certificate, SkySource may employ operators in the future who only hold a Private Pilot's Certificate. Each operator will be trained extensively on the equipment to include training for emergency operations, pre-flight planning, checklist usage, and airspace requirements. Training will be logged in company's records.

14 C.F.R. §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 the manual for maintenance and use of safety check lists prior to each flight, a subset of which are provided in enclosed Supplemental material, an equivalent level of safety will be provided.

14 C.F.R. §91.9 (b) (2): Civil Aircraft Flight Manual in the Aircraft.

§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 UAS, given its size and configuration has no ability to carry a physical flight manual 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 UAS will have immediate access to it. Flight Manuals and associated documents may be in electronic format. 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

14 C.F.R. §91.103: Preflight Action

This regulation requires each Pilot in Command (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. Prior to conducting any flight, SkySource appointed pilots (operators) will conduct a detailed pre-flight inspection in accordance with the manufacturer's instruction manual. The Preflight inspection will not be limited to the UAV and its components but will also include the verifying that the airspace to be operated in will ensure compliance with FAA regulations – not in close proximity to any airports, not a congested area, no open air assembly of persons, etc.

The PIC will take all actions including reviewing weather, checking the flight battery, landing and takeoff area suitability, and checking of NOTAMs and TFRs before initiation of flight. Further, we always use standardized pre-flight checklists in accordance with manufacturers' recommendations. If granted an exemption the Petitioner agrees to additional safety procedures including, but not limited to:

- Keeping our UAS's within a radius distance of 2000 feet from the controller to both aid in direct line of sight visual observation.
- Operate the UAS's for 10-15 minutes per flight; land Our UAS's according to the manufacturer's recommended minimum level of battery power.
- Operate our UAS's only within visual line of sight (VLOS) and use the assistance of a visual observer if necessary
- Use the UAS's flight safety features including- RTH features and ensuring Lost Link capability is available.
- Conduct all operations under our flight safety protocols
- Log each flight and battery use to actively analyze flight data and other sources of information to constantly update and enhance safety protocols
- Always obtain all necessary permissions prior to operation
- Have procedures in place to abort flights in the event of safety breaches or potential danger.

DJI has implemented Firmware updates that limit flight around airports, along with distance and altitude limits. All relevant TFRs and No Fly Zones will be checked prior to each flight to ensure avoidance. The DJI pilot app which is linked to the flight controller includes up to date information on all No Flight Zones and communicates this information to the flight controller. The No-Fly Zones are divided into Airports and Restricted areas. Using information about these locations, the flight controller indicates whether the aircraft is in a no-fly zone, a restricted altitude flight zone, a warning zone, or a free zone. Motors will not start in a no-fly zone, and automatic landing will be activated if aircraft approaches a no-fly zone. Please see table detailing these zones in the attached user manual for more a more detailed explanation of this safety feature.

14 C.F.R. §91.109: Flight Instruction

§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.

UAS's and 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. Enhancing this safety is the technology inherent in the remote controls utilizing digital communications which is paired to the UAS making it nearly impossible to unintentionally or intentionally have the control communications interrupted.

14 C.F.R. §91.119: Minimum Safe Altitudes

The regulation states that over sparsely populated areas the aircraft cannot be operated closer than 500 feet to any person, vessel, vehicle, or structure. Since the typical mission of the sUAS would be photography or survey of persons, vessels, vehicles, or structures, it would be necessary to operate closer than 500 feet to the items listed. Operations will only be flown over property or persons where permission has been obtained and careful pre-planned flight path has been established. The aircraft will be operated at a low altitude allowing that if a power unit fails, an emergency landing can be made without undue hazard to persons or property on the surface. Therefore we maintain that due to the small size of the UAS, the hazard to the persons, vehicles, and structures is minimal compared to manned aircraft, which should be considered in granting the exemption.

14 C.F.R. §91.121 Altimeter Settings

§91.121 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, confirming the altitude of the launch site shown on the GPS altitude indicator before flight. The pilot in Command (PIC) will also ensure effective pairing with multiple GPS sources to guarantee accurate detection of height. In addition, the Phantom 3 has vision positioning capability, which is similar to a radar altimeter in a manned aircraft. Visual and ultrasonic sensors scan the ground beneath the quadcoptor, allowing it to identify its accurate position.

14 C.F.R. §91.151(a): Fuel Requirements for Flight in VFR Conditions

§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 UAS's provide up to 23 minutes of flight time, dependent on environmental conditions and usage patterns. Petitioner's UAS's will not be able to meet the 30 minute reserve requirement in 14 CPR §91.151. Operating the small UAS's, in a tightly controlled area where only people and property owners or official representatives who given permission for overflights, does not engender the type of risks that Section 91.151(a) was intended to alleviate given the size and speed of the small UAS's

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Petitioner believes that an equivalent level of safety can be achieved by monitoring the battery level and landing as soon as the low battery level warning light is illuminated. If no action is taken for 10 seconds after the low battery indicator warning light illuminates, the Fail Safe Intelligent Battery will automatically activate the return to home feature and will return to origin point and land safely. Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

14 C.F.R. §91.203 (a) & (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 UAS's fully loaded weigh no more than 11kg 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 UAS's. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UAS will have immediate access to them, to the extent they are applicable to the UAS's. Electronic versions of these documents are acceptable. The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797 A, 9816A, and 10700

14 C.F.R. §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 the applicant.

Maintenance will be accomplished by the operator in accordance with the manufacturers' recommendations or by an approved DJI maintenance provider. 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. If mechanical issues arise the UAS can land immediately and will be operating from no higher than 200 feet AGL. The Petitioner will ensure that the UAS is in working order prior to initiating flight, perform required maintenance, and keep a detailed record of any maintenance performed. A post maintenance test flight will be performed after any maintenance is completed prior to resuming commercial operations.

Summary
The Petitioner believes that the exemption from the above listed Title 14 CFRs is warranted given the nature of UAS flights that will be undertaken, the size & weight of the UAS being operated, and the safety precautions taken for the general public and the NAS. This operator will contribute to aviation's positive evolution by demonstrating lower cost of business services

provided, minimal environmental impact, and increased safety for flight crews and ground property. Due to the similarity of this request with numerous other previously approved exemptions, I respectfully request that this exemption be approved in a timely manner.

Thank you for your consideration.
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Adrienne Krunich, CEO
SkySource LLC