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

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

June 9, 2015

Exemption No. 11791
Regulatory Docket No. FAA–2015–1013

Mr. Thomas A. Laymon
CEO
Laymon International LLC
21143 Hawthorne Boulevard #418
Torrance, CA 90503

Dear Mr. Laymon:

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 6, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Laymon International LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial data collection, photogrammetry of mining operations and real properties, and video documentation of exploratory expeditions.

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. However, the FAA received two comments in support of the petition made to the docket.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Inspire 1.

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

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. 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, Laymon International LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a)

[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.

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, Laymon International LLC is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Inspire 1 Model T600 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

Laymon International LLC

310-463-1259
21143 Hawthorne Blvd. #418
Torrance, California 90503

April 6, 2015

U. S. Department of Transportation
Docket Operations, M-30
1200 New Jersey Avenue, SE., Room W12-140
West Building Ground Floor
Washington D.C. 20590-0001

Re: Laymon International LLC request for sUAS airworthiness Exemption under Section 333 of the FAA Reform and Re-modernization Act of 2012 and Part II of the Federal Aviation Regulations from 14 CFR 21(h); 14 CFR 43.7; CFR 43.11; 14 CFR 45.11; 14 CFR 45.21; 14 CFR 45.23; 14 CFR 45.25; 14 CFR 45.27; 14 CFR 45.29; 14 CFR 47.3(b)(2); 14 CFR 47.31(c); 14 CFR 61.113; 14 CFR 91.7(a); 14 CFR 91.9(b)(c); 14 CFR 91.103(b)(2); 14 CFR 91.105; 14 CFR 91.109; 14 CFR 91.119(b)(c); 14 CFR 91.121; 14 CFR 91.151; 14 CFR 91.203(a) and (b); 14 CFR 91.215; 14 CFR 91.405(a)(d); 14 CFR 91.407; 14 CFR 91.409; and 14 CFR 91.417

Dear Sir or Madam:

In advance of the small UAS rule, Laymon International LLC hereby applies for an exemption from the listed Federal Aviation Regulations pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 in order to safely operate a small unmanned aircraft system (sUAS) for the purposes of aerial data collection, photogrammetry of mining operations and real properties, as well as video documentation of exploratory expeditions into remote areas of the western United States. We believe we can best serve both the public interest and safety by use of this new technology while at the same time minimizing the impact to the ecosystems we work in.

If we can provide any additional information to assist you in reviewing this petition, please feel free to contact us at 310-463-1259 or via email at thomas_laymon@laymonInternational.com.

Sincerely yours,

Laymon International LLC

Thomas A. Laymon, CEO

Laymon International LLC

Airworthiness Exemption Petition

Supporting Information

April 6, 2015

Exploration, Mining and Minerals
Import/Export

Contents

3 Special Exemption Requests Continued…

3.12	14 CFR 61.113	Private Pilot Privileges and Limitations: Pilot in Command	11
3.13	14 CFR 91.7(a)	Civil aircraft airworthiness	12
3.14	14 CFR 91.9(b)(c)	Civil aircraft flight manual, markings, and placard requirements	12
3.15	14 CFR 91.103(b)(2)	Preflight action	12
3.16	14 CFR 91.105	Flight crew members at stations	12
3.17	14 CFR 91.109	Flight instructions, Simulated instrument flight and certain flight tests	12
3.18	14 CFR 91.119(b)(c)	Minimum safe altitudes: General	12
3.19	14 CFR 91.121	Altimeter readings	13
3.20	14 CFR 91.151	Fuel requirements for flight in VFR conditions	13
3.21	14 CFR 91.203(a)(b)	Civil aircraft: Certification required	13
3.22	14 CFR 91.215	ATC Transponder and Altitude Reporting Equipment and Use	13
3.23	14 CFR 91.405(a)(d)	Maintenance Required	13
3.24	14 CFR 91.407	Operation after maintenance, preventive maintenance, rebuilding, or alteration	13
3.25	14 CFR 91.409	Inspections	14
3.26	14 CFR 91.417	Maintenance records	14

List of Attachments:

Attachment 1: DJI Inspire 1 Users Manual Version 1.0
Attachment 2: DJI Inspire 1 Safety Guidelines Version 1.0
Attachment 3: DJI Intelligent Flight Battery Safety Guidelines Version 1.0
Attachment 4: DJI Inspire 1 Maintenance Manual Version 1.0

1. Laymon International LLC Operations Plan Summary

TABLE 1: Operations Plan Summary

Overview	Laymon International LLC will operate a sUAS for mineral prospecting, data collection, mapping, and real property photography.
Applicant seeks an exemption from the following rules as outlined in 14 CFR Part ll	14 CFR 21(h); 14 CFR 43.7; 14 CFR 43.11; 14 CFR 45.11; 14 CFR 45.21; 14 CFR 45.23; 14 CFR 45.25; 14 CFR 45.27; 14 CFR 45.29; 14 CFR 47.3(b)(2); 14 CFR 47.31(c); 14 CFR 61.113; 14 CFR 91.7(a); 14 CFR 91.9(b)(c); 14 CFR 91.103(b)(2); 14 CFR 91.105; 14 CFR 91.109; 14 CFR 91.119(b)(c); 14 CFR 91.121; 14 CFR 91.151; 14 CFR 91.203(a)(b); 14 CFR 91.215; 14 CFR 91.405(a)(d); 14 CFR 91.407; 14 CFR 91.409; and 14 CFR 91.417
Aircraft Description	sUAS used will be a DJI Inspire 1 weighing less than seven (7) pounds with max speed of 43 knots
Flight Conditions	All photogrammetry of mining claims as well as real property data collection, photography and exploration operations will be conducted under VFR, below 400 feet AGL and within 1500 feet laterally of the pilot. Flight ground speeds will be held to no more than 43 knots.
Flight Areas of Operation	All flights will safely operate over private or publicly held lands that are over 5 nautical miles from airports, in class G airspace, and in accordance with all federal, state, and local laws.
Method for See and Avoid	Pilot in command (PIC) will operate within a visual line of sight VLOS capability. PIC and VO will communicate verbally at all times.
Lost-Link and Flight Recovery	In the rare event of lost-link, the DJI Inspire is pre-programmed for a safe designated return to home base controlled landing area.
Pilot Qualifications	Laymon International veteran sUAS PIC's are experienced in all areas of operations and flight training with the aircraft flown, as described in petitioner's flight operations.
Inspection, Maintenance,Training, and Safety	All Safety Management Systems, Maintenance, Inspection, and Training will be carried out as described in Laymon International's Operations Manual and (attachments 1,2,3,4).

2. Information Supporting Petition

2.1 Petitioner's Contact Information

Laymon International LLC
21143 Hawthorne Blvd. #418
Torrance, California 90503
Tel: 310-463-1259
Email: thomas_laymon@laymoninternational.com

2.2 Laymon International LLC Operations Plan

2.2.1 sUAS System Description

The approved exemption will permit the flight operation of a sUAS based on the DJI Inspire 1 unmanned quad rotor aircraft. The complete flight ready aircraft weighs less than seven (7) pounds with a max airspeed of 43 knots. Flight telemetry includes altitude, flight speed, battery condition, and distance from home point. Return to home point for radio loss of link is also integrated.

Table 2: Aircraft Specifications

Model	T600 (DJI Inspire 1)
Weight (Battery Included)	2935 g
Hovering Accuracy (GPS Mode)	Vertical: 0.5 m Horizontal: 2.5 m
Max Angular Velocity	Pitch: 300°/s Yaw: 150°/s
Max Tilt Angle	35°
Max Ascent Speed	5 m/s
Max Descent Speed	4 m/s
Max Speed	22 m/s (no wind)
Max Flight Altitude	4500 m
Max Wind Speed Resistance	10 m/s
Max Flight Time	Approximately 18 minutes
Motor Model	DJI 3510
Dimensions	438x451x301 mm

Table 3: Controller Specifications

Operating Frequency	5.725~5.825 GHz / 2.400~2.483 GHz
Battery	6000 mAh LiPo 2S
Transmitting Distance	2 km

2.2.2 Flight Conditions

The sUAS will at all times fly within 1500 feet lateral to the PIC. Altitude will be no higher than 400 feet AGL. Flight ground speeds shall not exceed 43 knots. All flights will be within class G airspace and beyond 5 nautical miles of any airport. All flights will be day time only, in the visual-line-of-sight and operated only during days of clear visibility and low wind conditions.

Data Collection and photogrammetric flights of mining claims and real properties will be done in very remote areas of Federal Bureau of Land Management lands in addition to privately held property. Photo and video data will also be taken of potential mineral prospect locations deemed too dangerous for full sized aircraft, to determine the value of a more detailed exploration.

All flights will occur in potential mining and real property locations in the western states of California,Nevada, Utah, Arizona, and Colorado.

2.2.3 Flight Operations

All locations will be strictly controlled for access by only the PIC, observer and other relevant safety personnel. The PIC will have 100+ hours of logged sUAS experience and the observer/spotter will be an equally qualified sUAS pilot. Airspace assessment must be completed both prior to preflight and again just prior to take off. Flight planning for each flight includes obtaining any regulatory permission, land-use permissions, preforming a risk assessment, and map study of planned flight area. Observer and support ground crew members will secure planned and alternate operating zones, establishing communications, and identifying emergency contingencies.

The standard pre-flight check list and procedures are as follows:

1) The flight battery and transmitter battery must be fully charged.

2) Always turn on the transmitter first and then the Quadcopter Multi-Rotor.

3) Check for visible damage such as loose screws, broken, unbalanced or damaged propellers, faulty connectors or solder joints, landing gear, etc.

4) The propellers must be in a good condition and securely mounted.

5) The rotors must spin smoothly. Must ensure that there are no objects are in the rotational plane of the propellers or within a distance that poses a risk of obstruction.

6) Confirm the appropriate audible beeps when switched on for GPS calibration and communications link, and directional and battery charge lighting are on.

7) Ensure that the selected channel on the remote control is free and within range of the transmitter.

8) Ensure the sensors are calibrated (when the motors are off move yaw and throttle stick into upper left corner until it beeps).

9) Check gimbal and camera functions.

10) After starting the motors, check that all motors are running and rotate evenly. Initiate takeoff at a low altitude and confirm all flight controls and telemetry are functioning normally.

During Flight:

1) Maintain visual line of sight with aircraft at all times.

2) Confirm aircraft altitude is no greater than 400 feet AGL at all times.

3) Confirm aircraft is within 1500 lateral feet of PIC at all times.

4) Keep ground speeds under 43 knots at all times.

5) Confirm all planned flight path airspace is free of all obstacles.

6) Monitor battery life and properly land sUAS within 25% battery life remaining.

7) Flight times shall never exceed 15 minutes in length.

8) If the sUAS loses communications or loses its GPS signal, the UAS will be returned to the pre-determined location within the Security Perimeter and land.

9) Land in designated and controlled landing zone and properly power down aircraft and transmitter.

Note: Additional safety guidelines are found in (attachments 1,2,3)

2.3 Privacy

Due to the extreme remoteness of proposed flight locations there is little concern flights will cause invasions of privacy. All flights will occur over controlled access of both public or private property with prior property owners consent. Consent will be secured in situations where privacy could become a concern.

2.4 Aircraft Safety

Laymon International LLC agrees to be bound by the following operational conditions while conducting commercial operations and that these limitations provide for an equivalent or higher level of safety under the current regulations:

1) The sUAS must weigh 7 pounds or less including energy source(s).

2) The sUAS must be flown at a ground speed not exceeding 43 knots.

3) Flights must be operated at an altitude not to exceed 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

4) The sUAS must be operated within a visual line of sight (VLOS) of the PIC and visual observer (VO) at all times. The PIC must be able to use vision unaided by any device other than corrective lens as specified on the PIC's U. S. drivers license.

5) All operations must utilize a visual observer. The VO will NOT take the place of the PIC in maintaining VLOS capability. The PIC and VO must be able to verbally communicate at all times. The PIC will confirm that the VO can perform the duties required of a VO.

6) The Operators manual and grant of exemption will be made available to the administrator upon request. The operator must follow the procedures as outlined in the operator's manual unless a discrepancy exists between the conditions and limitations of the exemption in which case the conditions and limitations of the exemption will take precedence and must be followed. Operators and safety manuals will be made available during all sUAS flight operations.

7) Prior to each flight the PIC must inspect the sUAS 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 sUAS is found to be in a condition for safe flight. The Ground Control Station, if utilized, must be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

8) The sUAS must NOT undergo any maintenance or alterations that affect the sUAS operation or flight characteristics, e.g., replacement of a flight critical component.

9) The operator must follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements.

10) Regarding distance from non-participating persons, the operator must ensure that no persons are allowed within 500 feet of the area except those consenting to be involved and necessary for insuring safety.

11) If the sUAS loses communications or loses its GPS signal, the sUAS must return to a pre-determined location within the security perimeter and land or be recovered in accordance with the operator's manual (attachment 1).

12) The sUAS must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual (attachment1,2).

13) Each sUAS flight operation must be completed within 15 minutes flight time or with 25% battery power remaining, whichever occurs first.

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

15) Any sUAS operated must comply with all manufacturer Safety Bulletins.

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

17) Operation of sUAS must not be conducted during night. All operations must be conducted under visual meteorological conditions (VMC).

18) The sUAS must not operate in Class B, C, or D airspace. The UA may not operate within 5 nautical miles of the geographic center of a non-towered airport.

19) The PIC will only be permitted to operate after demonstrating the ability to operate in a safe manner including evasive and emergency maneuvers and maintaining proper distances from all structures, people, vessels, and vehicles. Dedicated training only sessions will take place to ensure the proficiency and experience of the PIC and will be done so with the appropriate distance from non participants.

20) The sUAS may not be operated less than 500 feet below or less than 2000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

21) If the sUAS loses communications or loses its GPS signal, the sUAS must return to a predetermined controlled landing area.

22) The PIC is prohibited from beginning a flight unless given the weather, the sUAS has enough power to conduct its operation and have a minimum reserve power for five minutes flight time.

23) The sUAS will display all assigned registration and identification numbers and markings as large as practical and in accordance with applicable CFR's.

24) The sUAS will not be operated from any moving vehicle or device.

25) All operations shall be conducted over private or controlled property with permission from the property owner or authorized representative for each flight.

26) NTSB will be notified within 24 hours of any incident, accident, or flight transgresses of lateral or vertical boundaries.

2.5 Public Safety

The safety achieved using an unmanned aircraft with no passengers or crew, weighing considerable less than a full sized aircraft, and carrying no flammable fuel load, operating under the flight conditions outlined in section 2.4, Aircraft Safety, would be in the public interest. In addition, using a sUAS would reduce risk of injury to personnel mapping and prospecting in remote areas where natural hazards such as cliffs, ledges, ravines, and other natural obstacles commonly occur.

3. Special Exemption Requests

3.1 14 CFR 21(h): Airworthiness Certificates

Laymon International LLC requests an exemption from 14 CFR 21(h). Based on the light weight, minimal size, reduced speed, and use in controlled remote areas this exemption meets the requirements for an equivalent level of safety as outlined in Section 333.

3.2 14 CFR 43.7: Persons authorized to approve aircraft, airframes, aircraft engines, propellers, appliances, or component parts for return to service after maintenance, preventative maintenance, rebuilding,or alteration

Laymon International LLC requests an exemption from 14 CFR 43.7 Given the sUAS is more similar to a model aircraft all inspections will be done as recommended by the manufacturer. All repairs other than simple propeller changes will be done by the manufacturer or one of their authorized repair centers. Maintenance will be preformed as outline in the manufacturer's maintenance guidelines (attachment 4). All maintenance and repair will meet the requirements for the equivalent level of safety pursuant to section 33 given the intended use and remote location of the sUAS.

3.3 14 CFR 43.11: Content, form, disposition of records for inspections conducted under parts 91 and 125 and 135.411(a)(1) and 135.419 of this chapter

Laymon International LLC requests an exemption from 14 CFR 43.11. Currently the FAA has not certified any inspections for sUAS and due to its size there is no room for maintenance placards. Maintenance records will be kept on file by Laymon International LLC.

3.4 14 CFR 45.11: Marking of products

Laymon International LLC requests an exemption from 14 CFR 45.11. Due to it's small size and flight characteristics, fireproof placards would cause a potential hazard to the aircraft with the additional weight or location.

3.5 14 CFR 45.21: General

Laymon International LLC requests an exemption from 14 CFR 45.21. The FAA currently has no registration procedures for sUASs however if a registration number can be assigned, placement on the aircraft will be done in the most practical and visible means available.

3.6 14 CFR 45.23: Display of marks; general

Laymon International LLC requests an exemption from 14 CFR 45.23. Due to the small size of the sUAS full size aircraft marks are not feasible. If a designation is assigned by the FAA, Laymon International LLC will place assigned designation marks on the aircraft in the most practical and visible manner available.

3.7 14 CFR 45.25: Location of marks on fixed wing aircraft

Laymon International LLC requests an exemption from 14 CFR 45.25. The sUAS is a multi rotor aircraft and does not possess fix wings and as such 14 CFR 45.25 is inapplicable.

3.8 14 CFR 45.27: Location of marks on non fixed wing aircraft

Laymon International LLC requests an exemption from 14 CFR 45.27. Due to the sUASs small size it has no cabin, fuselage, boom, or tail.

3.9 14 CFR 45.29: Size of Marks

Laymon International LLC requests an exemption from 14 CFR 45.29. Due to size constraints of the aircraft this requirement cannot be met. However with approval of an exemption an aircraft mark will be affixed in the most practical locations.

3.10 14 CFR 47.3(b)(2): Registration required

Laymon International LLC requests an exemption from 14 CFR 47.3(b)(2). The FAA currently has no procedures for registration of an sUAS. If a registration number is assigned by the FAA, Laymon International LLC will place assigned designation marks on the aircraft in the most practical and visible manner available.

3.11 14 CFR 47.31(c): Application

Laymon International LLC requests an exemption from 14 CFR 47.3(c). Currently compliance for 14 CFR 47.31(c) is not possible since the FAA does not yet have procedures to register sUAS.

3.12 14 CFR 61.113: Private Pilot Privileges and Limitations: Pilot in Command

Laymon International LLC requests an exemption from 14 CFR 61.113. The PIC of the sUAS does not possess a commercial or private pilots license.

However, the proposed use of an unmanned aircraft with no passengers or crew, weighing considerable less than a full sized aircraft, and carrying no flammable fuel load, operating in remote areas, using a skilled sUAS PIC, will achieve the equivalent level of safety of current operations by manned aircraft with a private pilots license.

3.13 14 CFR 91.7(a): Civil aircraft airworthiness

Laymon International LLC requests an exemption from 14 CFR 91.7(a). Given the rules of operation and maintenance listed above, an equivalent level of safety can be achieved since no standard of air worthiness currently exists and no air worthiness certificate can be issued.

3.14 14 CFR 91.9(b)(c): Civil aircraft flight manual, markings, and placard requirements

Laymon International LLC requests an exemption from 14 CFR 91.9(b)(c). There is no method for approval of sUAS manuals currently, there is no place to carry such a manual on board the aircraft, and no pilot on board to reference it. The flight manual must however be kept at the ground control location for PIC reference. As referenced earlier due to the aircraft small size full sized marking are not possible. With an exemption the proper marking can however be prominently place on the sUAS in the most visible manner.

3.15 14 CFR 91.103(b)(2): Preflight action

Laymon International LLC requests an exemption from 14 CFR 91.103(b)(2). Since all flights are to be carried out 5 nautical miles from any airport and only in class G airspace CFR 91.103(b)(2) does not apply. However, preflight operations will take place with approval of an exemption.

3.16 14 CFR 91.105: Flight crew members at stations

Laymon International LLC requests an exemption from 14 CFR 91.105 as there will be no crew members aboard the sUAS.

3.17 14 CFR 91.109: Flight instructions, Simulated instrument flight and certain flight tests

Laymon International LLC requests an exemption from 14 CFR 91.109. Remote controlled sUAS are designed or constructed without dual controls. The equivalent level of safety is provided by the limited size, speed, weight, and altitude of the aircraft in addition to no pilot or crew aboard the aircraft.

3.18 14 CFR 91.119(b)(c): Minimum safe altitudes: General

Laymon International LLC requests an exemption from 14 CFR 91.119(b)(c). Laymon International LLC will operate the sUAS at an altitude not to exceed 400 feet AGL for safety. With the sUAS's small size and weight an equivalent level of safety to manned flight can be maintained while flying closer than 500 feet from structures and the ground.

3.19 14 CFR 91.121: Altimeter readings

Laymon International LLC requests an exemption from 14 CFR 14 CFR 91.121. The sUAS being flown will have live feedback of altimeter and will maintain an altitude below 400 feet AGL at all times. With PIC and VO using line of sight operation and telemetry, equivalent safety levels will be met.

3.20 14 CFR 91.151: Fuel requirements for flight in VFR conditions

Laymon International LLC requests an exemption from 14 CFR 91.151. Petitioner believes that an equivalent level of safety can be met by limiting flight times of the sUAS to 15 minutes or until 25% battery charge remains whichever is greater. Due to the limited flight times of a sUAS it is not possible to comply with Part 91.151.

3.21 14 CFR 91.203(a)(b): Civil aircraft: Certification required

Laymon International LLC requests an exemption from 14 CFR 91.203(a)(b). Currently there are no FAA procedures for providing an air worthiness certificate. With the automatic return to home feature, in the rare event of a radio control link disruption, the reduced speed, distance of flight, light weight, and 400 feet. AGL altitude limit, and no on board flight crew will combine to provide a greater degree of safety to the public than conventional flight operations with air worthiness certificates.

3.22 14 CFR 91.215: ATC Transponder and Altitude Reporting Equipment and Use

Laymon International LLC requests an exemption from 14 CFR 91.215. ATC transponders are not commercially available in a size and weight that can be affixed to the sUAS and be flown safely. Given the flight operation parameters, their will be no need for air traffic control communication and a request for exemption is requested for CFR 91.215.

3.23 14 CFR 91.405(a)(d): Maintenance Required

Laymon International LLC requests an exemption from 14 CFR 91.405(a)(d). Since sUAS will be flown without passengers and these sections concern inspection requirements for passengers, Laymon International LLC requests an exemption. As noted earlier placard placement on the small form factor of an sUAS is not practical and also should be exempted. Log books detailing repairs and maintenance will be keep on file.

3.24 14 CFR 91.407: Operation after maintenance, preventive maintenance, rebuilding, or alteration

Laymon International LLC requests an exemption from 14 CFR 91.407. To achieve an equivalent level of safety Laymon International LLC will follow the maintenance requirements outlined in the DJI maintenance manual (attachment 4) as well as maintain detailed inspection and maintenance records.

3.25 14 CFR 91.409: Inspections

Laymon International LLC requests an exemption from 14 CFR 91.409. This section is applicable more for large manned aircraft with longer flight times than that of an sUAS. Laymon International LLC believes that the pre and post flight inspections outlined in Section 2.2.3 above will meet the equivalent level of safety required.

3.26 14 CFR 91.417: Maintenance records

Laymon International LLC requests an exemption from 14 CFR 91.417 as it pertains to aircraft with an air worthiness certificate. To achieve an equivalent level of safety Laymon International LLC will keep all maintenance records and a complete listing of parts replaced.