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

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

September 21, 2015

Exemption No. 12940
Regulatory Docket No. FAA−2015−2295

Mr. Nathaniel A. Leben and Mr. Adam D. Lingwall
ISight RPV Services, LLC
3816 Reserve Drive East
West Fargo, ND 58078

Dear Messrs. Leben and Lingwall:

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 27, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of ISight RPV Services, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct surveying, mapping, and inspections.

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

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

**Airworthiness Certification**

The UAS proposed by the petitioner is an Aeryon SkyRanger.

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

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

**Conditions and Limitations**

In this grant of exemption, ISight RPV Services, LLC is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the Aeryon SkyRanger 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

27 May 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, ISight RPV Services, LLC seeks an exemption from the Federal Aviation Regulations ("FARs") listed below and discussed in Appendix A. This exemption is derived from a request by Aeryon Labs LLC ("Aeryon"), the developer and operator of the Scout and SkyRanger small Unmanned Aircraft Systems ("sUAS"œ). Details of Aeryon and the SkyRanger sUAS are described in AppendixB. Attached as Appendix C is a summary of this request.

The requested exemption would permit ISight RPV Services, LLC commercial operation of Aeryon's SkyRanger (see details in Appendix B), which weighs 6 lbs. with imaging payload, to perform Market Research, Aerial Surveys, Mapping, Testing, and Inspections that consist of still photographs, video, and other data taken by onboard sensors. The SkyRanger produces high quality imagery and data that can be used independently - or in the case of surveying and modeling, can be combined to produce precision digital point clouds, triangle models, and contour maps of the surveyed area. Applications for these sUAS include inspection of sensitive infrastructure including oil and gas pipelines and flare stacks, power lines and towers, wind turbines, and surveying tasks such as precision agriculture, mining, transportation, cellular/radio frequency and other antenna inspections, shipping and receiving containers and logistics stations, ranch and cattle operations, snow skiing industry, search and rescue, facility security, Law Enforcement operations, and forestry. Use of the SkyRanger for these inspection and surveying applications reduces the need to operate conventional aircraft, providing data more quickly, accurately, economically, safely, and with reduced environmental impact.

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.

ISight RPV Services, LLC is requesting exemption to allow the commercial operation of the SkyRanger at our designated and approved facilities, farms, mines, and other sites that require aerial data and analysis for inspections and surveys.

As described more fully below, the requested exemption would authorize ISight RPV Services, LLC to perform market research, analysis, and commercial operations of aerial inspections and surveys using the SkyRanger[1], which at 6 lbs. is small in size and powered electrically by battery. The SkyRanger

[1] Aeryon and its customers have been granted many flight operations certificates to operate the Aeryon SkyRanger, and its predecessor the Aeryon Scout – including Special Flight Operations Certificates in Canada for commercial use, and Certificates of Waiver or Authorization (COA) in the US for public agency use.

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. The Aeryon SkyRanger is designed to be operated by one person, but flight operations generally involve two people: an operator and an observer. The operator is responsible for flying the sUAS, monitoring its status and flight dynamics while maintaining visual line of sight, and keeping the flight within the specified factory limits (in terms of wind, flight range, battery life, etc) to ensure safe operation of the sUAS itself. The observer is responsible for monitoring the airspace for other aircraft and hazards and instructing the operator before and during flight as necessary to ensure safe separation/de-confliction with these aircraft and hazards. The operator also will be an individual who has passed an FAA approved or equivalent ground training exam and authorized Aeryon training program for the SkyRanger. Finally, the airspace in which the SkyRanger will operate will be disclosed to and approved, as needed, by the FAA in advance.

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

The name and address of the applicant are:

ISight RPV Services, LLC.
Attn: Mr. Nathaniel A. Leben and Mr. Adam D. Lingwall
Ph: 760.490.2597 Ph: 763.706.7945
Email: Nathaniel.Leben@isightrpv.com Email: Adam.Lingwall@isightrpv.com
Mailing Address: 3816 Reserve Drive East, West Fargo ND 58078
Business Address: Center for Innovation, University of North Dakota, 4200 James Ray Drive, Grand Forks ND 58203

The primary contact for this application is: Mr. Nathaniel A. Leben and/or Adam D. Lingwall

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. 91.7(a);
14 C.F.R. 91.9(b)(2) &(c);
14 C.F.R. 91.103;
14 C.F.R. 91.109(a);
14 C.F.R. 91.119;
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).

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

ISight RPV Services, LLC submits that grant of this exemption application for use of the SkyRanger in market research, analysis, surveying, mapping and inspections, commercial and local government uses that focus on safety, the reduction of overall costs of operations, and the ability to reduce the need for actual "manned" aircraft, thus reducing potential risk to personnel. The SkyRanger would be utilized with a variety of interested parties in the commercial sector to include, but not limited to electrical power companies, oil/gas companies, railroad, precision agriculture, forest industry, and Law Enforcement. Tower inspections can be conducted on antenna towers, electrical transmission lines, and wind turbine towers without having to have a manned aircraft fly over the top of a tower, because the SkyRanger can perform that function, and it reduces the actual climbing of the tower by a technician to inspect the tower. In the forest industry the SkyRanger can assist ranchers with locating cattle, utilize sensor equipment to locate too much undergrowth thus reducing forest fire activity, uses in recreation with snow skiing locating skiers and identifying potential avalanche concerns. Oil pipeline inspections and railroad inspections could reduce the amount of resources needed to conduct these inspections and identify at early stages potential hazards reducing risk. The SkyRanger would be used in law enforcement, large event venues, and physical security protection providing additional tools with the purpose of keeping the public safe will advance the Congressional mandate in Section 333 of the Reform Act to accelerate the introduction of sUASs into the national airspace system ("NAS") if it can be accomplished safely. This law directs the Secretary of Transportation to consider whether certain sUASs 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 sUASs 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 sUAS's size, weight, speed, and operational capability;
- Operation of the sUAS in close proximity to airports and populated areas; and
- Operation of the sUAS 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).[2]

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 §401 01 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

[2] 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 sUAS. Aeryon 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.

Administrator finds the exemption is in the public interest.
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 sUASs for aerial surveying, mapping and inspection applications. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

## Airworthiness of the SkyRanger

A critical element of the exemption application involves evidence of the airworthiness of Aeryon sUAS including the SkyRanger. Aeryon believes that it has shown compliance through a history of granted flight operations and successful flights- including many operations with public agencies. The list of granted applicants includes: Michigan State Police, US Navy Spawar, Mass Development (Joint Base Cape Cod), Unmanned Experts (NIJ Partnership}, Western Washington University, Aetos (via Northwest Michigan College), University of Alaska Fairbanks, University of New Mexico, Kansas State University, and Virginia Tech University. The SkyRanger has also successfully completed the Department of Homeland Security RAPS Trial in 2013. In Canada, Aeryon has obtained 19 Special Flight Operations Certificates (SFOCs) from Transport Canada over 5 years and its customers have received multiple certificates to perform demonstration, research and development, public and commercial operations. The criteria set forth in the certificates granted specify the substantive showings of the device's safety and fitness for operation to ensure that the FAA has sufficient basis to evaluate the aircraft's safety[3]. The SkyRanger also has a significant set of automated features to ensure safe takeoff, flight and landing in many conditions, further details of operation can be found in Appendix B.

## Mandatory Operating Conditions

Grant of the exemption to ISight RPV Services, LLC 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 *1/2* 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.

[3] Aeryon can submit under confidentiality the following documents in support of this exemption application for the SkyRanger: 1) Aeryon SkyRanger User Guide (Exhibit 1) which includes Safety and PreFlight Checklists; and 2) Training Manual (Exhibit 2).

- All operations conducted in vicinity of airport to remain more than 2.5 NM from centerline azimuth of runway centerline measured from runway thresholds.
- Operator will file a NOTAM for each flight.
- 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.
- All operations will include one pilot for flight control and one observer for VLOS enhancement of surrounding area near the aircraft

## Operator Requirements

ISight RPV Services, LLC shall require that operators of the SkyRanger hold a commercial certification and have completed Aeryon's authorized training program for operation and maintenance of the sUAS.[4]

ISight RPV Services, LLC 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, ISight RPV Services, LLC seeks an exemption from the FARs set forth above and in Appendix C to allow market research and commercial operations of a small unmanned vehicle in surveying, mapping, inspections, and areas pertaining to commercial and government uses. Each industry has their own uses for this technology either by the use of cameras to obtain a visual inspection (i.e. electrical transmission lines, oil/gas pipelines, bridges, towers, law enforcement needs, etc.), the use of various sensor equipment to identify certain chemicals in the air, certain biological identifiers in plants or animals, heat/cold sensors, radiation sensors, etc., in order for the customer to collect data with the ability to analyze the information for their mission and tasking. As the small unmanned vehicle operator, we would work with the various commercial and government users on their goals and objectives based on their criteria and mission. ISight RPV Services, LLC would in turn work with the customer, create a plan to accomplish their mission, and establish the proper flight protocols following the FAA guidelines. This creates an environment of safe flight operations by a commercial pilot using the specific sUAS this exemption has identified.

Approval of the exemption allowing commercial operations of the SkyRanger for surveying, mapping, and inspections operations will enhance safety by reducing risk. Conventional aerial survey and inspection operations using manned aircraft involve very heavy aerial vehicles carrying significant quantities of combustible fuels, and a multi-person crew in piloting and observation roles. These operations require transit to and from the location of the activity, and often take place in congested environments including proximity to physical obstacles and/or presence of the general public. By contrast, the Skyranger weighs 6 lbs including payloads and uses a battery for power, is carried to/from

[4] As of July 2014, Aeryon staff and customers have performed over 5681 flights, logging 623 hours of flight time with the SkyRanger with both development and release versions. The previous generation product, Scout, achieved over 7197 flights and 839 hours of flight time globally by Aeryon and its customers. This is a significant amount of flight time collected to understand and refine the Aeryon sUAS products.

the area of activity, removes the need for airborne pilots/observers, and poses less risk to people and infrastructure on the ground. 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 SkyRanger poses no threat to national security.

The operation of the SkyRanger for market research, surveying, mapping and inspection operations 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 ISight RPV Services, LLC from the requirements of Part 21.

The SkyRanger'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 a pilot's license, provide more than adequate justification for the grant of the requested exemptions allowing ISight RPV Services, LLC commercial operation of the SkyRanger in market research, surveying, analysis, mapping and inspection operations.

Very Respectfully,

Mr. Nathaniel A. Leben ISight RPV Services, LLC