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

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

May 11, 2015

Exemption No. 11541
Regulatory Docket No. FAA–2015–0423

Mr. Jonathan Rupprecht
Counsel for Vision Pictures, LLC
Rupprecht Law, P.A.
324 Datura Street, Suite 200
West Palm Beach, FL 33401

Dear Mr. Rupprecht:

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 February 16, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Vision Pictures, LLC (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct aerial photography for the motion picture and television industry for scripted 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 DJI S1000.

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 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 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, Vision Pictures, 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.

Conditions and Limitations

In this grant of exemption, Vision Pictures, LLC is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI S1000 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 May 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan
Director, Flight Standards Service

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February 16th, 2015

U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE,
West Building Ground Floor, Room W12-140,
Washington, DC 20590

Re: Request for Exemption under Section 333 of the FAA Modernization and Reform Act and Part 11 of the Federal Aviation Regulations from 14 C.F.R. 61.113(a) and (b); 91.119(c); 91.121; 91.151(a)(1); 91.405(a); 91.407(a)(1); 91.409(a)(1) and (2); 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, Vision Pictures, LLC, a developer and operator of Small Unmanned Aircraft (UA) equipped to conduct aerial photography for the motion picture and television industry for scripted closed set filming, hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its UA, 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.[1]

Vision Pictures, LLC requests that the publication and comment procedures be waived in accordance with 14 C.F.R. § 11.87 which states:

> § 11.87 Are there circumstances in which FAA may decide not to publish a summary of my petition for exemption?
>
> The FAA may not publish a summary of your petition for exemption and request comments if you present or we find good cause why we should not delay action on your petition. The factors we consider in deciding not to request comment include:
>
> (a) Whether granting your petition would set a precedent.
>
> (b) Whether the relief requested is identical to exemptions granted previously.

[1] The conditions proposed by the applicant are drawn from Order 8900.1 CHG 0, Volume 3, Chapter 8-Issue a Certificate of Waiver for Motion Picture and Television Filming.

(c) Whether our delaying action on your petition would affect you adversely.

(d) Whether you filed your petition in a timely manner.

Corresponding to the above sub-sections, Vision Pictures, LLC has good cause to request the FAA to waive the comment period and not delay action on the petition because:

(a) Vision Pictures, LLC would not set any precedent. Exemption #'s 11062, 11063, 11064, 11065, 11066, 11067, 11080 are all previously granted petitions to "allow operation[s] of unmanned aircraft systems (UAS) for the purpose of scripted, closed-set filming for the motion picture and television industry." Vision Pictures, LLC agrees to the **SAME** exact limitations as the above listed exemptions, which are included below, "for the purpose of scripted, closed-set filming for the motion picture and television industry."

(b) This petition for exemption is requesting relief identical to the above mentioned seven petitioners. The regulations that Vision Pictures, LLC is seeking relief from were chosen based directly upon the FAA's chart included in the seven exemptions mentioned above listing which regulations needed exempting. This was done so that the FAA could waive the comment period and rapidly grant this petition. Furthermore, much of the petition below is copied directly from the petitions of the seven, except we have eliminated certain flawed parts (communication between the spotter and pilot via text, etc.) and made minor edits to the spelling, citations, or style.

(c) Delaying the granting of this petition **would adversely affect the public, the FAA, and Vision Pictures, LLC.** The public, as well as the FAA, would be better served by the FAA quickly granting this petition and thereby freeing up limited FAA resources and allowing FAA inspectors to dedicate their time and attention to much higher priorities. Moreover, Vision Pictures, LLC is eagerly seeking to start commercial operations and is adversely affected by the above listed regulations.

(d) The petition has been filed in a timely manner.

As described more fully below, the requested exemption would permit the operation of small, unmanned and relatively inexpensive UAS under controlled conditions in airspace that is: 1) limited; 2) predetermined; 3) controlled as to access; and, 4) would provide safety enhancements to the already safe operations in the film and television industry presently using conventional aircraft. 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.

Petitioner's contact info:

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Regulations from which the exemption is requested:

- 14 C.F.R. § 61.113(a) & (b)
- 14 C.F.R. § 91.119(c)
- 14 C.F.R. § 91.121
- 14 C.F.R. § 91.151(a)(1)
- 14 C.F.R. § 91.405(a)
- 14 C.F.R. § 91.407(a)(1)
- 14 C.F.R. § 91.409(a)(1) & (2)
- 14 C.F.R. § 91.417(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 FAA

Modernization and Reform Act. In making this determination, the Secretary is required to determine which types of UA 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 UA's size, weight, speed, and operational capability;
- Operation of the UA in close proximity to airports and populated areas; and,
- Operation of the UA within visual line of sight of the operator (VLOS).

Reform Act § 333(a). 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).[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 § 40101 of the Act that includes UAS's, 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(b).

Vision Pictures' UA are rotorcraft, weighing 55 lbs. or less including payload. They operate, under normal conditions at a speed of no more than 50 knots and they have the capability to hover, and move in the vertical and horizontal plane simultaneously. They will operate only within VLOS and only within the sterile area described in the Confidential Motion Picture and Television Operations Manual and Flight Operations and Procedures Manual which is being mailed in separately (hereinafter "the Operating Manual").[3] Such operations will insure that the UA will "not create a hazard to users of the national airspace system or the public."[4]

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[2] Applicant interprets this provision to place the duty on the Administrator to not only process applications for exemptions under section 333, but for the Administrator to craft conditions for the safe operation of the UAS, if it should be determined that the conditions set forth herein do not fulfill the statutory requirements for approval.

[3] FAA Licensed Commercial Pilots, a Certified Flight Instructor, a FAA Designated Engineering Representative, and members of the motion picture industry have reviewed this manual and have found it acceptable for UA flight

Given the small size of the UA involved and the restricted sterile environment within which they will operate, 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 UA to commence immediately. Also, due to the size of the UA and the restricted areas in which the relevant UA 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 UA for movie and television 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.

AIRCRAFT AND 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 represent a safety enhancement to the already safe movie and television filming operations conducted with conventional aircraft.

These limitations and conditions, taken directly from the seven exemptions granted to film companies (Exemption #'s 11062, 11063, 11064, 11065, 11066, 11067, 11080), Vision Pictures, LLC agrees to be bound when conducting commercial UA operations. These limitations have already been written and incorporated into the Operating Manual. The list of limitations and conditions include the following:

operations in the film and television industry. Applicant submits this manual as a Confidential document under 14 C.F.R. § 11.35(b) as the entire manual contains proprietary information that the applicant has not and will not share with others. The manual contains operating conditions and procedures that are not available to the public and are protected from release under the Freedom of Information Act 5 U.S.C. § 552 *et. seq.*

[4] Reform Act Section 333(b).

1. The UA weighs less than 55 pounds, including batteries and camera gimbal. Operations requested in this petition for exemption are limited to the following aircraft described in the proprietary operator's manual for the *DJI S1000*. Proposed operations of any other UA will require a new petition or an amendment.

2. The UA shall not be flown at a speed exceeding a ground speed of 50 knots.

3. Flights must be operated at an altitude of no more than 400 feet above ground level (AGL), as indicated by the procedures specified in the operator's manual. All altitudes reported to ATC must be in feet AGL.

4. 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 medical certificate.

5. All operations must utilize a visual observer (VO). 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.

6. The operator's manual shall be maintained 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 operator's manual, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operator's manual. The operator may update or revise its operator's manual. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator upon request. The operator must also present updated and revised documents if it petitions for extension or amendment. If the operator determines that any update or revision would affect the basis of this exemption, then the operator must petition for amendment to their exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operator's manual.

7. Prior to each flight the PIC must inspect the UAS to ensure it is in a condition for safe flight. 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. The Ground Control Station shall be included in the preflight inspection. All maintenance and alterations shall be properly documented in the aircraft records.

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 in accordance with the operator's manual. The PIC who conducts the functional test flight must make an entry in the UAS aircraft records of the flight. The requirements and procedures for a functional test flight and aircraft record entry are included in the operator's manual.

9. The operator shall follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements. An aircraft maintenance manual with maintenance/component/overhaul, replacement, and inspection/maintenance requirements has been established and included in the operator's manual.

10. The Pilot In Command (PIC) shall possess at least a private pilot certificate and at least a current third-class medical certificate. The PIC must also meet the flight review requirements specified in 14 C.F.R. § 61.56 in an aircraft in which the PIC is rated on his/her pilot certificate.

11. Prior to operations conducted for the purpose of motion picture filming (or similar operations), the PIC must have accumulated and logged, in a manner consistent with 14 C.F.R. § 61.51 (b), a minimum of 200 flight cycles and 25 hours of total time as a UAS rotorcraft pilot and at least ten hours logged as a UAS pilot with a similar UAS type (single blade or multirotor). Prior documented flight experience that was obtained in compliance with applicable regulations may satisfy this requirement. Training, proficiency, and experience-building flights can also be conducted under this grant of exemption to accomplish the required flight cycles and flight time. During training, proficiency, and experience-building flights, all persons not essential for flight operations

are considered non-participants, and the PIC must operate the UA with appropriate distance from non-participants in accordance with 14 C.F.R. § 91.119.

12. Prior to operations conducted for the purpose of motion picture filming, the PIC must have accumulated and logged, in a manner consistent with 14 C.F.R. § 61.51 (b), a minimum of five hours as UAS pilot operating the make and model of UAS to be utilized for operations under the exemption and three take-offs and three landings in the preceding 90 days. During training, proficiency, experience-building, and take-off and landing currency flights all persons not essential for flight operations are considered non-participants, and the PIC must operate the UA with appropriate distance from non-participants in accordance with 14 C.F.R. § 91.119.

13. Prior to operations conducted for the purpose of motion picture filming, the PIC and visual observer (VO) must have successfully completed a qualification process, as outlined in the operator's manual. The test has been developed by the operator and shall be implemented by a qualified person designated at the sole discretion of the operator. A record of completion of this qualification process must be documented and made available to the Administrator upon request.

14. Prior to operations conducted for the purpose of motion picture filming, a flight demonstration, administered by an operator-approved and qualified pilot must be successfully completed and documented. This documentation must be available for review upon request by the Administrator. Because the knowledge and airmanship test qualifications have been developed by the operator, the petitioner will conduct these tests in accordance with the operator's manual.

15. The UA may not be operated directly over any person, except authorized and consenting production personnel, below an altitude that is hazardous to persons or property on the surface in the event of a UAS failure or emergency.

16. Regarding the distance from participating persons, the operator's manual has safety mitigations for authorized and consenting production personnel. At all times, those persons must be essential to the closed-set film operations. Because these procedures are

specific to participating persons, no further FSDO or Aviation Safety Inspector (ASI) approval is necessary for reductions to the distances specified in the petitioner's manuals. This is consistent with the manned aircraft procedures described in FAA Order 8900.1, V3, C8, S1 *Issue a Certificate of Waiver for Motion Picture and Television Filming*.

17. Regarding distance from non-participating persons, the operator must ensure that no persons are allowed within 500 feet of the area except those consenting to be involved and necessary for the filming production. This provision may be reduced to no less than 200 feet if it would not adversely affect safety and the Administrator has approved it. For example, an equivalent level of safety may be determined by an aviation safety inspector's evaluation of the filming production area to note terrain features, obstructions, buildings, safety barriers, etc. Such barriers may protect non-participating persons (observers, the public, news media, etc.) from debris in the event of an accident. This is also consistent with the same FAA Order 8900.1, V3, C8, S1.

18. If the UA loses communications or loses its GPS signal, the UA must return to a pre-determined location within the security perimeter and land or be recovered in accordance with the operator's manual.

19. The UA must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual.

20. Each UA operation must be completed within 30 minutes flight time or with 25% battery power remaining, whichever occurs first.

21. The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 C.F.R. part 47, and have identification (N-Number) markings in accordance with 14 C.F.R. part 45, subpart C. Markings must be as large as practicable.

23. The operator has developed procedures to document and maintain a record of the UA maintenance, preventative maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UA.

24. Each UA must comply with all manufacturer Safety Bulletins and firmware updates.

25. The operator has developed UA technician qualification criteria and they are included in the operator's manual.

26. The preflight inspection accounts for all discrepancies, i.e. inoperable components, items, or equipment, not covered in the relevant preflight inspection sections of the operator's manual.

27. The radio frequency spectrum used for operation and control of the UA complies with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.

28. At least three days before scheduled filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local FSDO with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The requirements for a plan of activities and a sample form are in the operator's manual.

29. The documents required under 14 C.F.R. § 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.

30. The UA must remain clear and yield the right of way to all other manned operations and activities at all times (including, but not limited to, ultralight vehicles, parachute activities, parasailing activities, hang gliders, etc.).

31. UA operations may not be conducted during night, as defined in 14 C.F.R. § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

32. The UA cannot be operated by the PIC from any moving device or vehicle.

33. 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.

34. The UA may not operate in Class B, C, or D airspace without written approval from the FAA. The UA may not operate within 5 nautical miles of the geographic center of a non-towered airport as denoted on a current FAA-published aeronautical chart unless a letter of agreement with that airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request.

35. Any 1) incident, 2) accident, or 3) flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the Federal Aviation Administration's (FAA) 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. Further flight operations may not be conducted until the incident, accident, or transgression is reviewed by AFS-80 and authorization to resume operations is provided.

Unless otherwise specified by the Administrator, the PIC, and operator must comply with all applicable parts of 14 C.F.R. including, but not limited to, parts 45, 47, 61, and 91.

STATUTORY CRITERIA PROVIDED IN SECTION 333

The UA proposed to be operated by the applicant weighs less than 55 lbs. fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable liquid fuels, and operates exclusively within a secured area as outlined in the operator's manual. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by both the operator, pursuant to the criteria in the operator's manual, 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 and has issued the aforementioned list of conditions and limitations. 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. 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 inability to carry a substantial external load.

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. In all cases, an analysis of these criteria demonstrates that the UAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

As there will be no airworthiness certificate issued for the unmanned aircraft, and no FAA regulatory standard will exist for determining airworthiness of the UA, the requirements contained in the operator's manual for maintenance and use of safety check lists prior to each flight, will provide an equivalent level of safety.

Since the UA fully loaded weighs no more than 55 lbs. and is operated without an onboard pilot, there is no ability or place to carry certification and registration documents or to display them on the unmanned aircraft. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UA will have immediate access to them. Given the size of the unmanned aircraft, the FAA registration number will be displayed on the airframe in as large a font as possible.

14 C.F.R. § 61.113 (a) & (b): PRIVATE PILOT PRIVILEGES AND LIMITATIONS: PILOT IN COMMAND.

Sub-sections 61.113(a) & (b) limit private pilots to non-commercial operations. Because the UAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by requiring the PIC operating the aircraft

to have a private pilot's license rather than a commercial pilot's license to operate this small UAS. Unlike a conventional aircraft that carries the pilot and passengers, the UAS is remotely controlled with no living thing on board. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance as set forth in the Operating Manual. The level of safety provided by the requirements included in the Operating Manual exceeds that provided by a single individual holding a commercial pilot's certificate operating a conventional aircraft. The risks associated with the operation of the UAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the UAS as requested with a private pilot as the PIC exceeds the present level of safety achieved by 14 C.F.R. § 61.113 (a) & (b).

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 UAS that is a helicopter and the exemption requests authority to operate at altitudes up to 400 AGL, or not more than 200 above an elevated platform from which filming is planned, an exemption may be needed to allow such operations. As set forth herein, except for the limited conditions stated in the Operating Manual, the UAS will never operate higher than 400 AGL. 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, speed of the UAS 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 as set forth in Chapters 1 and 13 of the Operating Manual. Compared to flight operations with aircraft or rotorcraft weighting far more than the maximum 55 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 UAS 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 UAS may not have a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the Manual and Safety Check list, 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 UAS provides approximately 40 minutes of powered flight. To meet the 30 minute reserve requirement in 14 C.F.R. § 91.151, UAS flights would be limited to approximately 10 minutes in length. Given the limitations on the UAS's proposed flight area and the location of its proposed operations within a predetermined area, a longer time frame for flight in daylight or night VFR conditions is reasonable.

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, limiting UAS flights to 10 minutes would greatly reduce the utility for which the exemption will be granted.

Applicant believes that an equivalent level of safety can be achieved by limiting flights to 30 minutes or 25% of battery power whichever happens first. This restriction would be more than adequate to return the UAS 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. § 91.405 (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. An equivalent level of safety will be achieved because these small UAS's are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the UAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in the Operating Manual, Chapters 11 and 12, the operator will ensure that the UAS is in working order prior to initiating flight, will perform required maintenance, and will keep a log of any maintenance performed. Moreover, the operator 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.

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register, should it be determined that publication is needed:

Applicant seeks an exemption from the following rules:

14 C.F.R. 61.113(a) and (b); 91.119(c); 91.121; 91.151(a)(1); 91.405(a); 91.407(a)(1); 91.409(a)(1) and (2); 91.417(a) & (b) to operate commercially a small unmanned vehicle (55 lbs. or less) in motion picture and television operations.

Approval of exemptions allowing commercial operations of UAS's in the film industry will enhance safety by reducing risk. Conventional film operations, using jet or piston power aircraft, operate at extremely low altitudes just feet from the subject being filmed and in extreme proximity to people and structures; and present the risks associated with aircraft that weigh in the neighborhood of 4,000 lbs., carrying large amounts of jet A or other fuel (140 gallons for jet helicopters shown below). Such aircraft must fly to and from the film location. In contrast, a UAS weighing fewer than 55 lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The UAS is carried to the film set and not flown. The UAS will carry no passengers or crew; therefore, it will not expose them to the risks associated with manned aircraft flights.

The operation of small UASs, weighting less than 55 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein. These lightweight aircraft operate at slow speeds, close to the ground, and in a sterile environment and, as a result, are far safer than conventional operations conducted with turbine helicopters operating in close proximity to the ground and people.

PRIVACY

All flights will occur over private or controlled access property with the property 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. The grant of this exemption request will provide improved safety over the use of manned aircraft.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012-size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security - provides more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicant's UAS in the motion picture and television industry pursuant to the Operating Manual appended hereto.

Sincerely yours,

Jonathan Rupprecht, Esq.