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

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

September 1, 2015

Exemption No. 12702
Regulatory Docket No. FAA−2015−2521

Mr. James Jensen
CEO
SkySight LLC
1035 Pearl Street
Boulder, CO 80302

Dear Mr. Jensen:

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

By letter dated June 8, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of SkySight LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial videography and photography for the motion picture, television, and commercial videography industry for closed set filming.

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

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

Airworthiness Certification

The UAS proposed by the petitioner is a Freefly Systems Cinestar 8.

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] and closed set motion picture and filming. 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, SkySight 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 and closed set motion picture and filming. 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, SkySight 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 Freefly Systems Cinestar 8 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 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

June 8, 2015

U. S. Department of Transportation
Docket Management System
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James Jensen, CEO
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Re: Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 C.F.R. 45.23 (b); 14 C.F.R. 21; 14 C.F.R. 61.113 (a) & (b); 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) & (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).

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, SkySight LLC (herein referred to as "applicant"), operator of Small Unmanned Aircraft Systems ("sUASs") equipped to conduct aerial videography and photography for the motion picture, television, and commercial videography industry for closed set filming, hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its sUASs, so long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333.

As described more fully below, the requested exemption would permit the operation of small, unmanned sUAS under controlled conditions in the NAS that is 1) limited 2) predetermined 3) controlled as to access. Approval of this exemption would thereby enhance safety and fulfill 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." Section 333(c) of the Reform Act.

The name and address of the applicant is:

SkySight LLC
Attn: James Jensen
1035 Pearl Street, Suite 311
Boulder, CO 80302
Ph: 303 385 7286
Email: james@skysightrc.com

Regulations from which the exemption is requested:

14 C.F.R. 21
14 C.F.R. 45.23 (b)
14 C.F.R. 61.113 (a) & (b) 14 C.F.R. 91.7 (a)
14 C.F.R. 91.9 (b) (2)
14 C.F.R. 91.103
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) & (b) 14 C.F.R. 91.405 (a)
14 C.F.R. 407 (a) (1)
14 C.F.R. 409 (a) (2)
14 C.F.R. 417 (a) & (b)

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333 (a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (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 UAS in close proximity to airports and populated areas; and
• Operation of the UAS within visual line of sight of the operator.

Lastly, 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).

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, that includes sUASs, from the requirement that all civil aircraft must have a current airworthiness certificate.

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of this title if the Administrator finds the exemption in the public interest. 49 U.S.C. § 44701 (f) *See also* 49 U.S.C. § 44711 (a); 49 U.S.C. § 44704; 14 C.F.R. § 91.203 (a) (1).

The applicant's sUASs are rotorcraft, weighing 55 lbs. or fewer, including payload. They operate, under normal conditions at a speed of no more than 40 knots and have the capability to hover, and move in the vertical and horizontal plane simultaneously. They will operate only in line of sight and will operate only within a predetermined and closed

off property area under the permission of the property representative. Such operations will insure that the sUAS will "not create a hazard to users of the national airspace system or the public" as per the Reform Act Section 333 (b).

Given the small size of the sUASs involved, the restricted sterile environment within which they will operate, and the fact that they will be flown by an FAA licensed aircraft pilot (Private Pilot's License #3101173), the applicant falls squarely within that zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of UASs to commence immediately. Also due to the size of the UASs and the restricted areas in which the relevant sUASs will operate, approval of the application presents no national security issue. Given the clear direction in Section 333 of the Reform Act, the authority contained 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, reduction in environmental impacts, including reduced emissions associated with allowing UASs for movie and commercial videography operations, the grant of the requested exemptions is in the public interest. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

I. AIRCRAFT DESCRIPTION

The applicant requests exemption for operation of a *Freefly Systems Cinestar 8 Octocopter*, which is currently registered as an Amateur Built Aircraft (See included approved form 8050-1), in accordance with 14 CFR part, and designated with the FAA issued registration number N-6717F in accordance with 14 CFR part 45, Subpart C.

The following specifics describe the airframe, flight electronics, and power system of this craft:

Airframe size (motor to motor diameter): 1.2m *
Airframe construction: Gen3 Carbon Fiber, 6061 Aluminum.
Flight Control Board: DJI A2 Pro with GPS Pro and iOSD II *
Power Distribution and Control: Mikrokopter BL Ctrl 3.0 rev2 *
Aircraft Transmitter: Futaba 10J, operating in the 2.4 GHz band. *
Aircraft Receiver: Futaba R3008SB TFHSS w/ Diversity and Telemetry *
Gimbal Transmitter: Spektrum DX8, operating in the 2.4 GHz band
Gimbal Receiver: Spektrum Satellite
Total Airframe Weight (without batteries): 4 kg
Total Gimbal Weight (with camera): 6 kg
Power Source: 2x 6s 10Ah Lithium Polymer, 25C discharge
Power Source Weight: 2.56 kg
All-up Weight: 12.6 kg

* Indicates items which have a manual included in the docket folder

The following describes the performance capabilities of the craft:

Max endurance (no payload, 23C ambient, 0 ft AMSL, 80% of battery capacity): 20 Min

Min endurance (full payload, 23C ambient, 0 ft AMSL, 80% of battery capacity): 8 Min
Max forward velocity: 15 m/s
Max ascent rate: 6 m/s

II. EQUIVALENT LEVEL OF SAFETY

The applicant proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations listed herein. 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 are conducted on closed off property under the permission of the property owner or property representative.

Proposed limitations and conditions to which applicant agrees to be bound when conducting commercial operations under an FAA issued exemption:

- The PIC will hold a current ASEL (airplane, single engine, land) certificate, and either an FAA-issued airman medical certificate, or a current U.S. driver's license.

  Operation of the applicant's sUAS will be limited to the applicant's sole and primary pilot who meets these criteria who's certification's are listed below:

  Soren M Jensen. FAA issued ASEL certificate number: 3101173
  U.S. issued driver's license number: 10-175-0334 (Colorado)

- The sUAS will weigh no more than 55 lbs.
- Flights operations will be outside of five (5) nautical miles from any airport reference point (ARP). If asked to operate within five (5) miles of an airport, the applicant will contact the airport's manager and control tower with all flight plans, as well as the FAA through a normal filing of a Form 7711-1 (or its equivalent) with the appropriate FSDO. Only upon approval of flight plans from all entities will we agree to, and conduct, any operation within five (5) miles of an airport.
- Flights will be operated within line of sight (un-aided) of a pilot and/or observer.
- Maximum total flight time for each operational flight will be 20 minutes. Flights will be terminated at 20% battery power reserve should that occur prior to the 20 minute limit, and no further flights shall be commenced on the same batteries unless they hold enough energy for a minimum of 5 minutes of flight time, or the minimum recommended by the craft manufacturer.
- All operations shall be conducted in accordance with an ATO-issued COA
- Flights will be operated at an altitude of no more than 400 feet AGL or, not more than 200 feet above an elevated platform from which filming is planned. If a structure being filmed or photographed has a height which exceeds 400 feet AGL, the UAS will not exceed 100 feet in height above the highest point on that structure.
- Minimum crew for each operation will consist of the sUAS Pilot, and the Visual Observer.

- sUAS Pilot will be Pilot in Command (PIC). The PIC will have a minimum of 40 hours of flight time with the specific sUAS equipment the applicant operates. The experience of the PIC will be certified by the applicant through background checks and, if necessary, testing.
- Applicant will maintain flight logs of all PICs it employs, and provide full transparency to the FAA regarding the logs and records of these PICs, as per 14 CFR § 61.51(b),
- Flights will be operated at a lateral distance of at least 100 feet from any inhabited structures, buildings, vehicles, vessels, or people not associated with the operation or who have not signed a waiver in advance of the operation.
- A briefing will be conducted in regard to the planned sUAS operations prior to each day's production activities. It will be mandatory that all personnel involved with the operational duties of the flight within the boundaries of the safety perimeter be present for this briefing.
- The operator will file an FAA Form 7711-1, or its equivalent, as modified in light of the requested exemption, with the appropriate local Flight Standards District Office.
- The operator will obtain the consent of all persons involved in the filming and ensure that only consenting persons will be allowed within 100 feet of the flight operation, and this radius may be reduced to 30 feet based upon an equivalent level of safety determination. With the advanced permission of the relevant FSDO, operations at closer range can be approved.
- PIC and Visual Observer will have been trained in the operation of the specific sUAS equipment used by the applicant, and received up-to-date information on the particular sUAS to be operated.
- The PIC designated for any operation will have at least a Class 2 medical certificate.
- Visual Observer and PIC will at all times be able to communicate by voice, radio, and/or text.
- Written and/or oral permission from the relevant property holders or property representatives will be obtained.
- 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.
- If the sUAS loses communication with the PIC or loses its GPS signal, the sUAS will have the capability to return to a pre-determined location within the controlled property, and land autonomously.
- The sUAS will have the capability to abort a flight in case of unpredicted obstacles, weather, or emergencies.
- sUAS operations will not be conducted at night, as defined in 14 CFR § 1.1
- The sUAS will give way to any and all manned aviation operations and activities, at all times
- The sUAS will not be operated from any moving vehicle or device
- Any incidents shall be reported to the FAA's UAS Integration office within 24 hours.

- During operations for closed-set motion picture and television filming and production, the PIC will have a motion picture and television operations manual (MPTOM), as seen in this applications docket folder.

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

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by the applicant, 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 sUAS. In all cases, an analysis of these criteria demonstrates that the sUAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

The sUAS to be operated hereunder is 55 lbs. or less fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable liquid fuels, and operates exclusively within a secured area. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by both the operator and under the requirements and in compliance with local public safety requirements, to provide security for the area of operation as is now done with conventional filming. The FAA will have advance notice of all operations. These safety enhancements, which already apply to civil aircraft operated in connection with motion picture and television production, 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 sUAS due to its size, speed of operation, location of operation, lack of explosive materials or flammable liquid fuels, and inability to carry a substantial external load.

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 sUAS will have no airworthiness certificate, an exemption may be

needed as the sUAS will have 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 fuselage in compliance with §45.29 (f), and

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 sUAS will see the identification of the sUAS as "Experimental". The FAA has issued the following exemptions to this regulation as Exemption Numbers 10700, 8738, 10167 and 10167A.

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

The PIC will hold a current, FAA issued, ASEL (aircraft, single engine, land) certificate. PIC will be Soren Jensen (Private Pilots License #: 3101173), the chief pilot at SkySight LLC.

Sections 61.113 (a) & (b) limit private pilots to non-commercial operations. Because the sUAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by requiring the PIC operating the aircraft to have no less than 40 hours of flight time with the specific sUAS equipment the applicant operates. The experience of the PIC will be certified by The applicant through background checks and, if necessary, testing.

The applicant will maintain flight logs of all qualified PICs it employees as per 14 CFR § 61.51(b), and provide full transparency to the FAA regarding the logs and records of these PICs. The PIC designated for any operation will hold an FAA issued pilots license, and have at least a Class 2 medical certificate, or U.S issued driver's license. The risks associated with the operation of the sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS by a PIC meeting the standards of the applicant (listed above) exceeds the present level of safety achieved by 14 C.F.R. § 61.113 (a) & (b).

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

The regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. As there will be no airworthiness certificate issued for the aircraft, should this exemption be granted, no FAA regulatory standard will exist for determining airworthiness. The applicant proposes that an equivalent level of safety will be provided by the use of the following safety checklists prior to each flight in order to determine if the sUAS is in condition for safe flight:

- Aircraft: All adjustment points will be checked for tightness; all motors and props will be inspected; all wiring will be double-checked; all systems will be powered up and checked for errors as per the flight systems manuals.

- Battery: Confirmation will be made that batteries are fully charged and installed/connected properly.

- Calibration: Pre-flight motor/gyro/compass calibration followed by confirmation of no errors with the flight and navigation systems.

- Transmitter: Confirm radio transmitter has sufficient charge, and is both working properly and receiving telemetry from the sUAS; confirm all switches are in pre-flight mode, and that a successful link has been established between the aircraft transmitter and onboard receiver.

- Confirm sufficient satellites are present for navigation system in the event of failsafe trigger

- Home point coordinates are confirmed recorded by navigation system prior to take-off

- Surroundings/Flight Area: Conduct one last visual inspection of the take-off surroundings and area of airspace sUAS will be operating in. Confirm all people in the surrounding areas are associated with the operation being conducted.

- Take-off Announcement: Before motors are started the PIC will announce to a designated Representative (person of authority) of the film crew that sUAS is ready to take-off. Only after the Representative has notified all persons within the surrounding areas, and confirmed to PIC that they have clearance to lift-off, will the motors be started and the sUAS will conduct its operation.

A mandatory test flight will be conducted after any disassembly/reassembly; after replacement of any motors or flight electronics; after any pre-flight or in flight equipment errors that occur not resulting from environmental conditions. This will be done before commercial operation is commenced.

All maintenance, overhaul, replacement, and inspections will be carried out as per the manufacturers specifications by a knowledgeable and capable person with the experience necessary to ensure safe operation of the sUAS, and documented in the aircraft's records.

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

Section 91.9 (b) (2) provides:

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

(2) For which an Airplane or Rotorcraft Flight Manual is not required by §21.5 of

this chapter, unless there is available in the aircraft a current approved airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

The sUAS, given its size and configuration 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 maintained by keeping the aircraft component flight manuals at the ground control point where the PIC flying the sUAS will have immediate access to it. The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700.

14 C.F.R. § 91.103: Preflight action

This regulation requires each pilot in command to take certain actions before flight to insure the safety of flight. As FAA approved rotorcraft flight manuals will not be provided for the aircraft, an exemption will be needed.

In order to ensure consistent and safe operation, the PIC will perform pre-flight inspection, maintenance, and test flights as described above with regards to 14 C.F.R. § 91.7 (a), as well as assess mission specific requirements (flight path, flight time, obstructions, landing and take-off hazards, aircraft performance, weather, etc) before commencing operation.

14 C.F.R. § 91.109: Flight instruction:

Section 91.109 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. sUASs and remotely piloted aircraft, by their design do not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos. 5778K & 9862A. The equivalent level of safety is provided by the fact that neither a pilot nor passengers will be carried in the aircraft, and by the size and speed of the aircraft.

14 C.F.R. § 91.119: Minimum safe altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. As this exemption is for a sUAS that is a helicopter and the exemption requests authority to operate at altitudes up to 400 feet AGL, or not more than 200 feet above an elevated platform from which filming is planned, an exemption may be needed to allow such operations. As set forth herein, the

sUAS will never operate at higher than 400 feet AGL with the exception that in circumstances where the sUAS is used to survey or photograph a structure whose height exceeds 400 feet AGL, the UAS will not be operated more than 100 feet above the highest point on the structure. It will however be operated in a restricted area with security perimeter, where buildings and people will not be exposed to operations without their pre-obtained consent.

The equivalent level of safety will be achieved given the size, weight, and speed of the sUAS as well as the location where it is operated. No flight will be taken without the permission of the property owner or local officials. Because of the advance notice to the property owner and participants in the filming activity, all affected individuals will be aware of the planned flight operations. Compared to flight operations with aircraft or rotorcraft weighting far more than the maximum 50 lbs. proposed herein and the lack of flammable fuel, any risk associated with these operations is far less than those presently presented with conventional aircraft operating at or below 500 AGL in the movie industry. In addition, the low-altitude operations of the sUAS will ensure 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

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "...to the elevation of the departure airport or an appropriate altimeter setting available before departure." As the sUAS may not have a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the safety check list and live flight data monitoring, confirming the altitude of the launch site shown on the GPS altitude indicator before flight.

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

Section 91.151 (a) prohibits an individual from beginning "a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing, and, assuming normal cruising speed – (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes."

The battery powering the sUAS provides no more than 20 minutes of powered flight. To meet the 30 minute reserve requirement in 14 C.F.R. § 91.151, sUAS flights would not be possible due to the reserve requirement being equal to the maximum flight time. Given the limitations on the sUAS's proposed flight area and the location of its proposed operations within a predetermined area, a longer time frame for flight in daylight or twilight VFR conditions is reasonable.

The applicant believes that an exemption from 14 C.F.R. § 91.151 (a) falls within the scope of prior exemptions. See Exemption 10673 (allowing Lockheed Martin Corporation to operate without compliance with FAR 91.151 (a)). Operating the small UAS, in a tightly controlled area where only people and property owners or official

representatives who have signed waivers will be allowed, with less than 30 minutes of reserve fuel, does not engender the type of risks that Section 91.151 (a) was intended to alleviate given the size and speed of the small UAS. Additionally, the limitations created by this requirement for sUAS flights would essentially make null any utility for which the exemption will be granted.

The applicant believes that an equivalent level of safety can be achieved by limiting flights to 20 minutes or 20% of battery power— whichever happens first. This restriction would be more than adequate to return the sUAS to its planned landing zone from anywhere in its limited operating area.

Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

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

The regulation provides in pertinent part:

> (a) Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:
>
> (1) An appropriate and current airworthiness certificate. . . .
>
> (b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The sUAS fully loaded weighs no more than 50 lbs and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the sUAS.

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, to the extent they are applicable to the sUAS. 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

These regulations require that an aircraft operator or owner "shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter...," and others shall inspect or maintain the aircraft in compliance with Part 43.

Given that these sections and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to the applicant. Maintenance and inspections will be done in accordance with the sUAS Manufacturer's Manual, and will be performed by employees of the applicant following the guidelines and practices provided to us by

the sUAS Manufacturer. An equivalent level of safety will be achieved because these small UASs are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the sUAS can land immediately and will be operating from no higher than 400 feet AGL. The PIC will ensure that the sUAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance performed. Moreover, the PIC is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

III: Additional Views

Regarding Privacy:

All flights will occur over private or controlled access property with the property representative or owner's prior consent and knowledge. Filming will be of people who have also consented to being filmed or otherwise have agreed to be in the area where filming will take place. All flights will occur in accordance with any state or local laws regarding privacy.

Additionally, our company seeks to conform to privacy regulations what we believe are necessary, and imminent, if the UAS industry is to be accepted by the general public, and therefore the motion picture and TV industries.

Overall Safety and Benefits of Granting Exemption:

The applicant believes that it's sUAS equipment and personnel, in conjunction with the rules and regulations prescribed by the FAA in the event of a successful exemption of the applicant, can provide a safe and valuable service to the film and television industries that offer increased safety over current and past practices that use/used larger and more dangerous equipment, and in doing so, benefit the public as a whole.

Our company is dedicated to working with the FAA to conform to current and upcoming regulation of the industry. We believe strict regulation of the UAS industry to be necessary if the technology is to benefit the general public. Regulation will reduce unsafe practices, discourage improper uses, and improve public perception and safety.

IV: Summary

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register:

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. § 61.113 (a) & (b); 91.7 (a); 91.9 (b)(2); 91.103 (b); 91.109; 91.119; 91.121; 91.151(a); 91.203 (a) and (b); 91.405 (a); 91.407 (a)(1); 91.409 (a)(2); 91.409 (a)(2) and 91.417 (a) & (b)

In summery, applicant seeks to operate commercially a small-unmanned vehicle weighing less than 55 lbs. for aerial videography and photography for closed set filming in the motion picture, television, and commercial videography industry.

Thank you for your consideration.

Sincerely,

James Jensen
CEO
SkySight LLC

SkySight LLC affirms all information listed above to be true and binding upon the FAA's findings of exemption regarding commercial operations of the specified UAS, until further notice of law or regulations decided by the FAA.