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

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

June 16, 2015

Exemption No. 11829
Regulatory Docket No. FAA–2015–1108

Mr. Ben Burkett
Mr. Matt Pedonti
Site Flight, Inc.
1515 Pine Bluff Avenue
Orlando, FL 32806

Dear Mr. Burkett and Mr. Pedonti:

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 April 13, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Site Flight, Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial surveying, photography, videography, inspections, monitoring, patrolling, public entity support operations, and education and research.

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

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

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 2, DJI Inspire 1, DJI S900, and DJI S1000.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria

provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Site Flight, Inc. is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

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

Conditions and Limitations

In this grant of exemption, Site Flight, Inc. is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2, DJI Inspire 1, DJI S900, and 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 not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents,

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

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

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

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

25. The UAS may not be operated by the PIC from any moving device or vehicle.

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on June 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan
Director, Flight Standards Service

Enclosures

SITE FLIGHT

April 13, 2015

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

RE: Exemption Request Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012

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, Site Flight, Inc., operator of Small Unmanned Aircraft Systems ("sUAS"), hereby applies for an exemption from Federal Aviation Regulations identified below, to allow commercial operations of sUAS.

The proposed operations include the following:

- Aerial Surveying
- Agriculture
- Aerial photography and videography
- Wildlife and forestry monitoring
- Construction site inspection and monitoring
- Utility and power generation systems inspections and patrolling
- Flare stack inspection
- Public Entity Support Operations
- Bridge inspection
- Pipeline inspection and patrolling
- Education and Research

As described more fully below, the requested exemption would permit the operation of sUAS under controlled conditions in airspace that is limited, predetermined, and controlled as to access. Approval of this exemption will create new benefits to the industries listed above as technical and inherently dangerous operations can be performed in a safer and more controlled manner by sUAS and their operators. Additionally, sUAS will provide economic benefit to these industries by improving efficiency and quality, and virtually eliminating human risk.

The name and address of the petitioner is:

Site Flight, Inc.
Attn: Ben Burkett & Matt Pedonti
1515 Pine Bluff Ave.
Orlando, FL 32806
Ph: (407) 497-1917
Email: bburkett@mysiteflight.com or
matt@mysiteflight.com

Regulations from which the exemption is requested:

14 CFR Part 21
14 CFR Part 27
14 C.F.R. 45.23(b)
14 CFR 61.113 (a) & (b)
14 C.F.R. 91.7 (a)
14 CFR 91.9 (b)(2)
14 C.F.R. 91.103
14 C.F.R. 91.109
14 C.F. R. 91.119
14 C.F.R. 91.121
14 CFR 91.151 (a)
14 CFR 91.203 (a) & (b)
14 CFR 91.405 (a)
14 CFR 407 (a) (1)
14 CFR 409 (a) (2)
14 CFR 417 (a) & (b)

The following sUAS's are submitted for exemption from the regulations above for use in safe operations listed above for the reasons expressed more fully below:

DJI Phantom 2
DJI Inspire 1
DJI S900
DJI S1000

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rulemaking required under Section 332 of the Reform Act. In making this determination, the Secretary is required to determine which types of UASs do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

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

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).

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.

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority by its terms includes exempting civil aircraft as the term is defined under §40101 of the Act, that includes sUASs, from the requirement that all civil aircraft must have a current airworthiness certificate.

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

Site Flight's sUASs are rotorcraft and fixed wing aircraft, weighting 55 lbs. or less including payload. They operate, under normal conditions at a speed of no more than 100 MPH. They will operate only in line of sight and will operate only within a sterile area. Such operations will insure that the sUAS will "not create a hazard to users of the national airspace system or the public."

Reform Act Section 333 (b).
Given the small size of the sUASs 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 UASs to commence immediately. Also due to the size of the UASs and the restricted areas in which the relevant sUASs will operate, approval of the application presents no national security issue. Given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit, including enhanced safety, reduction in environmental impacts, and reduced emissions, 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 operations conducted with conventional aircraft. These limitations and conditions to which Site Flight agrees to be bound when conducting commercial operations under an FAA issued exemption include:

1. The sUAS will weigh less than 55 lbs.
2. Flights will be operated within line of sight of a pilot and/or observer.
3. Flights will be terminated at 25% battery power to ensure the safe return of the aircraft to the launch point.
4. Flights will be operated at an altitude of no more than 400 feet AGL or, not more than 200 feet above an elevated platform from which filming is planned, with exception of telecommunication towers or high power lines, when altitude shall be limited to 100 feet above said tower or line.
5. Minimum crew for each operation will consist of the sUAS Pilot, the Visual Observer, and/or the Camera Operator.
6. sUAS pilot will be an FAA licensed airman with at least a recreation or sport pilot's certificate.
7. sUAS Pilot will be Pilot in Command (PIC). If a pilot certificate holder other than the sUAS Pilot, who possess the necessary PIC qualifications, is also present (i.e. the Visual Observer), that person can also be designated as the PIC.
8. The UAS will only operate within a confined "Sterile Area" of the flight operations area.
9. A briefing will be conducted in regard to the planned sUAS operations prior to each day's activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.
10. The operator will obtain the consent of all persons involved and ensure that only consenting persons will be allowed within 100 feet of the flight operation, and this radius may be reduced to 30 feet based upon an equivalent level of safety determination.
11. Pilot and observer will have been trained in operation of UAS generally and received up-to-date information on the particular UAS to be operated.
12. Observer and pilot will at all times be able to communicate by voice.

13. Written and/or oral permission from the relevant property holders will be obtained.
14. All required permissions and permits will be obtained from territorial, state, county or city jurisdictions, including local law enforcement, fire, or other appropriate governmental agencies.
15. If the sUAS loses communications or loses its GPS signal, the UAS will have capability to return to a pre-determined location within the Security Perimeter and land.
16. The sUAS will have the capability to abort a flight in case of unpredicted obstacles or emergencies.

14 C.F.R. Part 21, Subpart H: Airworthiness Certificates 14 C.F.R. §91.203 (a) (1) Subpart H, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by the Applicant, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act (49 U.S.C.§44701 (f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular 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.

The sUAS to be operated hereunder is 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 set out in the Manual. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by the operator, pursuant to the Manual's requirements, and under the requirements and in compliance with local and public regulation. These safety enhancements, which already apply to civil aircraft operated in connection with motion picture and television production, provide a greater degree of safety to the public and property owners than conventional operations conducted with airworthiness certificates issued under 14 C.F.R. Part 21, Subpart H. Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the 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.

14 C.F.R. § 45.23 (b). Marking of the Aircraft
The regulation requires:
When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

Even though the UAS will have no airworthiness certificate, an exemption may be needed as the UAS will have no entrance to the cabin, cockpit or pilot station on which the word "Experimental" can be placed. Given the size of the sUAS, two-inch lettering will be impossible. The word "Experimental" will be placed on the fuselage in compliance with §45.29 (f).

The equivalent level of safety will be provided by having the sUAS marked on its fuselage as required by §45.29 (f) where the pilot, observer and others working with the sUAS will see the identification of the UAS as "Experimental." The FAA has issued the following exemptions to this regulation in Exemptions Nos. 10700, 8738, 10167 and 10167A.

14 C.F.R. § 61.113 (a) & (b): Private Pilot Privileges and Limitations: Pilot in Command.
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 recreational or sport 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 sUAS 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. The level of safety provided by the requirements included in the 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 sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS as requested with a recreational pilot as the PIC exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b).

14 C.F.R. §91.7(a): Civil aircraft airworthiness.
The regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. As there will be no airworthiness certificate issued for the aircraft, should this exemption be granted, no FAA regulatory standard will exist for determining airworthiness. Given the size of the aircraft and the requirements contained in the Manual for maintenance and use of safety check lists prior to each flight, an equivalent level of safety will be provided.

14 C.F.R. § 91.9 (b) (2): Civil Aircraft Flight Manual in the Aircraft.
Section 91.9 (b) (2) provides:
No person may operate a U.S.-registered civil aircraft ...
(2) For which an Airplane or Rotorcraft Flight Manual is not required by §21.5 of this chapter, unless there is available in the aircraft a current approved airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof. The sUAS, given its size and configuration has no ability or place to carry such a flight manual on the aircraft, not only because there is no pilot on board, but because there is no room or capacity to carry such an item on the aircraft. The equivalent level of safety will be maintained by keeping the flight manual at the ground control point where the pilot flying the sUAS will have immediate access to it. The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700.

14 C.F.R. § 91.103: Preflight action
This regulation requires each pilot in command to take certain actions before flight to insure the safety of flight. As FAA approved rotorcraft flight manuals will not be provided for the aircraft an exemption will be needed. The PIC will take all actions including reviewing weather, flight battery requirements, landing and takeoff distances and aircraft performance data before initiation of flight.

14 C.F.R. §91.109: Flight instruction:
Section 91.103 provides that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls. **s**UASs and remotely piloted aircraft, by their design do not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos.5778K & 9862A. The equivalent level of safety will be provided by the fact that neither a pilot nor passengers will be carried in the aircraft and by the size and speed of the aircraft.

14 C.F.R. §91.119: Minimum safe altitudes
Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters

to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. As this exemption is for a sUAS 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. An additional exemption is also requested for permission to operate at 100 feet above a transmission tower, communication tower, or bridge for the purpose of inspection. This will allow for safe inspection of the latter without potential conflict with other aircraft. As set forth herein, except for the limited conditions stated previously the UAS will never operate at 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, and speed of the UAS as well as the location where it is operated. No flight will be taken without the required permission of the property owner or local officials. Because of the advance notice to the property owner and participants in the aerial activity, all affected individuals will be aware of the planned flight operations. Compared to flight operations with aircraft or rotorcraft weighting far more than the maximum 55lbs. 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 addition, the low-altitude operations of the sUAS will ensure separation between these small-UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

14 C.F.R. §91.121 Altimeter Settings

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

Depending on the sUAS, the battery provides approximately 15-60 minutes of powered flight. To meet the 30-minute reserve requirement in 14 CFR §91.151, sUAS flights would be extremely limited. 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 CFR §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 sUAS flights to extremely short flights 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 25% of battery power. This restriction would be more than adequate to return the sUAS to its planned landing zone from anywhere in its limited operating area. Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

14 C.F.R. §91.203 (a) and (b): Carrying Civil Aircraft Certification and Registration
The regulation provides in pertinent part:
(a) Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:
(1) An appropriate and current airworthiness certificate. . . .
(b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The UAS fully loaded weighs no more than 55 lbs and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the sUAS. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the sUAS will have immediate access to them, to the extent they are applicable to the sUAS. The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797A, 9816A, and 10700.

14 C.F.R. §91.405 (a); 407 (a) (1); 409 (a) (2); 417(a) & (b): Maintenance Inspections
These regulations require that an aircraft operator or owner "shall have 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...," and others shall inspect or maintain the aircraft in compliance with Part 43.

Given that these section and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to the applicant. The operator pursuant to the flight manual and operating handbook will accomplish maintenance. An equivalent level of safety will be achieved because these small UASs are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the UAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in the Manual, the operator will ensure that the UAS is in working order prior to initiating flight, perform required maintenance, and 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. §21, subpart H; 14 C.F.R 45.23(b); 14 C.F.R. §§ 61.113(a) & (b); 91.7 (a); 91.9 (b) (2); 91.103(b); 91.109; 91.119; 91.121; 91.151(a); 91.203(a) and (b); 91.405 (a); 91.407 (a) (1); 91.409 (a) (2); 91.409 (a) (2) and 91.417 (a) & (b) to operate commercially a small unmanned vehicle (55lbs or less).

Approval of exemptions allowing commercial operations of sUASs, will enhance safety by reducing risk. Conventional aircraft operating at low altitudes near subjects being filmed and in close proximity to structures present major risks associated with the size of the vehicle carrying jet A or other fuels. Such aircraft must fly to and from the operational location. In contrast, a sUAS 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 sUAS is carried to the operation site and not flown. The sUAS will carry no passengers or crew and, therefore, 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, including exempting the applicant from the requirements of Part 21 and allowing commercial operations.

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 or fixed wing aircraft.

Conclusion

If this exemption is granted, Site Flight, Inc. will conduct all flights over private or controlled access property with the property owner's prior consent and knowledge. Filming will be of people and property 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 for operations as stated above, and begin to eliminate dangerous jobs and situations that may otherwise not be avoidable.

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 - provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicant's UAS. Site Flight, Inc. is committed to safe operation and due to the foregoing reasons should be permitted to conduct small UAS operations in accordance with its manuals and all other operating parameters deemed necessary and appropriate by the FAA.

Sincerely,

Ben Burkett
Site Flight, Inc.

Matt Pedonti
Site Flight, Inc.

Enclosure:
Site Flight Safety Guidelines
Site Flight Standard Flight Log
DJI Phantom 2 Operating Manual
DJI Inspire 1 Operating Manual
DJI S900 Operating Manual
DJI S1000 Operating Manual

Site Flight Safety Guidelines

I. Flight Guidelines and Airspace

A. Currency Requirements
Pilots must maintain current flight logs either physically or digitally. Logging time is recommended, but not required. Pilots must log a minimum of 4 flights of five minutes or longer per month. Flights must utilize the class of sUAS you intent to fly and may not be done on a simulator.

B. Checklists
Pilots must always have their flight safety checklists when flying. Checklist includes preflight, in flight, and postflight information.

C. Altitude
Flying above 400 feet AGL is prohibited. It is recommended to stay at or below 200 feet AGL for optimal line of site.

D. Airports
No flights may take place within 3 miles of an airport without prearranged consent and communication with the airport operator. In no case shall a pilot fly in proximity to a runway (over, around, or near the ends). If flying near an airport is required, prior written permissions with specific time, location, and altitude must be given. A transceiver to monitor the air traffic frequencies of that airport is required. An airport representative supervising is ideal. When flying in near proximity to airport, you must have in your possession a sectional chart outlining the information pertaining to that airport.

E. Flight Methods
Pilot is to always have direct visual line of site with the sUAS unless using First Person View (FPV). The Pilot may use a flight monitor (FPV) for reference, only when a trained visual observer (TVO) maintains direct line of site with the sUAS. The TVO must be fully aware of the flight plan and surroundings without distraction. Pilot and TVO are to be in direct voice communication throughout entire flight.

F. Flying while Intoxicated
Participation in flight operations in any capacity under the influence of drugs or alcohol is strictly prohibited.

G. Flying Over People
(Closed Production Set)
People under or near operation, must be fully aware in advance and may be required to sign an individual release of liability with the understanding that their activities and involvement may result in injury or even death. *Extreme caution must be taken at all times.

(Public Event)
Flying over or near people or crowds is to be avoided whenever possible and only permitted in the following circumstances:
1. Client understands and approves of all activities.
2. You have current liability insurance for personal and property damage listing the client as additionally insured.
3. All participants are aware of the activities and have signed a liability release form.
4. You are operating at your own discretion and accept all responsibilities that pertain to your activities
*Extreme caution must be taken at all times.

H. Flying Over Roadways
Avoid flying over roadways when possible, using closed roads when possible. When necessary to fly over a roadway, avoid actions interfering with normal activity (stopping traffic, chasing vehicles, landing on a roadway, or anything that would be considered distracting to drivers).

Hovering over a roadway is prohibited. Operations over roads should be conducted as fast and effective as possible while still remaining safe.

I. FAA NOTAM's and TFR's

It is required that all pilots must be aware of any FAA issued NOTAM's and/or TFRs in effect where flying is taking place. It is also required that the pilot abide by the FAA issued NOTAM/TFRs at all times.

J. Takeoff and Landing Zones

Every flight must have a designated safe zone where takeoff and landings may be conducted. This is defined by a space no smaller than (20) feet by (20) feet and clear of overhead and lateral obstructions. The Pilot/Remote Control Operator in Command is responsible for checking the location to determine if there are any potential radio frequencies or electrical transmissions that could interfere with or affect the safe operation of the aircraft. The aircraft must be checked for proper balance before each flight or after any alterations. The area should be free of people, vehicles, debris, etc . Never, under any circumstance, throw anything around the aircraft, whether running or not. Loose clothing, trash, or anything that may hinder the operation of the aircraft, shall be cleared. If there are people in the area of takeoff they are to be made aware, and asked to remain clear of the 20' x 20' area.

K. Pilot In Command

The Pilot/Remote Control Operator in Command is at all times the final authority over the aircraft and shall be in command over all flight operations and/or related activities. The Pilot/Remote Control Operator in Command shall have the final authority to abort any flight operation in the interest of safety. Abort signals shall be specified ahead of time. In the event of a power loss, signal loss, or mechanical failure, the pilot must make every attempt to keep the safety of people and property as the highest priority. The aircraft may be crashed, or destroyed in the attempt to keep the safety of people and property. The pilot has the final authority and is responsible for the flight of the aircraft.

II. EQUIPMENT

A. Aircraft Size

Your aircraft must be of a size that is visible during flight. Orientation must be decipherable at whatever distance/altitude you fly to.

B. Use of GPS

All equipment must be equipped with GPS. GPS coordinates must be attained and verified before takeoff and used as the fail-safe return to home location in the event of signal loss or other issue. GPS systems are supplemental for flight accuracy and precise aircraft positioning. GPS is never to be used as a substitute for visibility, flight conditions, or pilot proficiency.

C. FAIL–SAFE Requirements

All aircraft systems must be programmed for fail-safe. Fail-safe is defined as the flight computer taking over in the event of a signal loss from the pilot or preset function from transmitter.

E. Flight Time

All flights must be timed according to the capacity of the power system and anticipated usage. This ensures landing with safe level battery reserves of at least (1:00) minute. Before takeoff, batteries must be verified as fully charged.

F. Voltage Monitoring

You must be able to read the voltage of your aircraft either visually or audibly at all times. This can be through the use of audible/visual voltage monitors, on screen display, or both.

G. Autonomous Flight

Autonomous flight may not be used as the primary form of flight control without a certified pilot override on standby at all times. In the event autonomous flight is used, the pilot in command is required to have manual override capability at all times.

H. Professional Use

No aircraft may be used professionally unless previously tested and proven to be in an airworthy state and functioning properly.

I. Indoor Flight

If the aircraft is to be used indoors, extreme caution shall be taken. Indoor conditions (e.g., increased heat resulting in reduced air density) could adversely affect flying characteristics. Additionally, interior sets, walls, ceiling beams, lighting equipment, HVAC equipment etc., can be a hazard. GPS is not to be used indoors.

J. Damage and Incident Reporting

In the event of damage caused to the aircraft, camera or other equipment for any reason, it is required that an incident report be filled out, explaining the details of the occurrence and recommended corrections to be made.

III. WEATHER

A. Precipitation

Fly at your own risk in precipitation. Under no circumstance may you fly in any precipitation if you are flying over people or property such as buildings, homes, cars, or other things that may become damaged in the result of an equipment failure. If you have a flight platform that has been tested to perform in precipitation you may fly at your discretion.

B. Wind

Good judgment should be used when determining when to fly with wind. It is suggested that you do not fly in wind greater than 15 kts with or gusts over 20 kts.

SITE FLIGHT

STANDARD FLIGHT LOG

Location			
Date		**TAKEOFF CHECKLIST**	
Aircraft #		Install Camera – All Params	
Flight battery #		Antennas vertical	
PIC		Motor spins free	
AVO		Prop is tight	
Trained Visual Observer		Verify Home point; start point	
Payload		Arm UAS	
PREFLIGHT		Verify Flight controls	
Prior Maint. Complete		Verify Stabilizer	
Wind Direction		Verify Throttle	
Video Transmitter		**IN FLIGHT CHECKLIST**	
Flight battery V/cell		Attain Altitude	
Connect Flight Battery		Verify Controls	
Green Light		Engage Autopilot	
Connect Datalink		Verify WP1	
Verify Compass		Monitor V - 25% min	
Radio Link %		Flight Speed avg	
Verify OSD		Amps avg	
Verify Satelite Connection		Alt. avg	
MISSION PLANNER		**LANDING CHECKLIST**	
Set home point		Flight Battery V	
Create Grid		LZ clear	
Altitude		Land	
Angle		**POSTFLIGHT CHECKLIST**	
Flying Speed		Disarm	
Overshoot		Camera Off	
Start From		Motor and speed control temps	
Overlap		Flight Duration	
Sidelap		Disconnect Flight Battery	
Area		Video Transmitter Off	
Distance		Flight battery V/cell	
Dist between images		Verify Camera Operation	
Ground Resolution		.tlog file name	
Pictures		Total Time on Airframe	
No. of Strips			
Dist between lines			
Flight Time (est): Hours			
Photo every (est): sec			
Acccept Mission			
Save WPs/.txt WP file		**Weather:**	
Write WPs		**Notes:**	
		Maintenance Required:	