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

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

July 15, 2015

Exemption No. 12052
Regulatory Docket No. FAA–2015–1563

Mr. David Terry
Silverhawk LLC
dba Silverhawk Aerial Imaging
4859 Burch Creek Drive South
Ogden, UT 84403

Dear Mr. Terry:

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 2, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Silverhawk LLC dba Silverhawk Aerial Imaging (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial imaging, inspection, photogrammetry and data collection.

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 2 Vision and DJI Inspire 1.

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, Silverhawk LLC dba Silverhawk Aerial Imaging 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, Silverhawk LLC dba Silverhawk Aerial Imaging is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision and DJI Inspire 1 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

The Law Office of Darrell J. Green, LLC
770 S. Willow Park Drive
Lehi, UT 84043
Telephone: (660) 624-2181
Email: green.770@comcast.net

May 2, 2015

**VIA ELECTRONIC SUBMISSION**
**Federal Docket Management Website**
U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, DC 20590

Re: Request for Exemption pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14. C.F.R. Part 11

Dear Sir or Madam:

Silverhawk L.L.C. d/b/a Silverhawk Aerial Imaging (Silverhawk) is a business for the purpose of conducting (1) commercial and industrial aerial imaging; (2) aerial surveying for data collection; (3) aerial photogrammetry, inspection and analysis; and (4) tower and structure inspections. Silverhawk is owner of Small Unmanned Aircraft Systems ["sUASs"]. These sUASs are equipped with video, photographic, and imaging equipment for the purpose of collecting data for use by commercial industries and other private and public entities, in pre-planned, controlled access property, private and public areas. Silverhawk is requesting regulatory and statutory relief pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11 to allow commercial operations of its sUASs. These operations will be conducted pursuant to the conditions described within this request and in accordance with those established by the Federal Aviation Administration (FAA) and as required by Section 333 of the Reform Act. Granting the requested exemption would permit the operation of small, unmanned aircraft systems under controlled conditions in airspace that is limited and predetermined over private, controlled access property or public property where approved and will do so with the property owner's consent and knowledge. Only people who have consented or otherwise agreed will be in the area where videography and photography will take place. All permissions, authorizations, permits, grants or other required authorizations would be secured prior to operation.

Granting this exemption would enhance the already safe operations in the industries that conduct: (1) commercial and industrial aerial imaging; (2) aerial surveying for data collection; (3) aerial photogrammetry, inspection and analysis; and (4) tower and structure inspections. This in turn fulfills the Secretary of Transportation's (the FAA Administrator's) responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system" (The Reform Act, Section 333(c)).

The name and address of the applicant is:

Silverhawk L.L.C. d/b/a Silverhawk Aerial Imaging
Attn: Mr. David Terry
Telephone: (801) 920-4178
Email: pilot@silverhawkai.com
Address: 4859 Burch Creek Dr South Ogden, UT 84403

I. FAA authority for granting exemptions

Section 333 (a) through (c) of the Reform Act required the Secretary of Transportation ". . . . to determine if certain unmanned aircraft systems may operate safely in the national airspace system before completion of the plan and rulemaking required by section 332 of this Act or the guidance required by section 334 of this Act."

The Secretary is required to assess the UASs and determine if the UAS may safely operate in the National Air Space (NAS) based upon the following criteria:

> (1) . . . their *size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight* [emphasis added] do not create a hazard to users of the national airspace system or the public or pose a threat to national security; and
> (2) whether a certificate of waiver, certificate of authorization, or airworthiness certification under section 44704 of title 49, United States Code, is required for the operation of unmanned aircraft systems identified under paragraph (1).

The Secretary is then required to ". . . establish requirements for the safe operation of such aircraft systems in the national airspace system." Reform Act, Sec. 333 (c). Pursuant to this requirement the Secretary may define conditions (through the Federal Aviation Administration) for the safe operation of the UAS.

Granting this request for exemption complies would fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act and the Federal Aviation Act.

II. Request will benefit the public as a whole

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of Section 333 of the Reform Act or any sections from 44702-44716 of this title if the Administrator finds the exemption in the public interest.

Silverhawks's Unmanned Aircraft (UA) are the DJI Phantom Vision 2 plus and the DJI Inspire 1 rotorcraft, weighing 55 pounds or less, including payload. Silverhawk's request fits the defined criteria as established by Congress and the FAA based upon the small size of the sUAS involved and the predetermined environment within which they will operate. Due to the defined operational parameters there are no national security issues. Based upon the intent and specific

language as provided in Section 333 of the Reform Act and the authority of the FAA, there exists a significant public benefit for granting this exemption.

The use of UAS technology to obtain imagery, information and data currently obtained by use of manned flight or manual methods: (1) reduces statistical risk to human life due to manned aircraft accidents and due to other dangerous activities that can be avoided (e.g., scaffolding/rigging failures during stack); (2) reduces the cost of obtaining such information, which benefits consumers and the economy; (3) reduces environmental impact by eliminating sources of hydrocarbon emissions from manned aircraft; (4) preserve wildlife environments; and (5) increase the state and local economies via the introduction of new technological equipment utilized by start-up companies. With respect to one section of Silverhawk's request to inspect towers and structure inspections and as previously stated by Asymmetric Technologies "Aerial surveys are valuable tools for utility-power generation inspections. However, problems with safety, cost, statistical integrity, and logistics continue to impede aerial surveys and inspections from conventional manned aircraft. The use of sUAS addresses these problems and is a powerful tool for performing a wide-range of utility-power generation inspection and patrol applications. The public as a whole will benefit from the safer and more cost-effective utility aerial services that sUAS operations provide." Asymmetric Technologies Petition for Exemption, Reg. Docket No, FAA 2014 – 0816.

## III. Aircraft and Equivalent Level of Safety

Silverhawk asserts that the exemption requested applies to civil aircraft (sUAS) described within this application. The enhanced safety (set forth in detail below) is coupled with a reduction in environmental impacts such as reduced emissions as compared to a full scale aircraft, less expensive personnel and equipment costs, and reduced noise. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to the already safe aerial video, photography and aerial data collections operations conducted with conventional aircraft.

Silverhawk's proposed operations for aerial inspection of unoccupied structures would be consistent with those already approved by the Administrator (see FAA–2014–0873 Advanced Aerial Inspection Resources, LLC (Advanced Aerial)). As stated in Advanced Aerial's Request for Exemption " . . . unoccupied structures, generally built upon right of ways with adequate buffer to protect the public from physical harm or invasion of privacy during inspection operations. For example, most utility structures are in the middle of a right of way that is between 150-200 ft wide. AAIR's operations would remain within that right of way. Virtually all wind turbine towers are also generally remote and on a "wind farm" that is owned by the wind farm. AAIR's operations would remain vertically within the wind farm's footprint. Moreover, wind turbine towers and wind farms are already subject to obstruction marking, lighting and notification requirements set forth by the FAA. Similarly, telecommunications towers are generally some distance from dwellings, and even those that are not are generally sited within a right of way . . . " (see FAA–2014–0873 Advanced Aerial Inspection Resources, LLC;

Exemption 11277). Silverhawk's sUAS would remain within all allowable right-of-ways or would otherwise obtain all required permits or authorizations.

These limitations and conditions to which Silverhawk agrees to be bound when conducting (1) commercial and industrial aerial imaging; (2) aerial surveying for data collection; (3) aerial photogrammetry, inspection and analysis; and (4) bridge, tower and structure inspections that provide the equivalent level of safety when conducting commercial operations under an FAA issued exemption include:

1. Operations limited to the DJI Phantom and DJI Inspire 1 series aircraft which weigh less than 55 pounds including payload.

2. Operations for the purpose of closed-set motion picture and television filming will not be conducted without an FAA approved Motion Picture and Television and Operations manual.

3. The UA will not be operated at a speed exceeding 87 knots (100 miles per hour). In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer. (Appendix A – DJI Phantom 2 Users Manual and Appendix D - DJI Inspire 1 User Manual (EN) v1.0).

4. Maximum total flight time for each operational flight will be 30 minutes. Flights will be terminated at 25% battery power reserve should that occur prior to the 30 minute limit.

5. The UA will be operated at an altitude of no more than 400 feet above ground level (AGL). Altitudes will be reported in feet AGL.

6. The UA will 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.

7. All operations will utilize a visual observer (VO). The UA will 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 will be able to communicate verbally at all times. Electronic messaging or texting will not be permitted during flight operations. The PIC will be designated before the flight and will not transfer his or her designation for the duration of the flight. The PIC will ensure that the VO can perform the duties required of the VO.

8. All documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations in a grant of exemption (hereinafter referred to as the operating documents) will be accessible during UAS operations and made available to the Administrator upon request.

9. The UA will operate only in predetermined private, controlled access or public property where approved and will do so with the property owner's consent and knowledge and that only people who have consented or otherwise have agreed will be in the area where aerial videography and photography will take place. All permissions, authorizations, permits, grants or other required authorizations will be secured prior to operation.

10. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, will undergo a functional test flight prior to conducting further operations. Functional test flights will only be conducted by a PIC with a VO and will remain at least 500 feet from other people. The functional test flight will be conducted in such a manner so as to not pose an undue hazard to persons and property.

11. Silverhawk is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation in accordance with the manufacturer's requirements. (Appendix A:DJI Phantom 2 Users Manual; Appendix B: Smart Flight Battery Safety Guidelines; Appendix F: Inspire 1 Maintenance Manual V1.0).

12. Prior to each flight, the PIC will conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection will 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 will not be operated until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight. (Appendix A – DJI Phantom 2 Users Manual; Appendix D - DJI Inspire 1 User Manual (EN) v1.0; Appendix E - DJI Inspire 1 Safety Guidelines v1.0).

13. Silverhawk will follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components. (See Appendix A-G for all manuals).

14. Each UAS operated under the exemption will comply with all manufacturer safety bulletins.

15. The PIC will hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC will 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 will 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.

16. Silverhawk will 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 the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency will 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 the terms of the exemption in accordance with the Phantom Pilot Training Guide prior to conducting conventional operations (See Appendix C). Training operations will 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 will operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

17. UAS operations will not be conducted during night, as defined in 14 CFR § 1.1. All operations will be conducted under visual meteorological conditions (VMC).

18. The UA will 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 will be made available to the Administrator or any law enforcement official upon request.

19. The UA will 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.

20. If the UA loses communications or loses its GPS signal, the UA will return to a pre-determined location within the private, controlled-access or public property.

21. The PIC will abort the flight in the event of unpredicted obstacles or emergencies.

22. The PIC will not begin 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.

23. 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 granted COA.

24. All aircraft operated in accordance with the proposed exemption will 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 will be as large as practicable.

25. Documents used by Silverhawk to ensure the safe operation and flight of the UA and any documents required under 14 CFR §§ 91.9 and 91.203 will be available to the PIC at the

Ground Control Station of the UAS any time the aircraft is operating. These documents will be made available to the Administrator or any law enforcement official upon request.

26. The UA will remain clear and give way to all manned aviation operations and activities at all times.

27. The UA will not be operated by the PIC from any moving device or vehicle.

28. All Flight operations will 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 will 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 will 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 will not considered nonparticipating persons under a proposed exemption.

29. All operations will be conducted over private, controlled-access or public 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.

30. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA will 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.

31. If the exemption permits operations for the purpose of closed-set motion picture and television filming and production, Silverhawk:
    a. Must have a motion picture and television operations manual (MPTOM) as approved by the Federal Aviation Administration.
    b. At least 3 days before aerial filming, the operator of the UAS affected by the proposed 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:
        i. Dates and times for all flights;
        ii. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;

iii. Name and phone number of the person responsible for the on-scene operation of the UAS;
iv. Make, model, and serial or N–Number of UAS to be used;
v. Name and certificate number of UAS PICs involved in the aerial filming;
vi. 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;
vii. Signature of exemption holder or representative; and
viii. 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.

32. 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 operator MPTOM.

33. The DJI Phantom Vision 2 User's Manual (Appendix A) sets forth the specifications of the DJI Phantom UAS. The DJI Inspire 1 User Manual (Appendix D) sets forth the specifications of the DJI Inspire 1.

IV. Regulations from which the exemption is requested

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). 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.

Part 21 prescribes, in pertinent part, the procedural requirements for issuing and changing design approvals, production approvals, airworthiness certificates, and airworthiness approvals.

Part 27 sets forth airworthiness standards for normal category rotorcraft

14 C.F.R. §61.23 (a) & (c) prescribes, in pertinent part Operations requiring a medical certificate and holding and possessing either a medical certificate issued under part 67 of this chapter or a U.S. driver's license under certain conditions

14 C.F.R. §61.101 (a) & (b) prescribes in pertinent part the prohibition of a recreational pilot acting as a PIC for compensation or hire and in furtherance of a business

14 C.F.R. §61.113 (a) & (b) prescribes in pertinent part the prohibition that no person

who holds a private pilot certificate may act as pilot in command of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.

14 C.F.R. §61.315 (a): §61.315 prescribes in pertinent part the privileges and limits of a sport pilot certificate.

14 C.F.R. § 91.7(a) prescribes, in pertinent part, that no person may operate a civil aircraft unless it is in an airworthy condition,

14 C.F.R. § 91.9[b] (2) prohibits operation of U.S. registered civil aircraft 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.

14 C.F.R. § 91.103[b] states, in pertinent part, that each pilot in command shall, before beginning a flight, become familiar with all available information concerning that flight, to include, "For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information;... For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein."

14 C.F.R. § 91.109(a) 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."

Section 91.119(c) prescribes that, except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes: "Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure."

14 C.F.R. § 91.121 requires, in pertinent part, 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."

14 C.F.R. § 91.151(a) prescribes that no person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed, (1) during the day, to fly after that for at least 30 minutes; or (2) at night, to fly after that for at least 45 minutes.

14 C.F.R. § 91.203 prohibits, in subpart (a), any person from operating a civil aircraft unless it has within it (1) an appropriate and current airworthiness certificate; and (2) an effective U.S. registration certificate issued to its owner or, for operation within the United States, the second copy of the Aircraft Registration Application as provided for in § 47,3l(c]. Section 91.203 prescribes, in subpart (b), that no person may operate a civil aircraft unless an airworthiness certificate or a special flight authorization issued under § 91.715 legible to passengers or crew is displayed at the cabin or cockpit entrance.

14 C.F.R. § 91.405 [a] requires, in pertinent part, that an aircraft operator or owner shall have the aircraft inspected as prescribed in subpart E of the same part and shall, between required inspections, except as provided in paragraph (c) of the same section, have discrepancies repaired as prescribed in Part 43 of the chapter.

14 C.F.R. § 91.407[a][l] prohibits, in pertinent part, any person from operating an aircraft that has undergone maintenance, preventative maintenance, rebuilding, or alteration unless it has been approved for return to service by a person authorized under § 43.7 of the same chapter.

14 C.F.R. § 91.409[a) [2] prescribes, in pertinent part, that no person may operate an aircraft unless, within the preceding 12 calendar months, It has had an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

14 C.F.R. § 91.417[a) and [b]

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.

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 sUASs 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 "Experimental" can be placed. Given the size of the sUAS, two-inch lettering will be impossible. The word "Experimental" will be placed on the frame in compliance with §45.29 (f) at a size suitable for the available space. The equivalent level of safety will be provided by having the sUAS 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.

## V. Unnecessary to Publish Request for Exemption in the Federal Register

The Administrator has stated that it may:

> " . . . issue a summary grant when it finds it has already granted a previous exemption similar to the new request. Summary grants are far more efficient because they don't need to repeat the analysis performed for the original exemption on which they are based. Summary grants are a tool the FAA can use

in all exemption areas, not just UAS.

The FAA's experience in reviewing the Section 333 petitions shows they generally fall into two categories: film/television production and aerial data collection. Most exemptions in these categories will likely be handled through the summary grant process. For unique requests, the agency will still publish the petition in the *Federal Register* for public comment and will conduct a detailed analysis."

Federal Aviation Administration. (2015). Petition for Exemption or Rulemaking Retrieved March 8, 2015, from:
http://www.faa.gov/regulations_policies/rulemaking/petition/#exemptions

It is the position of Silverhawk that this request for exemption is similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11110, 11112, 11158, 11160, 11171, 11189, 11213, 11277 and that the reasons for granting the request also apply to the present situation and a grant of exemption is in the public interest. Therefore, Silverhawk requests the Administrator issue a summary grant of exemption in the instant request.

## VI. Summary Language if Necessary to Publish Request for Exemption in the Federal Register

Should the Administrator determine that this Request for Exemption must be published in the Federal Register, Silverhawk provides the following summary for the publication:

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 61.23(a) and (c); 14 CFR 61.101(e)(4) and (5); 14 C.F.R. §§ 61.113( a) and (b); 14 CFR 61.315(a); 14 C.F.R. 91.7 (a); 14 C.F.R. 91.9 (b) (2); 14 C.F.R. 91.103(b); 14 C.F.R. 91.109; 14 C.F.R. 91.119; 14 C.F.R. 91.121; 14 C.F.R. 91.151(a); 14 C.F.R. 91.203(a) and (b); 14 C.F.R. 91.405 (a); 14 C.F.R. 91.407 (a) (1); 14 C.F.R. 91.409 (a) (2); 14 C.F.R. 91.409 (a) (2) and 14 C.F.R. 91.417 (a) & (b) for the purpose of conducting (1) commercial and industrial aerial imaging; (2) aerial surveying for data collection; (3) aerial photogrammetry, inspection and analysis; and (4) bridge, tower and structure inspections in pre-planned, controlled access property, private and public areas commercially utilizing a small unmanned vehicle (55lbs or less).

Sincerely,

Darrell J. Green, JD
Law Office of Darrell J. Green
Counsel for Silverhawk L.L.C. d/b/a Silverhawk Aerial Imaging

David Terry
Silverhawk L.L.C. d/b/a Silverhawk Aerial Imaging

Attachments: Appendix A – DJI Phantom 2 Vision Plus Users Manual
Appendix B – Smart Flight Battery Safety Guidelines
Appendix C – Phantom 2 Vision Plus Pilot Training Guide v1.1
Appendix D - DJI Inspire 1 User Manual (EN) v1.0
Appendix E - DJI Inspire 1 Safety Guidelines v1.0
Appendix F - Inspire 1 Maintenance Manual V1.0
Appendix G – Inspire 1 Quick Start Guide