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

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

September 16, 2015

Exemption No. 12869
Regulatory Docket No. FAA−2015–2152

Mr. William Michael Hadala, Jr.
President & CEO
iWire365, LLC. dba SkyRecon365
700 North Glenville Drive
Richardson, TX 75081

Dear Mr. Hadala:

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 March 12, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of iWire365, LLC. dba SkyRecon365 (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct precision aerial inspections or surveys.

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, DJI Phantom 3, DJI Inspire, and DJI Spreading Wings S900.

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, iWire365, LLC. dba SkyRecon365 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, iWire365, LLC. dba SkyRecon365 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, DJI Phantom 3, DJI Inspire, and DJI Spreading Wings S900 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

iWire365
Redefining Communication Infrastructure

March 12, 2015

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

Re: Exemption Request Under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, iWire365 dba SkyRecon365 ("SkyRecon365"), the operator of small Unmanned Aircraft Systems ("sUAS"), seeks an exemption from the Federal Aviation Regulations ("FARs") listed below and discussed in Appendix A. Attached as Appendix B is a summary of this request.

The requested exemption would permit commercial operation of SkyRecon365 sUAS's, which weigh between 5 and 15 lbs. and performs precision aerial inspections or surveys that consist of still photographs and videography taken by onboard cameras. The sUAS's takes a series of high quality, still digital images and video that are used to produce precision references to structural integrity of the subject under study. Applications for these sUAS devices and associated functions include industrial plant mapping, real estate and property surveys, land surveys, construction prospecting, cinematic aerial photography and film, sports aerial photography and video, family functions and weddings, search and rescue, county surveying and state mapping, municipal police aerial drone video streaming, tall structure inspections including but not limited to wireless towers, storage silos, electrical transmission towers, unoccupied and unmanned structures. Use of the sUAS for aerial inspections and surveys reduce the need to utilize conventional manned aircraft, manned lifting devices or manned climbing for the same purpose and provides very high quality imagery at a fraction of the cost. These savings result in enhanced safety, efficiency and productivity for the affected activities, as well as environmental benefits.

Operations under the exemption will be subject to strict operating requirements and conditions to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft and under conditions as may be modified by the FAA as required by Section 333

As described more fully below, the requested exemption would authorize commercial operations of aerial inspections or surveys using the sUAS's, which weigh less than 15 lbs. and are small in size. (see the attached O&M manuals for the DJI Phantom 2, DJI Phantom 3, DJI Inspire and DJI S900). The sUAS's will be operated under controlled conditions at low altitude in airspace that is limited in scope, as described more fully herein; it will have automated control features, as described below and in the O&M manuals. The sUAS also will be operated by an individual who has passed an FAA approved Private Pilots ground training exam, medical certification and a required manufacturer's training program for the sUAS. Finally, the airspace in which the sUAS will operate will be Class G airspace or airspace approved by the FAA in advance.

SkyRecon365 respectfully submits that because these small, unmanned aerial vehicles will be used in lieu of comparatively hazardous operations now conducted with fixed wing and rotary conventional aircraft or other manned means of inspections, the FAA can have confidence that the operations will achieve at least an equivalent level or greater level of safety. Approval of these exemptions would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities under Section 333(c) of the Reform Act to "establish requirements for the safe operation of such aircraft systems in the national airspace system."

The name and address of the applicant are:

iWire365, LLC. dba SkyRecon365
Attention: William Michael Hadala, Jr.
Phone: (972) 994-6650
Email: williammichael@iwire365.com
Address: 700 North Glenville Drive, Suite 700
Richardson, Texas 75081

The regulations from which the exemption is requested are as follows:

14 C.F.R. Part 21;
14 C.F.R. 45.23(b);
14 C.F.R. 61.113(a) & (b);
14 C.F.R. 61.133(a);
14 C.F.R. 91.7(b);
14 C.F.R. 91.9(b)(2);
14 C.F.R. 91.109(a);
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) & (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. 91.417(a) & (b).

Appendix A discusses each rule listed above and explains why exemptions pursuant to the proposal set forth in this letter are appropriate, provide an equivalent level of safety, and are in the public interest.

THE APPLICABLE LEGAL STANDARD UNDER SECTION 333

SkyRecon365 submits that grant of this exemption application for use of the proposed UAS's in precision aerial inspections will advance the Congressional mandate in Section 333 of the Reform Act to accelerate the introduction of UASs into the national airspace system ("NAS") if it can be accomplished safely. This law directs the Secretary of Transportation to consider whether certain UASs may operate safely in the NAS before completion of the rulemaking required under Section 332 of the Reform Act. In making this determination, the Secretary is required to determine which types of UASs do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

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

Reform Act § 333(a)(1). If the Secretary determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." Id. §333(c) (emphasis added).1.

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority, by its terms, includes exempting civil aircraft, as the term is defined under

§40101 of the Act, from the requirement that all civil aircraft must have a current airworthiness certificate and those regulations requiring commercial pilots to operate aircraft in commercial service:

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

1. Applicant submits that this provision places a duty on the Administrator to not only process applications for exemptions under Section 333, but for the Administrator, if he deems the conditions proposed herein require modification in order to allow

approval, to supply conditions for the safe operation of the UAS. SkyRecon365 welcomes the opportunity to consult with FAA staff in order to address any issues or concerns that this proposal may raise that they believe may require modification.
49 U.S.C. §44701(f). See also 49 USC §44711(a); 49 USC §44704; 14 CFR §91.203(a)(1).

The grant of the requested exemption is in the public interest based on the clear direction in Section 333 of the Reform Act; the additional authority in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations; and the significant public benefit, including enhanced safety and cost savings associated with transitioning to UASs for aerial inspections and survey photography. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

Airworthiness of the sUAS

A critical element of the exemption application involves evidence of the airworthiness of the sUAS. 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 sUAS. SkyRecon365 small UAS's will operate at low speed in a controlled environment, at least five miles from an airport and more than three miles from any city or densely populated area. 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 helicopter) operating with an airworthiness certificate without the restrictions and conditions proposed.

Mandatory Operating Conditions (see O&M and Safety Lists)

Grant of the exemption to SkyRecon365 will be subject to the following mandatory conditions, which are based upon operating conditions set forth for operation of sUAS by public entities pursuant to Certificates of Authorization, with additional restrictions:

- All operations to occur in Class G airspace.
- Operations to avoid congested or populated areas, which are depicted in yellow on VFR charts.
- Operations to be conducted over private or controlled-access property.
- Permission from land owner/controller required before commencing any flight.
- Operations to occur during Visual Flight Rules Meteorological Conditions (VMC).
- Aircraft to remain within Visual Line of Sight (VLOS).
    - VLOS guaranteed with a cylinder of operation around operator of ½ nautical miles (NM).
    - Cylinder walls may be expanded by observer with ability to control aircraft.
- Operations to occur during daylight hours.
- Above Ground Level (AGL) altitude to be restricted to 400 feet.
- All operations conducted in vicinity of airport to remain more than 2.5 NM from centerline azimuth of runway centerline measured from runway thresholds.
- All required permissions and permits will be obtained from territorial, state, county or city jurisdictions, including local law enforcement, fire, or other appropriate governmental agencies.

Operator Requirements

SkyRecon365 respectfully proposes that operator requirements should take into account the characteristics of the particular UAS. Certain UASs, such as the DJI Phantom Vision 2, DJI Phantom Vision 3, Inspire and DJI S900, are characterized by a high degree of control and various built-in technical capabilities that limit the potential for operation outside of the operating conditions set forth above. Please see details in the attached O&M manuals.

Additional automated safety functions and safety enhancing features of the sUAS's include the following:

- Auto-pilot detection of lost GPS or of insufficient satellites initiates an immediate return to aircraft take-off location ("home")
- Low power on the aircraft triggers escalating alarms at GCS at 35% and 10% levels.
- If the auto-pilot detects a lost-link to the GCS for longer than 30 seconds, landing procedure begins.

Given these safety features, SkyRecon365 proposes that operators of the sUAS should not be required to hold a commercial or private pilot certification. Instead, operators should be required to:

- Have successfully completed, at a minimum, FAA private pilot ground school instruction and passed the FAA Private Pilot written examination or FAA-recognized equivalents;
- Have completed the manufacturer's training or a minimum of 40 hours training program for operation of the sUAS's.

SkyRecon365 notes that the FAA has found that safety factors permitted operation of sUASs by operators with these qualifications in the case of operations pursuant to public COAs when the mandatory operating conditions specified above were present. See Federal Aviation Administration, Notice N-8900.227, Unmanned Aircraft Systems (UAS) Operational Approval, at 20-21 (July 30, 2013). The FAA has the statutory authority to grant exemptions to the requirements for and privileges associated with the grant of airmen's certificates. 49 USC §44701 (f).

In summary, applicant seeks an exemption from the FARs set forth above and in Appendix A to allow commercial operations of a sUAS's conducting precision aerial inspections or surveys.

Approval of the exemption allowing commercial operations of the sUAS for precision inspection and survey work will enhance safety by reducing risk. Conventional aerial inspection and survey operations, using jet or piston-powered aircraft present risks associated with vehicles that weigh in the neighborhood of 5,000 to 7,000 lbs., or more, carry large quantities of fuel, passengers, and, in some cases, cargo. Such aircraft must fly to and from the survey location. Other conventional manned climbing or manned lifts risk safety hazards associated with falls, electrical hazards, fuel related hazards, and inhalation hazards associated with the structures being inspected. In contrast, a sUAS weighing less than 15 lbs. and powered by batteries eliminates a portion of that risk given the reduced mass and lack of combustible fuel carried on board a manned aircraft and the lack of risks associated with manned lifts or manned climbing apparatus. The sUAS will carry no passengers or crew and, therefore, will not expose any individuals to the risks associated with manned aircraft flights, manned lifts or climbing hazards.

Additionally, no national security issue is raised by the grant of the requested exemptions. Given the size, load carrying capacity, speed at which it operates, and the fact that it carries no explosives or other dangerous materials, the sUAS poses no threat to national security.

The operation of the sUAS, weighing less than 15 lbs., for precision inspections or surveys in accordance with the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein, including exempting SkyRecon365 from the requirements of Part 21.

The sUAS's satisfaction of the criteria set forth in Section 333 of the Reform Act—size, weight, speed, operating capabilities, lack of proximity to airports and populated areas, operation within visual line of sight, and national security—and its showing of an equivalent level of safety as it may relate to the requirement for FAA training, provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of the sUAS in the commercial precision aerial inspection and survey business.

Very truly yours,

William Michael Hadala, Jr.
President & CEO
iWire365, LLC. dba SkyRecon365

Enclosures:

Appendix A: Exemption Request and Equivalent Level of Safety Showings Under Applicable Rules Subject to Exemption

Appendix B: Operation and Maintenance Manuals: DJI Phantom Vision 2 O&M Manual, DJI Phantom Vision 3 O&M Manual, DJI Phantom Inspire O&M Manual, DJI S900 O&M Manual

Appendix C: Safety Checklists

APPENDIX A

EXEMPTION REQUEST AND EQUIVALENT LEVEL OF SAFETY SHOWINGS UNDER APPLICABLE RULES SUBJECT TO EXEMPTION

SkyRecon365 requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of the sUAS's:

14 C.F.R. § 45.23(b): Marking of the Aircraft

> The regulation provides:
>
> 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.

The sUAS's has no entrance to the cabin, cockpit, or pilot station on which the word "Experimental" can be placed. Given the size of the sUAS, two-inch lettering will be impossible. The word "Experimental" will be placed on the forward fuselage in compliance with § 45.29(f). The equivalent level of safety will be achieved by having the sUAS marked on its forward fuselage as required by § 45.29(f) where the pilot, observer, and others working with the UAV will see the identification of the sUAS as "Experimental." The FAA has issued the following exemptions to this regulation to SkyRecon365, Exemption No. 10700, and to others, including Exemption Nos. 8738, 10167 and 10167A.

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

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by SkyRecon365, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act (49 U.S.C.§44701 (f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular UAS. Our small sUAS's will be operated at low speed in a controlled environment, at least five miles from an airport and more than three miles from any city or densely populated area. An analysis of these criteria demonstrates that the sUAS's 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 helicopter) operating with an airworthiness certificate without the restrictions and conditions proposed.

The sUAS to be operated hereunder is less than 15 lbs. fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable liquid fuels, and operates exclusively within a secured area. Like other civil aircraft, operations under this exemption will be tightly controlled and monitored by the operator, pursuant to the Manual's requirements, and under the requirements and in compliance with local public safety requirements, to provide security for the area of operation as is currently done on active construction sites. The FAA will have advance notice of all operations.

These safety enhancements, which already apply to civil aircraft operated in connection with construction sites, power plant sites and the like provide a greater degree of safety to the public and

property owners than conventional operations conducted with airworthiness certificates issued under 14 C.F.R. Part 21, Subpart H. Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the UAS, due to its size, speed of operation, location of operation, lack of explosive materials or flammable liquid fuels, and ability to carry an external load no greater than two lbs.

14 C.F.R. § 61.113(a) & (b); 61.133(a): Private Pilot Privileges and Limitations; Pilot in Command; Commercial Pilot Privileges and Limitations.

Section 61.113(a) & (b) limit private pilots to non-commercial operations. Unlike a conventional aircraft that carries a pilot, passengers, and cargo, the sUAS in this case is remotely controlled with no passengers or property of others on board. Section 61.133(a) requires an individual with a commercial pilot's license to be pilot in command of an aircraft for compensation or hire. SkyRecon365 respectfully proposes that operator requirements should take into account the characteristics of the particular sUAS. SkyRecon365 sUAS has a high degree of control and various built-in technical capabilities that strictly limit the potential for operation outside of the operating conditions set forth in the exemption application.

The sUAS has a navigation and control system comprised of a Ground Control Station (GCS) and auto-pilot system. All flights utilize precision GPS guidance. In the case of unplanned events, the operator inputs evasive maneuvers from the control unit, and the control unit executes that maneuver. Operator interventions include diversion to the right; initiation of holding at present position; suspension of mission; fly back to launch point; fly to point and hold; abort mission and land; and emergency power cut off and land (Flight Termination System).

Given these safety features, SkyRecon365 proposes that operators of the sUAS should not be required to hold a commercial or private pilot certification. Instead, operators should be required to:

- Have successfully completed, at a minimum, FAA private pilot ground instruction and passed the FAA Private Pilot written examination or FAA-recognized equivalents;
- Have completed manufacturer's training program or a minimum 40 hours training program for operation of the UAS.

SkyRecon365 notes that the FAA has found that safety factors permitted operation of sUASs by operators with these qualifications in the case of operations pursuant to public COAs where the mandatory operating conditions specified above are present. See Federal Aviation Administration, Notice N-8900.227, Unmanned Aircraft Systems (UAS) Operational Approval, at 20-21 (July 30, 2013). The FAA has the statutory authority, granted at 49 U.S.C.§44701(f) to waive the pilot requirements for commercial operations.

Given these conditions and restrictions, an equivalent level of safety will be provided by allowing operation of the sUAS without a private pilot's certificate or a commercial pilot's certificate, under the conditions set forth herein.

The risks associated with the operation of the sUAS (given its size, speed, operational capabilities, and lack of combustible fuel) are so diminished from the level of risk associated with private pilot operations or commercial operations contemplated by Part 61 with conventional aircraft (fixed wing or rotorcraft), that allowing operations of the UAS as set forth above meets or exceeds the present level of safety provided under 14 C.F.R. § 61.113(a) & (b) and does not rise to the level of requiring a commercial pilot to operate the aircraft under
§ 61.133(a).

14 C.F.R. § 91.7(a): Civil aircraft airworthiness.

This regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. Should the exemption be granted allowing commercial operation of the sUAS without an airworthiness certificate, no standard will exist for airworthiness of the sUAS. Given the size of the aircraft and the requirements that have presumably already been met for the sUAS (for instance, the sUAS's Operations and Maintanence Manual and Safety Manual and Checklist), an equivalent level of safety will be achieved by insuring compliance with the SkyRecon365 manuals prior to each flight.

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

The regulation provides:

No person may operate a U.S.-registered civil aircraft

For which an Airplane or Rotorcraft Flight Manual is not required by §21.5

(2) 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.

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

The equivalent level of safety will be achieved by keeping the flight manual (see, e.g., User Guide, Exhibit 4) at the ground control point where the pilot flying the sUAS will have immediate access to it. The FAA has issued to others 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 take certain actions before flight to ensure the safety of flight. An exemption is needed from this requirement as the pilot will take separate preflight actions, including checking for weather conditions, checking flight battery requirements, checking takeoff and landing distances, and all other actions in the Preflight Checklist in the Manual and safety Checklists. These actions will provide an equivalent level of safety.

14 C.F.R. § 91.109(a) & 91.319(a)(1): Flight Instruction

These regulations provide 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.

The sUAS is a remotely piloted aircraft and by design, does 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. If instruction is accomplished through a training program, as set forth in Exhibit 2, an equivalent level of safety will be assured. 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 will be achieved by the manufacturer providing the training as outlined, for example, in Exhibit 2 and through the use of experienced and qualified pilots familiar with the sUAS.

14 CFR § 91.119: Minimum Safe Altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Specifically, 91.119(c) limits aircraft flying over areas other than congested areas to 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.

As set forth herein, the sUAS will never operate at higher than 400 feet AGL. It will, however, be operated to avoid congested or populated areas that are depicted in yellow on VFR sectional charts. Because aerial survey work must be accomplished at relatively low altitudes and at altitudes less than 500 feet AGL, an exemption from Section 91.119(c) is needed.

The equivalent level of safety will be achieved given the size, weight, speed, and material with which the sUAS's are built. Also, no flight will be taken without the permission of the landowner or those who control the land. Because of the advance notice to the landowner, all affected individuals will be aware of the inspection or survey flights. Compared to aerial inspection and survey operations conducted with aircraft or rotorcraft weighing far more than 15 lbs. and carrying flammable fuel, any risk associated with these operations will be far less than those currently allowed with conventional aircraft operating at or below 500 feet AGL. Indeed, the low-altitude operations of the UAS will maintain separation between these small- UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

14 C.F.R § 91.121 Altimeter Settings

SkyRecon365 requests an exemption from 14 C.F.R. 91.121. This Part provides guidelines for altimeter use below 18,000 feet mean sea level (“MSL”) in maintaining the cruising altitude or flight level of the aircraft. SkyRecon365’s operation of the sUAS will not exceed 400 feet AGL and will be operated in a fashion that is not a sustained cruising flight such as a manned aircraft will typically fly. The ground station has live feedback and GPS information about the sUAS, including but not limited to the height of the sUAS, its forward velocity, and compass heading. The operator will be able to observe and control the maximum height of the sUAS. Additionally, the sUAS will be operated within the line of sight. Therefore, the equivalent level of safety provided by Section 91.121 will be met.

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

This regulation 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 sUAS batteries provide approximately 25 to 30 minutes of powered flight. Without an exemption from § 14 CFR 91.151, the sUAS’s flights would be limited to approximately 20 minutes in length. Given the limitations on its proposed operations and the location of those proposed operations, a longer time frame for flight in daylight VFR conditions is reasonable.

SkyRecon365 believes that an exemption from 14 CFR § 91.151(a) is safe and within the scope of a prior exemption. See Exemption 10673 (allowing Lockheed Martin Corporation to operate without compliance with 91.151(a)). Operating the small UAS, without 30 minutes of reserve fuel does not engender the type of risks that Section 91.151(a) was meant to prevent given the size and speed at which the UAS operates. The fact that it carries no pilot, passenger, or cargo also enhances its safety. Additionally, limiting sUAS flights to 20 minutes would greatly reduce their utility. In the unlikely event that the sUAS should run out of fuel, it would simply land.

Given its weight and construction material, the risks are less than contemplated by the current regulation.

SkyRecon365 believes that an equivalent level of safety can be achieved by maintaining 10 minutes of battery life, which, allowing 15 to 20 minutes of flight time, would be more than adequate to return the sUAS to its planned landing zone from anywhere in its operating area.

14 C.F.R. § 91.203 (a) & (b): Carrying Civil Aircraft Certification and Registration

This regulation provides as follows:

(a) No person may operate a civil aircraft unless it has an appropriate and current airworthiness certificate.

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

The sUAS's fully loaded weighs no more than 15 lbs. As such, there is no ability or place to carry certification and registration documents or to display them on the sUAS. In addition, there is no pilot on board the aircraft.

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

14 C.F.R. § 91.405(a); 407(a)(1); 409(a)(2); 417(a) & (b): Maintenance Inspections

Section 91.405(a) requires 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 . . . .” Section 91.407 similarly makes reference to requirements in Part 43; Section 91.409(a)(2) requires an annual inspection for the issuance of an air worthiness certificate.

Section 91.417(a) requires the owner or operator to keep records showing certain maintenance work that has been accomplished by certificated mechanics, under Part 43, or licensed pilots and records of approval of the aircraft for return to service.

Maintenance of the sUAS's will be accomplished by the owner/operator pursuant to the manuals, such as Exhibit 3, provided by SkyRecon365. An equivalent level of safety will be achieved because the sUAS is small in size, will carry no external payload, will operate only in restricted predetermined areas and is not a complex mechanical devise. As provided in the attached Maintenance Manual and the Safety Checklist, the operator of sUAS will ensure that the sUAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance that is performed. Moreover, the operator is the person most familiar with the aircraft and is best suited to maintain the aircraft in an airworthy condition and to ensure an equivalent level of safety.

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APPENDIX B

SUMMARY OF TRIMBLE SECTION 333 EXEMPTION REQUEST

SkyRecon365 hereby provides pursuant to Part 11 a summary of its exemption application to allow commercial operation of the DJI Phantom Vision 2, DJI Phantom Vision 3, DJI Inspire, DJI S900 sUAS's in precision aerial inspection and survey work. An exemption is requested from the following regulations:

14 C.F.R. Part 21;
14 C.F.R. 45.23(b);
14 C.F.R. 61.113(a) & (b); 14 C.F.R. 61.133(a); 14 C.F.R. 91.7(b);
14 C.F.R. 91.9(b)(2);
14 C.F.R. 91.109(a);
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) & (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. 91.417(a) & (b).

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APPENDIX B

Operation and Maintenance Manuals

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APPENDIX C

Safety Checklists