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

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

September 21, 2015

Exemption No. 12938
Regulatory Docket No. FAA−2015−2301

Mr. Roger Selch
1551 Highland Road
Winter Park, FL 32789

Dear Mr. Selch:

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

By letter dated May 28, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. You requested to operate an unmanned aircraft system (UAS) to conduct aerial acquisitions 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 is a DJI Inspire 1.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that relief from 14 CFR part 21, *Certification procedures for products and parts,*

Subpart H—Airworthiness Certificates, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[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, Mr. Roger Selch 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.

Conditions and Limitations

In this grant of exemption, Mr. Roger Selch is hereafter referred to as the operator.

[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.

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 not permitted.

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

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

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

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

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The

operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

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

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

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

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

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

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

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs

(training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Sincerely,

/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
DOCKET OPERATIONS
WEST BUILDING GROUND FLOOR, ROOM W12-140
1200 NEW JERSEY AVENUE, SE., WASHINGTON, DC 20590

Regulatory Docket No. _____

IN THE MATTER OF THE PETITION FOR EXEMPTION OF:

CONTRACTED-INFRARED TECHNOLOGY, LLC

FOR AN EXEMPTION SEEKING RELIEF FROM THE REQUIREMENTS OF TITLE 14 OF THE CODE OF FEDERAL REGULATIONS SECTIONS 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), AND 91.417(a) & (b)

CONCERNING COMMERCIAL OPERATION OF THE DJI INSIRE 1 UNMANNED AIRCRAFT SYSTEM PURSUANT TO SECTION 333 OF THE FAA MODERNIZATION AND REFORM ACT OF 2012 (PUBLIC LAW 112-95)

Submitted May 28, 2015
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Winter Park, Florida 32789
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GLOSSARY OF ABBREVIATIONS

AGL	Above Ground Level
AOI	Area of Interest
ATC	Air Traffic Control
ATO	Air Traffic Organization
CAD	Computer Aided Design
C.F.R.	Code of Federal Regulations
COA	Certificate of Authorization
C-IT	Contracted-Infrared Technology, LLC
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
FPV	First Person View
GCS	Ground Control Station
GPS	Global Positioning System
IOC	Intelligent Orientation Control
LOL	Loss of Link
NAS	National Airspace System
NOTAM	Notice to Airman
PIC	Pilot In Command
RTH	Return To Home
Section 333	FAA Modernization and Reform Act of 2012 (FMRA) Section 333
SOP	Standard Operating Procedures
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
Ultra HD 4K	Ultra High Definition (3,840 by 2,160 resolution)
VFR	Visual Flight Rules
VLOS	Visual Line of Site

VMC	Visual Meteorological Conditions
VO	Visual Observer
VTOL	Vertical Takeoff and Landing

SUMMARY

Contracted-Infrared Technology, LLC seeks exemption from the requirements of 14 C.F.R §§ 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b), to operate an Unmanned Aircraft System pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA). This exemption will permit C-IT to operate an Unmanned Aircraft System (UAS) for the commercial purpose of conducting aerial acquisitions and research over certain areas of the United States.

INTRODUCTION AND INTERESTS OF THE PETITIONER

Contracted-Infrared Technology, LLC (hereinafter referred to as "C-IT") is a 9 year old company founded by Roger Selch, a USAF (20 years) veteran and pilot with both rotary and fixed wing experience as well as certified in Building Science and as a 3rd Level III (highest) Thermographer. His company is a well recognized company conducting ground and helicopter flight operations to collect aerial data and photographs for nearly a decade. C-IT excels in collecting aerial imagery from manned and recently unmanned aircraft to provide digital data for various clients and applications to develop building side and above roof images, real-estate, CAD maps and infrared images for government and also non-government buildings. These include many sites like the USAF Academy USAF base in Colorado Springs, the Veterans Administration Hospital in Bonham TX and Walt Disney World in Orlando Florida. Currently, C-IT is flying manned helicopters and planes to collect this data significantly interrupting Control Tower air routing traffic efforts. The UAS can do this at about 400 feet AGL and above buildings with significantly less time, risk and danger. C-IT can provide a safer NAS air space with less air travel interruption, less liability risk and efficient technology use for the commercial purpose to collect aerial data and research for other mostly government but also other clients and the community it serves.

As set forth in this petition, C-IT seeks to commercially operate it's UAS over certain areas of the United States for the purpose of conducting aerial acquisitions and research, continuing an established legacy that has always sought the highest standards of operations and safety.

BACKGROUND

Unmanned Aircraft System: DJI Inspire 1 UAS

C-IT seeks an exemption to operate the C-IT DJI Inspire 1 UAS for compensation or hire within the National Airspace System (NAS). The DJI Inspire 1 is a professional aerial 4K high definition real time remote and First Person View (FPV) filmmaking and photography ready to fly platform. It is a vertical takeoff and landing (VTOL) Unmanned Aircraft (UA) with Ground Control Station (GCS) software which includes the Intelligent Orientation Control (IOC) while under optimum conditions has a maximum communication transmission distance of 2Km (6562 feet). The IOC "mode" includes flight distance limits (including altitude and distance), Point of Interest (POI) GPS locations, Course Lock (CL) and Home Lock (HL) to better secure the public safety. Redundant systems include the barometric sensor and Vision Positioning System for safer altitude limits which includes a ground focused digit camera and dual sonar to provide the safest altitude for take-offs and landings. The DJI Inspire UA has a maximum gross takeoff weight of about 7.5 pounds, while having an in-flight diameter of about 17.2 x 17.8 x 11.9 inches, a maximum speed of 49 mph (43 knots) and about 18-22 minutes (depending on the battery model) flight time. The DJI Inspire 1 UA is equipped with four electric motor propellers driven by one Lithium Polymer battery.

The DJI Inspire 1 UA that will be operated by C-IT will be registered in accordance with 49 U.S.C. 44103, Registration of Aircraft, as well as 14 C.F.R Part 47, Aircraft Registration, and marked in accordance with 14 C.F.R. Part 45, Identification and Registration Marking.

BASIS FOR PETITION

Petitioner, C-IT pursuant to the provisions of the Federal Aviation Regulations (14 C.F.R. § 11.61) and the FAA Modernization and Reform Act of 2012, Section 333, entitled *Special Rules for Certain Unmanned Aircraft Systems*, hereby petitions the Administrator to operate the DJI Inspire 1 UAS in the NAS and for an exemption from the requirements of 14 C.F.R §§ 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b).

In consideration of the size, weight and speed, as well as the limited area of intended operation associated with the unmanned aircraft, C-IT's use of the DJI Inspire 1 UAS meets the conditions of the FMRA Section 333 and therefore, will not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H.

Accordingly, C-IT requests relief from Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b), as these sections set forth requirements for maintenance that only apply to aircraft with an airworthiness certificate.

C-IT submits that the requested relief is proper since an equivalent level of safety will be ensured. C-IT will use manufacturer trained technicians to perform maintenance, alterations, or preventive maintenance on the UAS using the methods, techniques, and practices prescribed in the manufacturer's maintenance manual. Furthermore, C-IT will document and maintain all maintenance records for the DJI Inspire 1 UAS.

Relief from certain requirements of Section 61.113(a) and (b), entitled *Private pilot* privileges and limitations: Pilot in command, is requested by C-IT to the extent necessary to allow a Pilot in Command (PIC) holding a private or higher level pilot certificate, and an airman medical certificate, and who has completed the DJI Inspire 1 UAS training and

currency requirements, to conduct the proposed UAS flight operations for compensation or hire. C-IT submits that the conditions and limitations set forth herein will ensure the safety of the NAS, as well as the safety of persons and property on the ground.

C-IT seeks relief from Section 91.7(a), entitled *Civil aircraft airworthines*s, because the DJI Inspire 1 UAS does not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. As such, C-IT submits that it will ensure that the DJI Inspire 1 UAS is in an airworthy condition prior to every flight, by determining that the UAS is in compliance with its type design pursuant to the DJI Inspire 1 User and Maintenance Manual, and that the aircraft is in a condition for safe flight.

C-IT also seeks an exemption from the requirements of Section 91.121, entitled *Altimeter Settings*, as the DJI Inspire 1 UA will not have a typical barometric altimeter onboard. However, as described in the Background Section, the IOS mode with altitude information from the DJI Inspire 1 UA will be provided to the PIC via Global Positioning System (GPS) and a radio communications telemetry data link, which downlinks from the UA to the PIC for active monitoring of the flight path. This altitude information, combined with C-IT's operation of the DJI Inspire 1 UA within visual line of sight, will ensure a level of safety equivalent to Section 91.121.

Additionally, C-IT seeks an exemption from the requirements of Section 91.151(b), entitled *Fuel requirements for flight in VFR conditions*. C-IT submits that safety will not be affected by operation of the DJI Inspire 1 UA during daylight hours under visual flight rules (VFR) and visual meteorological conditions (VMC), with enough battery power to fly for a total duration of 13 minutes and to fly after for at least five minutes (i.e., 27 percent battery power remaining). Optional replacement batteries extend these times. The DJI Inspire is also equipped to Return To Home (RTH) or to the PIC location with a one button command or for lost communications as well as audio and visual low battery warnings.

In accordance with 14 C.F.R. § 11.81, C-IT provides the following information in support of its petition for exemption:

A. Name And Address of The Petitioner. The name and address of the Petitioner is:

C-IT, Inc.
1551 Highland Road
Winter Park, FL 32789

The point of contact for this Petition & specific contact information is as follows:

Roger Selch
1551 Highland Road
Winter Park, FL 32789
Tel: 407-275-0360
Email: cit.fly@gmail.com

B. **The Specific Sections Of 14 C.F.R. From Which C-IT Seeks Exemptio**n.

1. C-IT Seeks Exemption From The Requirements Of Section 61.113(a) And (b).

Section 61.113, entitled *Private pilot privileges and limitations: Pilot in command*, subsections (a) and (b) prescribe the following, in relevant part:

(a) No person who holds a private pilot certificate may act as a pilot in command (PIC) of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as PIC of an aircraft.

(b) A private pilot may, for compensation or hire, act as PIC of an aircraft in connection with any business or employment if—

(1) The flight is only incidental to that business or employment; and

(2) The aircraft does not carry passengers or property for compensation or hire.

2. C-IT Seeks Exemption From The Requirements Of Section 91.7(a).

Section 91.7, entitled Civil aircraft airworthiness, subsection (a), states the following:

(a) No person may operate a civil aircraft unless it is in an airworthy condition.

3. C-IT Seeks Exemption From The Requirements Of Section 91.121.

Section 91.121, entitled Altimeter settings, subsection (a), states the following, in part:

(a) Each person operating an aircraft shall maintain the cruising altitude or flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating--

(1) Below 18,000 feet MSL, to--

(i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;

(ii) If there is no station within the area prescribed in paragraph (a)(1)(i) of this section, the current reported altimeter setting of an appropriate available station; or

(iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure.

4. C-IT Seeks Exemption From The Requirements Of Section 91.151(b).

Section 91.151, entitled Fuel requirements for flight in VFR conditions, subsection (b), states the following:

(b) No person may begin a flight in a rotorcraft 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, to fly after that for at least 20 minutes.

5. C-IT Seeks Exemption From The Requirement Of Section 91.405(a).

Section 91.405, entitled Maintenance required, subsection (a), states the following:

Each owner or operator of an aircraft—

(a) Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter[.]

6. C-IT Seeks Exemption From The Requirements Of Section 91.407(a)(1).

Section 91.407, entitled *Operation after maintenance, preventive maintenance, rebuilding, or alteration,* subsection (a)(1), states the following:

(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless--

(1) It has been approved for return to service by a person authorized under § 43.7 of this chapter[.]

7. C-IT Seeks Exemption From The Requirements Of Sections 91.409(a)(1) And 91.409(a)(2).

Section 91.409, entitled Inspections, subsection (a), states the following:

(a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had --

(1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by § 43.7 of this chapter; or

(2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

8. **C-IT Seeks Exemption From The Requirements Of Sections 91.417(a) And 91.417(b).**

Section 91.417, entitled Maintenance records, subsections (a) and (b), state the following:

(a) Except for work performed in accordance with §§ 91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:

(1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include--

(i) A description (or reference to data acceptable to the Administrator) of the work performed; and

(ii) The date of completion of the work performed; and

(iii) The signature, and certificate number of the person approving the aircraft for return to service.

(2) Records containing the following information:

(i) The total time in service of the airframe, each engine, each propeller, and each rotor.

(ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.

(iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis.

(iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.

(v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required.

(vi) Copies of the forms prescribed by § 43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances.

(b) The owner or operator shall retain the following records for the periods prescribed:

(1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.

(2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.

(3) A list of defects furnished to a registered owner or operator under § 43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.

C. The Extent Of Relief C-IT Seeks And The Reason C-IT Seeks The Relief.

1. Extent of Relief C-IT Seeks And The Reason C-IT Seeks Relief From Section 61.113(a) And (b).

Relief from Section 61.113(a) and (b) entitled *Private pilot privileges and limitations: Pilot in command*, is requested to the extent necessary to allow a PIC holding a private or higher level pilot certificate, a current and valid airman medical certificate, and who has completed the DJI Inspire 1 UAS or other training and currency requirements, to conduct the proposed UAS flight operations for compensation or hire.

This relief is requested since the limitations set forth in Section 61.113(a) and (b) state that a private pilot may, for compensation or hire, act as PIC of an aircraft in connection with any business or employment if - (1) The flight is only incidental to that business or employment; and (2) The aircraft does not carry passengers or property for compensation or hire.

As set forth more fully below, C-IT submits that an equivalent level of safety will be maintained because no PIC will be allowed to operate the DJI Inspire 1 UAS unless that PIC has demonstrated, through the DJI Inspire 1 UAS training and currency requirements, that the PIC is able to safely operate the DJI Inspire 1 UAS in a manner consistent with the operations specifications as described in this exemption, including evasive and emergency maneuvers, as well as maintaining appropriate distances from people, vessels, vehicles and structures.

Further, C-IT submits that all flights of the DJI Inspire 1 UAS conducted by the PIC pursuant to the grant of this Petition - (1) will be incidental to C-IT's business; and (2) will not carry passengers or property for compensation or hire.

2. Extent of Relief C-IT Seeks And The Reason C-IT Seeks Relief From Section 91.7(a).

Relief from Section 91.7(a) entitled *Civil aircraft airworthiness*, is requested to the extent required to allow C-IT to determine that the DJI Inspire 1 UAS is in an airworthy condition prior to every flight by ensuring that the UAS is in compliance with the DJI Inspire 1 User Manual, and that the aircraft is in a condition for safe flight.

C-IT seeks the requested relief because the DJI Inspire 1 UAS does not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. Therefore, prior to every flight, C-IT will ensure that the DJI Inspire 1 UAS is in an airworthy condition based upon a visual inspection, in order to determine that the UA and its components are in compliance with its type design and operating documents (i.e., the DJI Inspire 1 User Manual, GPS, and IOC software), and that the aircraft can be operated safely pursuant to the conditions and limitations stated herein.

3. Extent of Relief C-IT Seeks And The Reason C-IT Seeks Relief From Section 91.121.

Relief from Section 91.121, entitled *Altimeter settings*, may be required to allow flight operations of the DJI Inspire 1 UAS, which utilizes a barometric pressure sensor, GPS equipment, and a radio communications telemetry data link to downlink altitude information from the UA to the PIC. C-IT seeks the requested relief because the DJI Inspire 1 UA does not utilize a typical barometric altimeter onboard that may be set as contemplated by Section 91.121. As more fully set forth below, an equivalent level of safety will be maintained since the DJI Inspire 1 UA is equipped with a barometric pressure sensor and GPS equipment, which automatically ensures that a ground level pressure setting will be established prior to each flight, and provides the PIC with altitude information of the UA on the iPad or iPhone using the latest Apple iOS Operating system.

4. Extent Of Relief C-IT Seeks And The Reason C-IT Seeks Relief From Section 91.151(b).

Relief from Section 91.151(b) entitled *Fuel requirements for flight in VFR conditions*, is requested to the extent required to allow flights of the battery powered DJI Inspire 1 UA during daylight hours in visual meteorological conditions (VMC), under visual flight rules (VFR), for a total duration of 13 minutes and to fly after for at least five minutes (i.e., 27 percent battery power remaining). Optional replacement batteries extend these times. The DJI Inspire is also equipped to Return To Home (RTH) or to the PIC location with a one button command or for lost communications as well as audio and visual low battery warnings. C-IT seeks the requested relief because without an exemption from Section 91.151(b), the flight time duration of the battery powered DJI Inspire 1 UA will severely constrain the practicality of any aerial acquisition and research flight operations that C-IT proposes to conduct pursuant to this Petition.

Significantly, as set forth below, the technical specifications of the DJI Inspire 1 UAS, the DJI Inspire 1 User Manual, and C-IT's proposed operating limitations, ensure that C-IT will safely operate the battery powered DJI Inspire 1 UA during daylight hours under VFR, with enough battery power to fly for a total duration of 13 minutes to the first point of intended data gathering and, assuming normal cruising speed, to fly after that for at least five minutes (i.e., 27 percent battery power remaining).

5. Extent Of Relief C-IT Seeks And The Reason C-IT Seeks Relief From Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), And 91.417(a) & (b).

Since Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) only apply to aircraft with an airworthiness certificate, C-IT requests relief from these Sections because the DJI Inspire 1 UAS does not require an airworthiness certificate. As set forth more fully below, the DJI Inspire 1 UAS meets the conditions of Section 333 of the FMRA for operation without an airworthiness certificate. Accordingly, C-IT will use manufacturer trained technicians to perform maintenance, alterations, or preventive maintenance on the UAS using the methods, techniques, and practices prescribed in the

manufacturer's maintenance manual. Furthermore, C-IT will document and maintain all maintenance records for the DJI Inspire 1 UAS.

D. The Reasons Why Granting C-IT's Request For Exemption Would Be In The Public Interest; That Is, How It Would Benefit The Public As A Whole.

Granting the present Petition will further the public interest by allowing C-IT to safely, efficiently, and economically perform aerial acquisitions and research over areas of the United States, commercially, in support of government and non-government entities, real estate, agriculture, and to conduct research and scientific studies. Additionally, use of the DJI Inspire 1 UAS will decrease NAS congestion, avoid commercial flight rerouting for landing and take off delays, reduce liability risks, reduce pollution, increase safety and provide significant benefits to the economy. Notably, the benefits of C-IT's proposed operation of the DJI Inspire 1 UAS will be realized without implicating any privacy issues.

1. The Public Will Benefit From The Aerial Acquisition And Research Performed.

C-IT submits this Petition to commercially operate the DJI Inspire 1 UAS and perform aerial acquisition and research throughout areas of the United States, in support of government (and non-government like health care and department stores) entities, real-estate to include CAD mapping, support for building and infrastructure management assessments. The DJI Inspire 1 UAS will provide safe, efficient, and economical aerial acquisition and research to further each of these fields, all of which are critical to the well being of the general public.

The specific operations that C-IT will perform with the DJI Inspire 1 UAS demonstrate how the requested exemption will directly benefit the above-referenced industries and the general public as a whole.

Realestate

In the field of Realestate, C-IT's operation of the DJI Inspire 1 UAS will be used to assess and improve land-use design and marketing, sales and CAD topography analysis. Specifically, C-IT's ability to use the DJI Inspire 1 UAS to perform high definition image and video data capture flight operations via the GPS IOC will positively identify buildings for anomalies using my Building Science certification, CAD topography mapping and infrared comparison analysis and reporting. This data establishes the required baseline images necessary to access follow-on intrusive studies and as further employment for the public community. This ability to accurately re-create the exact same GPS derived flight patterns will provide invaluable data without the undue risk that I currently use with conventional manned aircraft. The C-IT DJI Inspire 1 UAS technology and automation make this effort faster with less people involved, resulting in less risk for people, equipment and land (environmental, agricultural and animals) as well as a safer NAS for the public.

Building Infrastructure

In the field of Building Science, C-IT's operation of the DJI Inspire 1 UAS will be used to assess and improve building design, construction and repair from weather induced damage like water intrusions as well as to improving building energy conservation. Specifically, C-IT's ability to use the DJI Inspire 1 UAS to perform high definition image and video data capture flight operations via the GPS IOC will positively identify building anomalies for building science analysis, research and repair. This effort significantly reduces the public's cost to identify specific window, wall and roof repairs instead of replacing all related construction, only the specific damaged area will need repair. Identifying water, wind (and other) damage from the outside is paramount to identifying the source to understand the Building Science repair options. This data establishes the required baseline images to access further employment to access follow-on intrusive studies and support infrared comparison analysis, energy surveys and reporting. This aerial study in non-intrusive and my reports lead to employment for intrusive (core-sampling) clients for the public community. This ability to accurately re-create the exact same GPS derived flight patterns will provide invaluable data without the undue risk I currently use flying conventional manned aircraft.

The C-IT DJI Inspire 1 UAS technology and automation make this effort faster with less people involved, resulting in less risk for people, equipment and land (environmental, agricultural and animals) as well as a safer NAS for the public.

2. The Public Will Benefit From Decreased Congestion Of The NAS.

The DJI Inspire 1 UAS is battery powered and serves as a safe, efficient, and economical alternative to the manned aircraft traditionally utilized to obtain aerial imagery. By reducing the amount of manned aircraft needed to perform aerial acquisitions, an exemption allowing the use of a DJI Inspire 1 UAS would reduce the amount of manned aircraft in the NAS, reduce noise and air pollution, as well as increase the public safety of life and property in the air and on the ground.

Furthermore, this will reducing the number of manned aircraft, it's congestion and air traffic controllers time reducing aerospace and public liability and risk. The DJI Inspire 1 UAS does not require an airport to takeoff or land. Likewise, a reduction of manned aircraft conducting aerial survey missions would result in fewer aircraft that must be handled by air traffic control during the ground, takeoff, departure, arrival, and landing phases of flight operations.

3. The Public Will Benefit From The Safety And Efficiency Of The DJI Inspire 1 UAS.

Conducting aerial acquisitions with the DJI Inspire 1 UAS, instead of manned aircraft, will greatly benefit the public by drastically reducing the levels of air and noise pollution generated during traditional aerial survey flight operations. By using battery power and electric motors, the DJI Inspire 1 UAS produces no air pollution, and is the most viable environmentally conscious alternative to the cabin class, internal combustion engine helicopter or a plane that is typically utilized for these aerial acquisitions, while burning gallons of leaded aviation fuel. The DJI Inspire 1 UA, while reducing the carbon footprint of aerial acquisitions, also reduces noise pollution (as I often get low altitude helicopter noise

complaints from college students), as the UA is propelled by battery powered electric motors, rather than an internal combustion engine.

By using the DJI Inspire 1 UAS to perform aerial acquisitions, the substantial risk to life and property in the air and on the ground, which is usually associated with traditional manned aircraft flight operations, will be substantially reduced or completely eliminated. Aside from the lack of flight crew members located onboard the aircraft, the DJI Inspire 1 UA (weighing approximately 7.5 pounds at its maximum gross weight with a diameter of 23 inches, and with no fuel on board), has less physical potential for collateral damage to life and property on the ground, and in the air, compared to the manned aircraft that typically conduct aerial acquisitions (weighing up to 2,500 pounds with a rotor diameter or wingspan up to 33 feet, a length of 33 feet, and a fuel capacity up to 75 gallons).

4. Performing Aerial Acquisition Operations With The DJI Inspire 1 UAS Will Benefit The Economy.

In addition to being safe and efficient, the DJI Inspire 1 UAS is also an economical alternative to using manned aircraft to conduct aerial acquisitions. As such, operation of the DJI Inspire 1 UAS will allow United States based companies, like C-IT, to remain competitive and contribute to growth of the U.S. economy. Specifically, with the rising cost of aviation fuel and the Environmental Protection Agency ("EPA") regulatory actions phasing out leaded aviation fuels, U.S. owned and operated companies must adopt new and alternative technology in order to remain competitive. Operating the battery powered DJI Inspire 1 UAS is one such technology that not only allows companies greater operational flexibility compared to manned aircraft, but provides such flexibility without the high operational cost of a traditional manned aircraft and support personal.

By operating the DJI Inspire 1 UAS, companies such as C-IT can remain competitive and profitable, and therefore, provide greater job stability to employees and contractors, which will ultimately contribute to growth of the U.S. economy. Improved financial performance of U.S. companies, through commercial use of the DJI Inspire 1 UAS, provides a stable workforce that increases consumer spending; improves local, state, and federal tax revenues;

and allows companies to invest in research and development in order to remain competitive both in the United States and abroad.

5. There Are No Privacy Issues.

Similar to the manned aerial acquisition flight operations that have been conducted for decades, C-IT's proposed operation of the DJI Inspire 1 UAS will not implicate any privacy issues. Specifically, the DJI Inspire 1 UAS will be operated only in accordance with the Federal Aviation Regulations, including the minimum altitude requirements of 14 C.F.R. § 91.119. Most significantly, the DJI Inspire 1 UA will not be operated closer than 100 feet to any person, vessel, vehicle, or structure, which is not directly involved in the operation to collect data and images mostly around and directly above buildings.

E. The Reasons Why Granting The Exemption Would Not Adversely Affect Safety, Or How The Exemption Would Provide A Level Of Safety At Least Equal To That Provided By The Rule From Which C-IT Seeks Exemption.

1. Reasons Why The DJI Inspire 1 UAS Meets The Conditions Of The FAA Modernization and Reform Act of 2012 (FMRA) Section 333.

In consideration of the size, weight, speed, and limited geographical areas associated with the unmanned aircraft and its proposed flight operations, C-IT's operation of the DJI Inspire 1 UAS meets the conditions of FMRA Section 333, and will not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H.

Section 333 provides authority for a UAS to operate without airworthiness certification and sets forth requirements for considering whether a UAS will create a hazard to users of the NAS or the public, or otherwise pose a threat to national security. Specifically, FMRA Section 333 states the following, in part:

(a) In General.--Notwithstanding any other requirement of this subtitle, and not later than 180 days after the date of enactment of this Act, the Secretary of Transportation shall

determine if certain unmanned aircraft systems may operate safely in the national airspace system before completion of the plan and rule making required by section 332 of this Act or the guidance required by section 334 of this Act.

(b) Assessment of Unmanned Aircraft Systems.--In making the determination under subsection (a), the Secretary shall determine, at a minimum--

(1) which types of unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security; and

(2) whether a certificate of waiver, certificate of authorization, or airworthiness certification under section 44704 of title 49, United States Code, is required for the operation of unmanned aircraft systems identified under paragraph (1).

(c) Requirements for Safe Operation.--If the Secretary determines under this section that certain unmanned aircraft systems may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft systems in the national airspace system.

In seeking this exemption, C-IT submits that the DJI Inspire 1 UAS can operate safely in the NAS pursuant to FMRA Section 333, as demonstrated by: (a) the characteristics of the DJI Inspire 1 UAS; (b) the pilot certification requirement; and (c) the specific operating limitations.

2. The Specifications Of The DJI Inspire 1 UAS Demonstrate Its Safe Characteristics.

a. The DJI Inspire 1 UAS does not create a hazard to users of the NAS or the public, or otherwise pose a threat to national security considering its size, weight, speed, and operational capability.

i. Technical Specifications Of The DJI Inspire 1 UAS.

The technical specifications of the DJI Inspire 1 UAS are set forth at pages 57-60 of the DJI Inspire 1 User Manual (dated 2014.12), attached hereto as Exhibit A.

ii. The DJI Inspire 1 UAS Autonomous Flight And Navigation Modes Enable The UAS To Remain Within A Defined Operational Area.

The DJI Inspire 1 UAS may be operated in either the semi-autonomous or fully-autonomous flight modes. In its basic configuration, the DJI Inspire 1 UAS autonomous flight mode features include a GPS Position and Altitude Hold, and a Return To Home (RTH) function. While utilizing the GPS Position and Altitude Hold feature, the UA will automatically hold its position, altitude and heading. The RTH function commands a direct route to the original point of launch, where the UA will perform an autonomous landing. This UAV has three modes; a Smart RTH by depressing one button, a Low Battery RTH where the aircraft will automatically return to home if no action is taken after a 10 second countdown and Failsafe RTH when Aircraft will return to home immediately after communications is lost for 3 seconds. A complete description of the GPS Position and Hold function of the DJI Inspire 1 UAS is provided at pages 27-28 of the DJI Inspire 1 User Manual, referenced in an internet link hereto as Exhibit A.

iii. The DJI Inspire 1 UAS Is Designed For Automatic Return To Home Or Auto-Land In The Event Of Loss Of The Control Link Or Navigation.

According to the manufacturer of the DJI Inspire 1 UAS, in the unlikely event of a low battery condition or loss of the control link, the UA will automatically land or return to the point of launch. An altitude threshold can also be programmed, so that the UA will not exceed a preset altitude.

Through the GCS, the PIC may select whether the UA will return to the point of launch or automatically land in the unlikely event of the loss of the control link. If the automatic landing feature is selected, the UA will begin a slow, safe, automatic descent to landing if the

control link is lost. Through feedback via on-board inertia sensors, the UA motors are turned off and the rotors stop spinning, when the UA touches down upon landing.

Upon a loss of the control link, if the return to point of launch is selected, the UA will begin to return to the point of launch, in a direct line. Once the UA returns to the point of launch, it will hover to begin the manual landing process, or, if the control link has not been reestablished, the UA will automatically land. If the control link is reestablished during a loss of control link situation, the PIC may begin to manually control the UA.

Additionally, the PIC will receive audible and visual alerts in the event of degradation of the GPS signal or control link. If weak GPS satellites are within range of the DJI Inspire 1 UAS, the PIC will receive an audible and visual "Low or No GPS Warning", which will also disable the GPS Position and Hold feature, as well as the RTH feature. Likewise, the DJI Inspire 1 UAS will provide an audible and visual warning to the PIC at the GCS if the control link is lost, while the UA enters failsafe mode and either begins to return to the point of launch, or automatically lands, depending upon the PIC's previous settings. Once the control link is reestablished, the PIC will be notified through audible and visual alerts on the remote controller and the iOS device. Flight Mode P-GPS is GPS and Vision Positioning are available in the aircraft is using GPS for positioning.

A description of the fail-safe systems of the DJI Inspire 1 UAS is referenced hereto as Exhibit B, pager 45-48.

iv. The DJI Inspire 1 GCS And Its Operation.

A complete description of the operation and specifications of the DJI Inspire 1 UAS and flight control software is provided in the DJI Inspire 1 User Manual. A copy of the DJI Inspire 1 User Manual is referenced hereto as Exhibit B, Chapter titled, Flight, page 44-51.

b. Flight Operations Of The DJI Inspire 1 UAS Are Limited To The Line Of Sight Of A Certificated Pilot in Command FPV with A Safety Observer.

C-IT, LLC will only utilize certificated pilots who possess a valid and current airman medical certificate to act as a pilot in command (PIC) of the DJI Inspire 1 UAS. Additionally, during FPV, a safety observer will assist all pilots.

c. Flights Of The DJI Inspire 1 Will Be Conducted Pursuant To Specific Operating Limitations.

In seeking this exemption, C-IT proposes to commercially operate the DJI Inspire 1 for the special purpose of conducting aerial acquisitions over areas of United States, pursuant to the following specific operating limitations:

1) Operations authorized by this grant of exemption are limited to the following aircraft described in the operator's manual which is a quad rotor aircraft weighing less than 8 pounds for take-off weight for the DJI Inspire 1 Unmanned Aircraft System. Proposed operations of any other aircraft will require a new petition or a petition to amend this grant.

2) The UA may not be flown at an indicated airspeed exceeding 43 knots.

3) The UA must be operated at an altitude reported to ATC for the coordinated set time above ground level (AGL) or building, as indicated by the procedures specified in the operator's manual and reported to ATC in feet AGL.

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

5) All FPV operations must utilize a visual observer (VO). The VO may be used to satisfy the VLOS requirement, as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight.

6) The operator's manual and this grant of exemption must be maintained and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operator's manual, the conditions and limitations herein take precedence and must be followed. Otherwise, the

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

7) Prior to each flight the PIC must inspect the UAS to ensure it is in a condition for safe flight. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight. The Ground Control Station must be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

8) Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics (e.g. replacement of a flight critical component), must undergo a functional test flight in accordance with the operator's manual. The PIC who conducts the functional test flight must make an entry in the UAS aircraft records of the flight. The requirements and procedures for a functional test flight and aircraft record entry must be added to the operator's manual.

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

10) The operator must follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements, with particular attention to flight critical components that may not be addressed in the manufacturer's manuals.

11) C-IT must carry out their maintenance, inspections, and record keeping requirements in accordance with the operator's manual. Maintenance, inspection, and

alterations must be noted in the aircraft logbook, including total flight hours, description of work accomplished, and the signature of the authorized UAS technician or PIC returning the UAS to service.

12) C-IT UAS technicians must receive and document training referenced in the operator's manual.

13) Each UAS operated under this exemption must comply with all manufacturer System and Safety Bulletins.

14) C-IT maintenance personnel must make a record entry in the UAS logbook or equivalent document of the corrective action taken against discrepancies discovered between inspections.

15) The PIC must possess at least a private pilot certificate and a third-class airman medical certificate.

16) The operator may not permit any PIC to operate unless that PIC has demonstrated, through the training and currency requirements set forth in the operator's manual, that the PIC is able 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 people, vessels, vehicles and structures.

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

18) The UA may not operate without ATC coordination within 5 nautical miles of the airport reference point as denoted on a current FAA-published aeronautical chart.

20) 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.

21) 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 and land, or be recovered in accordance with the operator's manual.

22) The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual.

23) The PIC is prohibited from beginning a UAS flight unless (considering wind and forecast weather conditions and assuming normal cruising speed) there is enough power to fly to the first point of intended landing prior to utilizing battery reserve power.

24) The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption. This COA will also require the operator to request issuance of a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation unless COA authority approves. Often the Prog Chart weather data is not available unlit 48 hours in advance.

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

26) Before conducting operations, the radio frequency spectrum used for operation and control of the UA must comply with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.

27) The documents required pursuant to 14 C.F.R. 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

28) The UA must remain clear and yield the right of way to all other manned aviation operations and activities at all times.

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

30) The UA may not be operated over congested or densely populated areas. Ultimately, it is the PIC's responsibility to maintain the minimum safe altitudes required by § 91.119.

31) Flight operations must be conducted at least 100 feet from all nonparticipating persons (persons other than the PIC or VO), vessels, vehicles, and structures unless:

a. Barriers or structures are present that sufficiently protect nonparticipating persons from 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 100 feet of the UA, flight operations must cease immediately and/or;

b. The aircraft is operated near vessels, vehicles or structures where the land owner/ controller has granted permission and the PIC has made a safety assessment of the risk of operating closer to those objects and;

c. Operations near the PIC or VO do not present an undue hazard to the PIC or VO, per § 91.119(a).

32) All operations shall be conducted over private or controlled-access property with permission from the land owner/controller or authorized representative. Permission from land owner/controller or authorized representative will be obtained prior to the beginning of every flight.

33) 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.

3. Reasons Why An Exemption From The Requirements Of Section 61.113(a) And (b) Would Not Adversely Affect Safety.

C-IT submits that the equivalent level of safety established by Section 61.113(a) and (b) will be maintained because no PIC will be allowed to operate the DJI Inspire 1 UAS unless that PIC has demonstrated, through the DJI Inspire 1 UAS training and currency requirements, that the PIC is able to safely operate the DJI Inspire 1 UAS in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

Considering C-IT's proposed area of operations, and the operating limitations set forth-above; the parallel nature of private pilot aeronautical knowledge requirements to those

of commercial pilot requirements (See Exemption No. 11062); and the airmanship skills necessary to safely operate the DJI Inspire 1 UAS, C-IT submits that the additional manned airmanship experience of a commercially certificated pilot would not correlate to the airmanship skills necessary for C-IT's specific proposed flight operations.

Additionally, the FAA has previously granted relief from Section 61.113(a) and (b) specific to UAS, in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11110, 11112, 11136, 11138).

As in Exemption No. 11109, C-IT will not allow any PIC to operate the DJI Inspire 1 UAS unless that PIC has demonstrated through the DJI Inspire 1 UAS training and currency requirements, that the PIC is able to safely operate the DJI Inspire 1 UAS in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

A complete description of the DJI Inspire 1 UAS Training and Qualification requirements is set forth in Exhibit D. Exhibit D contains proprietary information and is to be held in a separate file pursuant to 14 C.F.R. § 11.35(b). Exhibits to this Petition contain proprietary information, and in accordance with 14 C.F.R. § 11.35(b), are not to be included in the Federal Docket Management System (FDMS).

4. Reasons Why An Exemption From The Requirements Of Section 91.7(a) Would Not Adversely Affect Safety.

The equivalent level of safety established by Section 91.7(a) will be maintained because prior to every flight, C-IT will ensure that the DJI Inspire 1 UAS is in an airworthy condition based upon the aircraft's conformity to its type design, including compliance with its operating documents (i.e., the DJI Inspire 1 User Manual and the DJI Inspire System Maintenance Manual), and that the UA is in a condition for safe flight, as stated in the conditions and limitations contained herein.

5. Reasons Why An Exemption From The Requirements Of Section 91.121 Would Not Adversely Affect Safety.

The equivalent level of safety established by Section 91.121 will be maintained because the altitude information of the DJI Inspire 1 UA will be provided to the PIC via GPS equipment and a radio communications telemetry data link, which downlinks from the UA to the PIC remote controller for active monitoring of the flight path and altitude. This altitude information, combined with C-IT's operation of the DJI Inspire 1 UA within visual line of sight will ensure a level of safety equivalent to Section 91.121. The altitude information will be generated by GPS equipment installed onboard the aircraft. Prior to each flight, a calibration zero altitude initiation point is automatically established by the UAS.

The FAA has previously granted relief from Section 91.121 specific to UAS, in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11112, 11136, 11138).

6. Reasons Why An Exemption From The Requirements Of Section 91.151(b) Would Not Adversely Affect Safety.

A grant of this exemption would ensure an equivalent level of safety established by 14 C.F.R. Section 91.151(b) as a result of (1) the technical specifications of the DJI Inspire 1 UAS; (2) the limitations on the proposed flight operations; and (3) the location of the proposed flight operations. Accordingly, C-IT will ensure that it will safely operate the battery powered DJI Inspire 1 UA during daylight hours in VMC conditions, under VFR, with enough battery power to fly for a total duration of at least 13 minutes to the first point of intended data collection and, assuming normal cruising speed, to fly after that for at least five minutes (i.e., 27 percent battery power remaining).

C-IT hereby submits that the technical specifications of the DJI Inspire 1 UAS; the limitations on the proposed flight operations; and the location of the proposed operations, will ensure an equivalent level of safety established by 14 C.F.R. Section 91.151(b). Furthermore, an equivalent level of safety will be ensured as the DJI Inspire 1 UAS provides audible and visual warnings to the PIC when the UA reaches Low Warning (20 percent) and Critical Warning (10 percent) of battery power remaining.

Significantly, previous exemptions granted by the FAA concerning Section 91.151 establish that safety is not adversely affected when the technical characteristics and operating

limitations of the UAS are considered. Relief has been granted for manned aircraft to operate at less than the minimums prescribed in Section 91.151, including Exemption Nos. 2689, 5745, and 10650. Moreover, the FAA has previously granted relief from Section 91.151 specific to UAS, in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 8811, 10808, 10673, 11042, 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11110, 11136, 11138).

7. Reasons Why An Exemption From The Requirements Of Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), And 91.417(a) & (b) Would Not Adversely Affect Safety.

In seeking this exemption, C-IT submits that an equivalent level of safety with regard to the regulatory maintenance and alteration requirements established by Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) will be met because C-IT will use manufacturer trained technicians to perform maintenance, alterations, or preventive maintenance on the UAS using the methods, techniques, and practices prescribed in the manufacturer's maintenance manual. Furthermore, C-IT will document and maintain all maintenance records for the DJI Inspire 1 UAS.

Since the DJI Inspire 1 UAS will be inspected as prescribed by the manufacturer's maintenance manual, C-IT will maintain the equivalent level of safety established by Sections 91.405(a), 91.409(a)(1), and 91.409(a)(2). The DJI Inspire System Maintenance Manual sets forth airworthiness requirements for the UA, including preflight inspections, post flight inspections and at 500 electric motor flight hours.

Likewise, the exemption sought will not adversely affect safety because C-IT will use manufacturer trained technicians to perform maintenance, alterations or preventive maintenance on the UAS using the methods, techniques, and practices prescribed by the manufacturer's maintenance manual. The DJI Inspire System Maintenance Manual details procedures for inspection, firmware upgrades, motor testing, and motor replacement. A complete description of the DJI Inspire 1 UAS maintenance requirements is set forth in the

DJI Inspire System Maintenance Manual, attached hereto as Exhibit B. Exhibit B contains proprietary information and is to be held in a separate file pursuant to 14 C.F.R. § 11.35(b).

Furthermore, the exemption sought would maintain an equivalent level of safety established by Sections 91.407, 91.417(a) and 91.417(b), because all maintenance of the DJI Inspire 1 UAS will be performed by manufacturer trained technicians, which will document and maintain maintenance records for the UAS.

Significantly, previous exemptions granted by the FAA concerning the DJI Inspire 1 UAS and Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) establish that safety is not adversely affected when the technical characteristics and operating limitations of the UAS are considered.

In consideration of C-IT's proposed operating limitations, the DJI Inspire 1 User Manual, and the technical aspects of the DJI Inspire 1 UAS, C-IT submits that safety will not be adversely affected by granting exemption from 14 C.F.R. Sections 91.405(a), 91.407(a)(1) and (a)(2), 91.409(a)(2), and 91.417(a) and (b). The FAA has previously granted relief specific to UAS in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11110, 11112, 11136, 11138).

8. The FAA May Prescribe Any Other Conditions For Safe Operation.

In accordance with Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA) and 14 C.F.R. § 21.16 entitled Special Conditions, C-IT requests that the FAA prescribe special conditions for the intended operation of the DJI Inspire 1 UAS, which contain such safety standards that the Administrator finds necessary to establish a level of safety equivalent to that established by 14 C.F.R. Part 21, Subpart H, and 14 C.F.R §§ 61.113(a) & (b), 91.7 (a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b).

Such special conditions will permit C-IT's safe operation of the UA for the limited purpose of conducting aerial acquisitions over certain areas of the United States for compensation or hire. FMRA Section 333 sets forth the requirements for considering

whether a UAS will create a hazard to users of the NAS or the public, or otherwise pose a threat to national security; and further, provides the authority for such UAS to operate without airworthiness certification in accordance with any requirements that must be established for the safe operation of the UAS in the NAS.

Likewise, the Administrator may prescribe special conditions pursuant to 14 C.F.R. § 21.16, for operation of the DJI Inspire 1 UAS, since the airworthiness regulations of 14 C.F.R. Part 21 do not contain adequate or appropriate safety standards, due to the novel or unusual design features of the aircraft. Section 21.16, entitled Special Conditions, states the following:

> If the FAA finds that the airworthiness regulations of this subchapter do not contain adequate or appropriate safety standards for an aircraft, aircraft engine, or propeller because of a novel or unusual design feature of the aircraft, aircraft engine or propeller, he prescribes special conditions and amendments thereto for the product. The special conditions are issued in accordance with Part 11 of this chapter and contain such safety standards for the aircraft, aircraft engine or propeller as the FAA finds necessary to establish a level of safety equivalent to that established in the regulations.

See 14 C.F.R. § 21.16.

Therefore, in accordance with FMRA Section 333 and 14 C.F.R. § 21.16, the FAA may prescribe special conditions for C-IT's intended operation of the DJI Inspire 1 UAS, which contain such safety standards that the Administrator finds necessary to establish a level of safety equivalent to that established by 14 C.F.R. Part 21, Subpart H, and 14 C.F.R Sections 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b).

F. A Summary That Can Be Published In The Federal Register, stating: The Rules From Which C-IT Seeks Exemption:

C-IT, Inc. seeks exemption from the requirements of 14 C.F.R Sections 61.113(a)&(b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b).

A Brief Description Of The Nature Of The Exemption C-IT Seeks:

This exemption will permit C-IT, Inc. to commercially operate an Unmanned Aircraft System (UAS) for the purpose of conducting aerial acquisitions and research over certain areas of the United States.

G. Any Additional Information, Views, Or Arguments Available To Support C-IT's Request.

This Petition is made pursuant to the FAA Modernization and Reform Act of 2012 (FMRA) Section 333, which directs the Secretary of Transportation to determine if certain UAS may operate safely in the NAS. As such, C-IT's request for exemption may be granted pursuant to the authority of FMRA Section 333 and 14 C.F.R. Part 11, as set forth above. FMRA Section 333 sets forth the requirements for considering whether a UAS will create a hazard to users of the NAS or the public, or otherwise pose a threat to national security; and further, provides the authority for such UAS to operate without airworthiness certification. As discussed in detail above, C-IT will operate the DJI Inspire 1 UAS safely in the NAS, without creating a hazard to users of the NAS, or the public, or otherwise pose a threat to national security.

CONCLUSION

As set forth herein, C-IT seeks an exemption pursuant to 14 C.F.R. § 11.61 and Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), which will permit safe operation of the DJI Inspire 1 UAS commercially, without an airworthiness certificate, for the limited purpose of conducting aerial acquisitions over certain areas of the United States for compensation or hire. By granting this Petition, the FAA Administrator will be fulfilling the Congressional mandate of the FAA Modernization and Reform Act of 2012, while also

advancing the interests of the public, by allowing C-IT to safely, efficiently, and economically operate the DJI Inspire 1 UAS commercially within the NAS.

WHEREFORE, in accordance with the Federal Aviation Regulations and the FAA Modernization and Reform Act of 2012, Section 333, C-IT respectfully requests that the Administrator grant this Petition for an exemption from the requirements of 14 C.F.R Sections 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b), and permit C-IT to operate the DJI Inspire 1 UAS commercially for the purpose of conducting aerial acquisitions and research over certain areas of the United States.

Dated: May 28, 2015

Respectfully submitted,

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