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

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

September 11, 2015

Exemption No. 12823
Regulatory Docket No. FAA−2015−2582

Mr. Edward Hunter Roberts
Desert Aerial, LLC
504 East Camino Crystal Azul
Sahuarita, AZ 85629

Dear Mr. Roberts:

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 2, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Desert Aerial, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial videography, film production for motion picture sets, research, and demonstrations.

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 Inspire 1.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the

aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1] 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, Desert Aerial, 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, Desert Aerial, 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 Inspire 1 when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are 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 2, 2015

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ELECTRONIC SUBMISSION

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

Re: Exemption Request of DESERT AERIAL, LLC. under Section 333 of the FAA Reform Act; Part 11 of the Federal Aviation Regulations; 14 CFR 45.23(b); 14 CFR Part 21; 14 CFR 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) & (b); 91.405(a); 91.407(a)(1); 91.409(a)(2); 91.417(a) & (b).

Dear Sir or Madame:

This on behalf of DESERT AERIAL, LLC. pursuant to the FAA Modernization and Reform Act of 2012 and 14 C.P.R. 11. DESERT AERIAL, LLC. is a newly established ground and aerial photography company based in the SAHUARITA, AZ (PIMA County) EIN No. 47-4159092. DESERT AERIAL, LLC. seeks exemption from the Federal Aviation Regulations (FARs) contained herein so that DESERT AERIAL, LLC. be permitted to operate its small unmanned aircraft ("SUAs"), or unmanned aircraft system ("UAS"), commercially in airspace regulated by the Federal Aviation Administration ("FAA") wherein such operations are conducted within and under the requirements set out and established by the FAA in Section 333 of the FAA Reform Act.

DESERT AERIAL, LLC. specializes in aerial videography and film production for the purposes of documentation, marketing, experimentation, demonstration and education. DESERT AERIAL, LLC. seeks the use of SUA or UAS to assist in DESERT AERIAL, LLC.'s documentation, experimentation, demonstration and education. DESERT AERIAL, LLC.'s opportunities for growth in the media production market are limited because of the current FAA restrictions as it pertains to the operations of UAS. DESERT AERIAL, LLC. submits this proposed Petition for Exemption to the FAA to demonstrate its commitment in complying with the Federal Aviation Regulations and the National Airspace System ("NAS") in their safe, responsible and limited commercial use of UAS.

I, Edward Hunter Roberts, am the Owner of DESERT AERIAL, LLC.. I hold a solo pilot certificate (22hrs), have 10,000+ skydives as an instructor which equates to 1000min of free-fall time, 1000 hours of parachute piloting time. I hold a "D" Expert (D-21003) rating as well as numerous awards in skydiving from the USPA. In addition I was an R&D Parachute Pilot for one the largest most advanced parachute manufactures, Performance Designs, Inc. In 2001 a military parachute sales and training company, CPS, Inc., hired me to aid in new techniques and training for Tier 1 Special Operations Groups for the war on terror. I have 25yrs of I/T experience including extensive (1500hrs+) flight simulator time in addition to 120hrs of personal drone flight time on the DJI Inspire 1(not logged). I have also a formal Drone/UAV Pilot Training Certificate from Unmanned Vehicle University. I have been doing ground based photography and aerial(non UAS) for 10+ years and have video and photos used for publications, marketing campaigns and formal documentation purposes (documentation are

attached here to).

I, Edward Hunter Roberts, am familiar with private and commercial aviation and am aware and familiar with the dangers that unregulated UAS operation presents to persons and property on the ground. DESERT AERIAL, LLC. has a DJI Inspire 1 UAS for aerial photography and cinematography, which is one of the most technologically superior drones on the market today. DESERT AERIAL, LLC. applies for an exemption from the FARs to allow operation of its UAS on motion picture sets, within and under the conditions outlined herein, and under such other limitations as may be established by the FAA as required by Section 333 of the *FAA Modernization and Reform Act of 2012,* Pub. Law 112-95, 126 Stat. 11 (2012).

Section 333 of the *FAA Modernization and Reform Act of 2012* ("FAAMRA") grants the authority to the Secretary to establish a policy outlining guidelines until the Unmanned Aircraft Systems rule is finalized. As the FAAMRA found that because UAS do not pose a threat to national airspace users or national security, operations of UAS do not need an FAA-issued certificate of airworthiness.

This Petition for Exemption would permit the operation of small, lightweight, unmanned UAS under controlled conditions in airspace, in the UAS pilot's line of sight, that is further in limited and predetermined and marked areas of operation. DESERT AERIAL, LLC. would allow for controlled access and would further provide safety enhancements to the already safe operations in the film and television industry presently using conventional aircraft. DESERT AERIAL, LLC. acknowledges how essential safety is when operating UAS. The specifications regarding operating procedures and safety controls listed in UAS (Manuals are attached here to). The operating specifications and safety procedures of the UAS, which DESERT AERIAL, LLC. commits to uphold, ensures that they do not pose a hazard or threat to other aircraft, national security or public safety.

Granting DESERT AERIAL, LLC.'s Petition for Exemption coheres with the Secretary of Transportation's responsibility to integrate UAS into the NAS and to "establish requirements for the safe operation of such aircraft systems in the national airspace system" pursuant to the FAA Reform Act§ 333(c).

Considering the foregoing and DESERT AERIAL, LLC.'s commitment to safety and regulations of the FAA, the specific regulations from which exemptions under Title 14 of the Federal Code of Regulations are herein requested are as follows: 14 CFR 45.23(b); 14 CFR Part 21; 14 CFR 61.113(a) & (b).

Exemption Request Section 333 of the FAA Reform Act; Part 11 of the Federal Aviation Regulations; 14 CFR 45.23(b); 14 CFR Part 21; 14 CFR 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) & (b); 91.405(a); 91.407(a)(l); 91.409(a)(2); 91.417(a) & (b)

DESERT AERIAL, LLC. submits this Petition in accordance with the FAA Reform Act, 112 P.L. 95 §§ 331-334, seeking relief from any currently applicable FARs operating to prevent DESERT AERIAL, LLC. contemplated commercial photography and cinematography, research and other flight operations within the NAS. The Reform Act in Section 332 provides for such integration of civil UAS into our NAS as it is in the public's interest to do so. DESERT

AERIAL, LLC.'s lightweight UAS meet the definition of "small unmanned aircraft" as defined in Section 331and therefore the integration of DESERT AERIAL, LLC.'s lightweight UAS are expressly contemplated by the Reform Act. DESERT AERIAL, LLC. would like to operate its lightweight UAS prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft.

The size, weight, speed and operational capabilities of the UAS at issue, which DESERT AERIAL, LLC. would use, with authorization from the FAA, show that they do not pose a threat to other aircraft, national security nor public safety. The term "small unmanned aircraft," as defined by the U.S. Congress in Section 331, 112 Pub. Law 95, 2014, means "an unmanned aircraft weighing less than 55 pounds."

DESERT AERIAL, LLC.'s UAS are small, lightweight devices containing counter-rotating propellers for optimum balance, control and stability. They are capable of vertical and horizontal operations but operate only within the line of sight of the pilot (UAS operator). Each device weighs no more than 55 pounds, including any photography or cinematic equipment. The UAS operate at speeds at 50 knots (57 mph) speeds or less and are capable of hovering less than 400 feet altitude. The DJI Inspire 1 also has GPS linked navigation as well as "Vision Positioning" technology uses a specially designed camera and sonic waves to allow stable flight should GPS be unavailable. The UAS has auto landing and take off in addition to a "RETURN TO HOME" feature should the pilot controls lose link to the UAS in a preset time and returns to its point of take off.

DESERT AERIAL, LLC. does not operate its UAS near airports and generally does not operate them near populated areas. The UAS operating software and GPS navigation systems do not allow any of the DESERT AERIAL, LLC. UAS devices to operate near airports or restricted fly zones. The failsafe software will disable the UAS devices from taking off and also limit the UAS systems from operating within specific GPS preset no-fly zones. DESERT AERIAL, LLC. only operate its UAS in predetermined areas and only in compliance with well-regarded safety protocols such as those contained within the well established and commonly known Motion Picture and Television Operations Manual.

Applicant further and specifically seeks authorization to use UAS, which are equipped with cameras and sensors, in order to perform photography, audio and video filming by air for public and private uses, including: television, cinematography, advertising, promotions, or public events.

DESERT AERIAL, LLC.'s operation of its UAS will not "create a hazard to users of the national airspace system or the public." 112 P.L. 95 § 333(b). Given the small size and weight of DESERT AERIAL, LLC.'s UAS, combined with their operation in cordoned off and well-controlled areas, DESERT AERIAL, LLC.'s UAS falls within Congress's contemplated safety zone when it promulgated the FAA Reform Act and the corresponding directive to integrate UAS into the NAS. DESERT AERIAL, LLC.'s UAS have a solid safety record and do not pose any threat to the general public or national security.

The operator, in accordance with the aircraft's flight and operating manual, will perform maintenance of the UAS. The operator agrees to ensure the UAS is inspected before each flight, to perform all required maintenance and to maintain a log of all maintenance and repairs performed on all unmanned aircraft systems. The manufacturing company, DJI INC, or an authorized service center will only perform any repairs that are unable to be performed by the operator.

Granting DESERT AERIAL, LLC.'s exemption request furthers the public interest. First, Congress has already pronounced that it is in the public's interest to integrate commercially flown UAS into the NAS, hence passing the FAA Reform Act. Second, DESERT AERIAL, LLC. has conducted research into safe UAS operation each time it flies one of their UAS. Flight data, visual inspections, recorded observations and flight analyses are compiled to further enhance current safety protocols in place. Allowing DESERT AERIAL, LLC. to log more flight time directly relates to its research and its ability to further enhance current safety measures. Third, the public has an interest in reducing the danger and emission associated with current aerial cinematic capture methods, namely, full size helicopters. DESERT AERIAL, LLC.'s UAS are all battery powered and create no emissions. If a DESERT AERIAL, LLC. UAS were to crash there is no fuel to ignite and explode. The impact of DESERT AERIAL, LLC.'s lightweight UAS is far less than a full size helicopter, notwithstanding the statistically noteworthy safety record of full size helicopters used in motion picture capture. The public's interest is furthered by minimizing ecological and crash impacts by permitting motion picture capture through DESERT AERIAL, LLC.'s lightweight UAS.

Progression of the arts and sciences has been fundamental to our society since its inclusion in the U.S. Constitution. Indeed, Congress mandated the integration of UAS into our NAS, in part, to achieve progression in this noteworthy, and inevitable, field. Permitting DESERT AERIAL, LLC. to immediately fly within the United States furthers these goals. Whether it is the amalgam of scientific discoveries applicable to feature film making (including those drawing upon architecture, physics, engineering and cultural inclusiveness) to advancements in publicly usable technologies or advancements in equipment available to law enforcement personnel and first responders that does not cost millions of dollars, granting DESERT AERIAL, LLC.'s exemption request substantially furthers the public's interest in ways known and currently unknown and does not burden the tax payers

with the expense of researching these new technologies yet benefiting from the data.

To further explain why DESERT AERIAL, LLC.'s exemption will not adversely affect safety or how granting DESERT AERIAL, LLC.'s exemption request will provide a level of safety at least equal to existing rule:

DESERT AERIAL, LLC.'s exemption will not adversely affect safety. Permitting DESERT AERIAL, LLC. to log more flight time in FAA controlled airspace will allow DESERT AERIAL, LLC. to innovate and implement new and as of yet undiscovered safety protocols. Additionally, DESERT AERIAL, LLC. proposes the following safety procedures and restrictions if granted an exemption:

- DESERT AERIAL, LLC.'s UAS weight not more than 55 pounds, including any photography or cinematic equipment;
- DESERT AERIAL, LLC. only operates its UAS at an altitude of 400 feet or less;
- DESERT AERIAL, LLC. shall limit the UAS operation to thirty (30) minute flights, or ceasing operation at 25% battery;
- DESERT AERIAL, LLC. lands its UAS when they reach 25% battery;
- The operator(s) of the unmanned aircraft system will be certified on the DJI Inspire 1 UAS only and any other UAS would require a specific certification for the UAV;
- DESERT AERIAL, LLC. 's remote control pilots operate DESERT AERIAL, LLC. UAS only within line of sight;
- DESERT AERIAL, LLC. 's remote control pilots have mapping software to show the current location of the UAV should they somehow lose sight of the UAV;
- DESERT AERIAL, LLC. staffs each flight with a remote control pilot that has a FAA Medical Certificate and a certification from Unmanned Aerial University or other qualified institution.
- DESERT AERIAL, LLC. employs a GPS system within each UAS allowing the UAS to hover in place if communications between the device and the remote control pilot is lost and then slowly descend at twenty-five (25) percent battery and initiate auto land;
- DESERT AERIAL, LLC. actively analyzes electronic flight data and other sources of information to constantly update and enhance safety protocols;
- DESERT AERIAL, LLC. only operates its UAS in areas that are not restricted and specifically away from all airport operations. Constantly updated (downloaded) maps from DJI, Inc. allow the operator to always be updated to new areas of restricted flight space;
- DESERT AERIAL, LLC. shall not operative its UAS at night;
- DESERT AERIAL, LLC. shall conduct an inspection of its UAS before each flight;
- All DESERT AERIAL, LLC. flights shall occur only in private or controlled access property, having the property owner's prior consent and knowledge;
- DESERT AERIAL, LLC. has procedures in place to abort flights in the event of a safety breach or a potential danger; and

- DESERT AERIAL, LLC. shall obtain all necessary consent and permissions prior to operation of those being filmed or an agreement to be in the designated filming area prior to filming taking place

- DESERT AERIAL, LLC. has also contacted Costello Insurance, which will provide up to 1 Million is liability insurance for Commercial UAS operations specifically. Most operators using UAV commercially today are unaware that there standard insurance companies do not cover the equipment or liability and a separate company must be used (documentation are attached here to).

A SUMMARY THE FAA MAY PUBLISH IN THE FEDERAL REGISTER:

A. 14 C.F.R. 21 and 14 C.F.R. 91: Airworthiness Certificates, Manuals and The Like.

14 C.F.R. § 21, Subpart H, entitled Airworthiness Certificates, sets forth requirements for procurement of necessary airworthiness certificates in relation to FAR §91.203(a)(1). The size, weight and enclosed operations area of DESERT AERIAL, LLC. 's UAS permits exemption from Part 21 because DESERT AERIAL, LLC. 'S UAS meet an equivalent level of safety pursuant to Section 333 of the FAA Reform Act. The FAA is authorized to exempt aircraft from the airworthiness certificate requirement under both the Act (49 U.S.C. §44701 (f)) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA to exempt UAS from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. DESERT AERIAL, LLC. 's UAS meet or exceed each of the elements.

14 C.F.R. § 91.7(a) prohibits the operation of an aircraft without an airworthiness certificate. As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable.

14 C.F.R. § 91.9(b)(2) requires an aircraft flight manual in the aircraft. As there are no pilots or passengers, and given the size of the UAS, this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a manual at the flight operations center with the remote control pilot of the DESERT AERIAL, LLC. UAS. The FAA has previously issued exemptions to this regulation in Exemptions Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 10700 and 32827.

14 C.F.R. § 91.121 regarding altimeter settings is inapplicable insofar as DESERT AERIAL, LLC. 's UAS utilize electronic global positioning systems (GPS) and internal gyroscopes to provide spatial coordination.

14 C.F.R. §§ 91.203 (a) and (b) provides for the carrying of civil aircraft certifications and registrations. They are inapplicable for the same reasons described above. The equivalent level of safety will be achieved by maintaining such certifications and registrations at the DESERT AERIAL, LLC. flight operations center.

B. 14 C.F.R. § 45.23: Marking of the Aircraft.

Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. DESERT AERIAL, LLC. 's UAS are, by definition, unmanned. They therefore do not have a cabin, cockpit or pilot station on which to mark designated words or phrases. Further, two-inch lettering is difficult to place on such a small aircraft. Regardless, DESERT AERIAL, LLC. will mark its UAS in the largest possible letting by placing the word "EXPERIMENTAL" on its fuselage as required by 14 C.F.R. § 45.29(f) so that the pilot or others working with the UAS will see the markings. The FAA has previously issued exemptions to this regulation through Exemption Nos. 8738, 10167, 10167A and 10700.

C. 14 C.F.R. § 61.113: Private Pilot Privileges and Limitations:

Pursuant to 14 C.F.R. §§ 61.113 (a) and (b), private pilots are limited to non-commercial operations. DESERT

AERIAL, LLC. can achieve an equivalent level of safety as achieved by current regulations because DESERT AERIAL, LLC. 's UAS do not carry any pilots or passengers. Further, while helpful, a pilot license will not ensure remote control piloting skills. The risks attendant to the operation of DESERT AERIAL, LLC. 's UAS is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. § 61 et seq. Edward Hunter Roberts has extensive flight experience in a vast array of environments and would still hold a Class 2 Medical Certificate. DJI is one of the premier UAS manufacturers and has incorporated extensive safety system into its products to include: Return Home Feature should the controller be disconnected from the UAS for a specific period of time it would return to its take off point. Auto take off and landing with auto rotor shut off after touch down. GPS guidance with the ability to pre-program a designated flying area on the tablet map to stay within. Built in "Vision Positioning System" combines visual data and sonar waves in a single unit, detecting both variance in patterns on the ground and current altitude should GPS be unavailable there is always backup for stable operations. Software that limits entry into specific airspaces that are on all maps and the UAV will not take off if the Pilot accidently was in one of these spaces as the software overrides the pilot and will explain on the tablet the reason for not lifting off accordingly. Auto landing feature should communication be cut off for an extensive period of time the UAS will descend slowly and initiate its auto landing system.

D. 14 C.P.R.§ 91.119: Minimum Safe Altitudes.

14 C.P.R. § 91.119 prescribes safe altitudes for the operation of civil aircraft. It allows helicopters to be operated at lower altitudes in certain conditions. DESERT AERIAL, LLC. 's UAS will never operate at an altitude greater than 400 AGL.

E. 14 C.P.R. § 91.405(a); 91.407(a)(1); 91.409(a)(2); 91.417 (a) and (b): Maintenance Inspections.

The above-cited Regulations require, amongst other things, aircraft owners and operators to "have [the] 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."

These Regulations only apply to aircraft with an airworthiness certificate. They will not, therefore, apply to DESERT AERIAL, LLC. should its requested exemption be granted. DESERT AERIAL, LLC. conducts an extensive maintenance program that involves regular software updates and constant inspection for assessment of any damaged hardware. Therefore, an equivalent level of safety will be achieved. DESERT AERIAL, LLC. has researched and developed its own designs.

F. Summary

DESERT AERIAL, LLC. seeks an exemption from the following Regulations: 14 C.F.R. 21, subpart H; 14 C.P.R. 45.23(b); 14 C.P.R. §§ 61.113 (a) and (b); 14 C.P.R. § 91.7(a); 14 C.P.R. § 91.9(b)(2); 14 C.P.R.§ 91.103(b); 14 C.P.R.§ 91.109; 14 C.P.R.§ 91.119; 14 C.P.R. § 91.121; 14 C.P.R. § 91.151(a); 14 C.P.R. §§ 91.203 (a) and (b); 14 C.P.R. §91.405(a); 14 C.P.R. § 91.407(a)(1); 14 *C.P.R.* § 91.409(a)(2); 14 C.P.R. §§ 91.417 (a) and (b) to commercially operate its fleet of small unmanned vehicles and lightweight unmanned aircraft vehicles in motion picture or television operations and to conducts its own research.

Granting DESERT AERIAL, LLC. 's request for exemption will reduce current risk levels and thereby enhance safety. Currently, motion picture image capture relies primarily on the use of larger aircraft running on combustible fuel. DESERT AERIAL, LLC. 's UAS do not contain potentially explosive fuel, are smaller, lighter and more maneuverable than conventional motion picture aircraft. Further, DESERT

AERIAL, LLC. UAS operates at lower altitudes and in controlled airspace. DESERT AERIAL, LLC. has been analyzing flight data and other information in compiling novel safety protocols and the implementation of a flight operations manual that exceeds currently accepted means and methods of safe flight.

There are no people on board DESERT AERIAL, LLC. UAS and therefore the likelihood of death or serious

bodily injury is significantly limited. DESERT AERIAL, LLC. 's operation of its UAS, weighing less than 55 pounds and traveling at speeds no more than 60 knots in areas will provide at least an equivalent level of safety as that achieved under current FARs.

Therefore, DESERT AERIAL, LLC. respectfully respects that the FAA grant its exemption request without delay. The FAA has the authority to issue the exemption sought by DESERT AERIAL, LLC. pursuant to the Federal Aviation Act, 85 P.L. 726, as amended (the "Act").

Sincerely,

/s/ Edward Hunter Roberts

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