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

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

July 30, 2015

Exemption No. 12247
Regulatory Docket No. FAA–2015–1957

Mr. Mike H. Lee
2349 Railroad Street, Apartment 1707
Pittsburgh, PA 15222

Dear Mr. Lee:

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 21, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial videography, photography, inspections, and surveys.

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

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

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 3 and 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. Mike H. Lee 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. Mike H. Lee 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 Phantom 3 and 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 July 31, 2017, unless sooner superseded or rescinded.

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

Enclosures

May 21, 2015

Mike H. Lee
2349 Railroad St. Apt. 1707
Pittsburgh, PA 15222

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

RE: Request for exemption under Section 333 of the FAA Modernization and Reform Act of 2012 and 14 CFR Part 11

Petitioner, Mike H. Lee, pursuant to the provisions of the Federal Aviation Regulations (14 C.F.R. § 11.61) and the FAA Modernization and Reform Act of 2012 (FMRA), Section 333, Special Rules for Certain Unmanned Aircraft Systems, hereby petitions the Administrator to commercially operate the Unmanned Aerial Systems (UAS) known as DJI Phantom 3 Professional and DJI Inspire 1 in the National Airspace System (NAS), and for an exemption from the requirements of 14 C.F.R §§ 61.113(a) & (b), 91.7(a), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (2), and 91.417(a) & (b), so long as such operations are conducted within and under the conditions outlined herein or may be established by the FAA as required by Section 333.

These UAS's would be operated to conduct aerial videography and photography for the purposes of advertising and marketing, and site inspections and surveys.

This request is based on the grounds (1) the current regulations identified above are not practically applicable or create an undue burden upon the operation of the UAS's, (2) the operations of the UAS's would be conducted to meet or exceed the safety requirements mandated by the FAA, and (3) the operations of the UAS's would be in the public interest.

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

Name And Address Of The Petitioner: The name and address of the Petitioner and point of

contact is:

Mike H. Lee
2349 Railroad St. Apt. 1707
Pittsburgh, PA 15222
Tel: (412) 600-2400
Email: mikeleetv@gmail.com

Description of Operations

The Petitioner Mike H. Lee is a U.S. Citizen who resides in the Commonwealth of Pennsylvania and is the proposed Pilot In Control (PIC) who would operate the UAS's in question. Mr. Lee is a professional director and cinematographer with 13 years of experience and has been a UAS hobbyist for over three (3) years with over 100 hours of flight time with the UAS's in question or similar aircraft without any incident.

Mr. Lee would primarily provide the following commercial services:

- film and photograph real estate and construction developments for marketing, site survey, and safety inspection purposes,
- film and photograph oil drilling sites for marketing, site survey, and safety inspection purposes,
- film and photograph landscapes for advertising and marketing purposes, and
- film and photograph for television and film production purposes.

Although Mr. Lee does not hold a Private or Sport Pilot's License, he has attended general aeronautics "ground school" classes and does hold a Medical Certificate Third Class dated August 23, 2012.

Unmanned Aircraft Systems: DJI Phantom 3 Professional, DJI Inspire 1 UAS's

Mike H. Lee seeks an exemption to operate DJI systems for compensation or hire within the NAS. The DJI Phantom 3 Professional and DJI Inspire 1 are vertical takeoff and landing (VTOL) Unmanned Aircraft (UA) with a Ground Control Station (GCS) utilizing electronic tablet or smart phone systems. The DJI Phantom 3 Professional has a maximum gross weight of approximately 2 pounds 11 ounces, while having a length of 16 inches width of 16 inches, height of 8 inches, and a maximum speed of approximately 29 knots. The DJI Inspire 1 has a maximum gross weight of 6 pounds 7.5 ounces, a length of 17.3 inches, width of 17.7 inches, height of 11.8 inches, and a maximum

speed of approximately 42 knots. The DJI Phantom 3 Professional and DJI Inspire 1 UAS's are equipped with four main rotors; driven by Lithium Polymer battery powered electric motors.

The DJI Phantom 3 Professional and DJI Inspire 1 UAS's that will be operated by Mr. Lee 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.

A complete description of the operation and specifications of the DJI Phantom 3 Professional and DJI Inspire 1 GCS and flight control software is provided at pages 35 through 39 of the DJI Phantom 3 Professional User Manual and pages 40 through 47 of the DJI Inspire 1 User Manual. DJI Phantom 3 Professional and DJI Inspire 1 User Manuals are attached hereto.

In consideration of the speed, weight, size, and limited operating area associated with the unmanned aircraft and its operation, Mr. Lee's operation of DJI Phantom 3 Professional and DJI Inspire 1 UAS's meets the conditions of FMRA Section 333 and therefore, will not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H.

The Specifications Of The DJI Phantom 3 Professional and DJI Inspire 1 UAS's Demonstrate Its Safe Characteristics.

The DJI Phantom 3 Professional and DJI Inspire 1 UAS's do 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.

The DJI Phantom 3 Professional and DJI Inspire 1 UAS's Autonomous Flight And Navigation Modes Enable The UAS's To Remain Within A Defined Operational Area. The DJI Phantom 3 Professional and DJI Inspire 1 UAS's may be operated in both manual and fully autonomous flight modes. A complete description of the flight and navigational modes of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's is provided at pages 11-15 and 40-45 of the DJI Phantom 3 Professional and pages 12-16 and 45-50 of the DJI Inspire 1 User Manuals, attached hereto.

The DJI Phantom 3 Professional and DJI Inspire 1 UAS's Are Designed For Automatic Return To Home Point Or Hover In The Event Of Loss Of The Control Link Or Navigation.

When the Control Link is lost, the DJI Phantom 3 Professional and DJI Inspire 1 UAs will remain stationary, in flight, for 3 seconds or more. If, after 3 seconds, the DJI Phantom 3 Professional and DJI Inspire 1 UAS does not reacquire control link data from the GCS, the UAS will assume that the Control Link is lost and the UAS will return to the home position (i.e., failsafe mode) via GPS, and will descend to the takeoff position and shutdown.

A complete description of the Failsafe Functions of the DJI Phantom 3 Professional UAS are set forth at pages 12 through 14 and for the DJI Inspire 1 at pages 13 through 15 of their respective manuals, attached hereto.

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

Request for Relief from requirements of Section 61.113(a) & (b)

Mike H. Lee 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 Phantom 3 Professional and DJI Inspire 1 UAS's unless that PIC has demonstrated, by meeting minimum flight-hour and currency requirements, that the PIC is able to safely operate the DJI Phantom 3 Professional or DJI Inspire 1 UAS in a manner consistent with the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

Specifically, the PIC must have accumulated and logged, in a manner consistent with 14 C.F.R. § 61.51(b), 25 hours of total time as a UAS rotorcraft pilot (with a minimum of 5 hours of those hours as a UAS pilot operating the same make and model of UAS to be used for operations under the exemption). In addition to the hour requirements, the PIC must accomplish 3 takeoffs and landings in the preceding 90 days (for currency purposes).

Considering Mr. Lee'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 Phantom 3 Professional or DJI Inspire 1 UAS, Mike H. Lee submits that the additional manned airmanship experience of a commercially certificated pilot would not correlate to the airmanship skills

necessary for Mr. Lee's specific proposed flight operations.

Further, Mr. Lee submits that all flights of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's, conducted by the PIC pursuant to the grant of this Petition: (1) will be incidental to Mr. Lee's business; and (2) will not carry passengers or property for compensation or hire.

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, 11150, 11153, 11156, 11158, 11159, 11160, 11161).

As in Exemption Nos. 11062, 11138, and 11153, prior documented flight experience that was obtained in compliance with applicable regulations will ensure an equivalent level of safety during Mr. Lee's proposed operations. The Administrator has held that prior documented flight experience that was obtained in compliance with applicable regulations would ensure safe operations, stating as follows:

> In Exemption No. 11062, the FAA required that prior to conducting operations for the purpose of motion picture filming (or similar operations), the PIC must have accumulated and logged, in a manner consistent with 14 CFR 61.51(b), 25 hours of total time as a UAS rotorcraft pilot including at least 10 hours logged as a UAS pilot with a multi-rotor UAS. Prior to operations under Exemption No. 11062, the PIC must also have accumulated and logged a minimum of 5 hours as a UAS pilot operating the same make and model of UAS to be used for operations under the exemption. For clarification, the FAA considers these minimum hour requirements to be inclusive rather than additive; i.e. 5 hours make and model time may be included in the 10 hours of multi-rotor time and the 10 hours may be included in the total 25 hours of UAS rotorcraft time. In addition to the hour requirements, the PIC must accomplish 3 takeoffs and landings in the preceding 90 days (for currency purposes). The FAA finds that at a minimum, the flight-hour requirements in Exemption No. 11062 are appropriate to practice and build proficiency in the skills necessary to safely conduct the petitioner's proposed operations. The FAA also finds that prior documented flight experience that was obtained in compliance with applicable regulations would satisfy this requirement. Training, proficiency, and experience-building flights can also be conducted under the grant of exemption to accomplish the required flight time. During training, proficiency, and experience-building flights the PIC is required to operate the UA with appropriate distances in accordance with 14 C.F.R 91.119.

Exemption No. 11138 at page 15.

Request for Relief from Section 91.7(a)

Mike H. Lee seeks relief from Section 91.7(a), entitled Civil aircraft airworthiness, because the

DJI Phantom 3 Professional and DJI Inspire 1 UAS's do not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. As such, Mr. Lee submits that he will ensure that the DJI Phantom 3 Professional and DJI Inspire 1 UAS's are in an airworthy condition, prior to every flight, by determining that the UAS's are in compliance with the operating documents (i.e., DJI Phantom 3 Professional and DJI Inspire 1 Instruction Manual) prior to every flight.

The equivalent level of safety established by Section 91.7(a) will be maintained because prior to every flight, Mr. Lee will ensure that the DJI Phantom 3 Professional or DJI Inspire 1 UAS is in an airworthy condition based upon the UAS's compliance with its operating documents and as stated in the conditions and limitations herein.

Additionally, the FAA has previously granted relief from Section 91.7(a) 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, 11150, 11153, 11156, 11157, 11158, 11159, 11160, 11161).

Request for Relief from requirements of Section 91.119(c)

Mike H. Lee also seeks an exemption from the requirements of Section 91.119(c), entitled Minimum Safe Altitudes, as the DJI Phantom 3 Professional and DJI Inspire 1 UAS's will not exceed an altitude of 500 feet AGL and would not comply with this requirement.

Request for Relief from requirements of Section 91.121

Mike H. Lee also seeks an exemption from the requirements of Section 91.121, entitled Altimeter Settings, as the DJI Phantom 3 Professional and DJI Inspire 1 UAS's will not have a typical barometric altimeter onboard. However, altitude information of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's will be provided to the PIC via Global Positioning System (GPS) equipment and radio communications telemetry data link, which downlinks from the UA to the GCS for active monitoring of the flight path. This altitude information, combined with Mr. Lee's operation of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's within visual line of sight, at or below 500 feet AGL, will ensure a level of safety equivalent to Section 91.121. As more fully set forth herein, an equivalent level of safety will be maintained since the DJI Phantom 3 Professional and DJI Inspire 1 UAS's are

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 heads-up display of the GCS.

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, 11150, 11153, 11156, 11157, 11158, 11159, 11160, 11161).

Request for Relief from requirements of Section 91.151(a)(1)

Additionally, Mike H. Lee seeks an exemption from the requirements of Section 91.151(a)(1), entitled Fuel requirements for flight in VFR conditions. Mr. Lee submits that safety will not be affected by operation of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's during daylight hours in visual meteorological conditions (VMC) under visual flight rules (VFR), with enough battery power to fly for a total duration of approximately 13.5 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 4.5 minutes.

Mr. Lee seeks the requested relief because without an exemption from Section 91.151(b), the flight time duration of the battery powered DJI Phantom 3 Professional and DJI Inspire 1 UAS's will severely constrain the practicality of any aerial video or still photo flight operations that Mr. Lee proposes to conduct pursuant to this Petition.

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 Phantom 3 Professional and DJI Inspire 1 UAS's; (2) the limitations on the proposed flight operations; and (3) the location of the proposed flight operations. Accordingly, Mike H. Lee will ensure that it will safely operate the battery powered DJI Phantom 3 Professional and DJI Inspire 1 UAS's during daylight hours in VFR conditions, with enough battery power to fly for a total duration of 13.5 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 4.5 minutes.

Here, as in Exemption No. 11109, the technical specifications of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's; 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, safety will be ensured as the DJI Phantom 3 Professional and DJI Inspire 1 UAS's provide audible and visual warnings to the PIC at the GCS when the UAS experiences low battery voltage, the first warning occurring at approximately 33% remaining battery power, and again at approximately 10% remaining battery power. At the critically low battery level, the DJI Phantom 3 Professional and DJI Inspire 1 UAS's will descend and land automatically. Although these safeguards are in place, the PIC will ensure the UAS is within sufficient proximity to return and land safely with no less than 15% remaining battery power.

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, 11150, 11153, 11156, 11157, 11158, 11159, 11160, 11161).

Request for Relief from requirements of 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, Mike H. Lee requests relief from these Sections because the DJI Phantom 3 Professional and DJI Inspire 1 UAS's do not require airworthiness certificates. As set forth more fully below, the DJI Phantom 3 Professional and DJI Inspire 1 UAS's meet the conditions of FMRA Section 333 for operation without an airworthiness certificate. Accordingly, Mr. Lee will use trained technicians to perform maintenance, alterations, or preventive maintenance on the UAS's using the methods, techniques, and practices prescribed in the UAS operating documents (i.e., DJI Phantom 3 Professional and DJI Inspire 1 Instruction Manual). Furthermore, Mr. Lee will document and maintain all maintenance records for the DJI Phantom 3 Professional and DJI Inspire 1 UAS's.

In seeking this exemption, Mike H. Lee submits that the 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 Mr. Lee will use trained technicians

to perform maintenance, alterations, or preventive maintenance on the UAS's using the methods, techniques, and practices prescribed in the operating documents (i.e., DJI Phantom 3 Professional and DJI Inspire 1 Instruction Manual). Furthermore, Mr. Lee will document and maintain all maintenance records for the DJI Phantom 3 Professional and DJI Inspire 1 UAS's.

Significantly, previous exemptions granted by the FAA concerning 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 Mr. Lee's proposed operating limitations, the operating documents, and the technical aspects of the DJI Phantom 3 Professional and DJI Inspire 1 UAS's, Mr. Lee 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, 11150, 11153, 11156, 11157, 11158, 11159, 11160, 11161).

Public Interest Considerations

Granting the present Petition will further the public interest by allowing Mike H. Lee to safely, efficiently, and economically perform aerial video and photography of construction sites, real estate, and landscape over certain areas of the United States.

Promotes public safety and proper operations: The commercial operation of Mr. Lee's UAS's allows interested parties to receive and gather information to identify and document unsafe conditions, malfunctions, damaged or broken structures or equipment, or any other undesirable circumstances . In the instance of Marcellus Shale drilling sites and real estate development and construction, the commercial use of Mr. Lee's UAS's provides operators and owners views and information that would otherwise be unattainable by any other method.

Provides valuable marketing assets to businesses: The commercial operation of Mr. Lee's UAS's allows interested parties to receive marketing assets in the form of video and photos in such an efficient and cost-effective manner to provide opportunities for their promotion unavailable to them otherwise.

Enhance value of television and film productions: The commercial operation of Mr. Lee's

UAS's allows television and film studios to utilize aerial video in an efficient and cost-effective manner while mitigating the safety risks associated with traditional manned helicopters.

Flights Of DJI Phantom 3 Professional and DJI Inspire 1 UAS's Will Be Conducted Pursuant To Specific Operating Limitations.

In seeking this exemption, Mike H. Lee proposes to commercially operate DJI Phantom 3 Professional and DJI Inspire 1 UAS's for the special purpose of conducting aerial video and photography over certain areas of United States, pursuant to the following specific operating limitations:

1. Operations authorized by this grant of exemption will be limited to the following aircraft described in the operating documents, rotorcraft UAS's weighing less than 55 pounds maximum gross weight: DJI Phantom 3 Professional and DJI Inspire 1 Unmanned Aircraft Systems. Proposed operations of any other aircraft will require a new petition or a petition to amend this grant.
2. UAS operations under this exemption will be limited to conducting operations for the purpose of aerial video and photography.
3. The UAS may not be flown at an indicated airspeed exceeding 20 knots.
4. The UA must be operated at an altitude of no more than 500 feet above ground level (AGL), as indicated by the procedures specified in the operating documents unless a special request is made and approved by ATC. All altitudes reported to ATC must be in feet AGL.
5. The UAS 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.
6. The use of first person view (FPV) by the PIC or visual observer (VO) is not permitted.
7. All operations must utilize a visual observer (VO). The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times. 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 functions prescribed in the operating documents.

8. The VO must not perform any other duties beyond assisting the PIC with seeing and avoiding other air traffic and other ground based obstacles/obstructions and is not permitted to operate the camera or other instruments.

9. The operating documents and the grant of exemption must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations contained in the grant of exemption and the procedures outlined in the operating documents, the conditions and limitations contained in the grant of exemption 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 upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to the grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted the exemption, then the operator must petition for 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.

10. Prior to each flight the PIC must inspect the UAS to ensure that 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.

11. 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. The PIC who conducts the functional test flight must make an entry in the aircraft records.

12. The pre-flight inspection must account for all potential discrepancies, e.g. inoperable components, items, or equipment, not already covered in the relevant sections of the operating documents.

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

14. The operator must carry out its maintenance, inspections, and record keeping requirements, in accordance with the operating documents. Maintenance, inspection, alterations, and status of replacement/overhaul component parts must be noted in the aircraft records, including total time in service, description of work accomplished, and the signature of the authorized person returning the UAS to service.

15. Each UAS's operated under this exemption must comply with all manufacturer Safety Bulletins.

16. The authorized person must make an entry in the aircraft record of the corrective action taken against discrepancies discovered between inspections.

17. The PIC must possess at least a private pilot certificate and at least a current third- class medical certificate.

18. The operator may not permit any PIC to operate unless the PIC meets the operator's qualification criteria and demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours must be logged in a manner consistent with 14 C.F.R. § 61.51(b). Flights for the purposes of training the operator's PICs are permitted under the terms of the 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 C.F.R. § 91.119.

19. 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). If flight at

night is required, a special request will be made at the FAA office closest to proposed area of operations. Flights under special visual flight rules (SVFR) are not authorized.

20. The UA may not operate within 5 nautical miles of an airport reference point as denoted on a current FAA-published aeronautical chart unless a letter of agreement with that airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request.

21. 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.

22. If the UA loses communications or loses its GPS signal, it must return to a pre-determined location within the planned operating area and land or be recovered in accordance with the operating documents.

23. The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operating documents.

24. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough power to fly at normal cruising speed to the intended landing point and land the UA with 25% battery power remaining.

25. The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under the grant of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation. All operations shall be conducted in accordance with airspace requirements in the ATO issued COA including class of airspace, altitude level and potential transponder requirements.

26. All aircraft operated in accordance with the 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.

27. 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.

28. The documents required fewer than 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 UAS is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

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

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

31. Flight operations must be conducted at least 500 feet from all nonparticipating persons (persons other than the PIC, VO, operator trainees or essential 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 and/or;

    (b) The aircraft is operated near vessels, vehicles or structures where the owner/controller of such vessels, vehicles or structures has granted permission 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, and;

    (c) Operations nearer to the PIC, VO, operator trainees or essential persons do not present an undue hazard to those persons per § 91.119(a).

    (d) 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 for each flight to be conducted.

32. 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.

As discussed in detail above, Mike H. Lee will operate the DJI Phantom 3 Professional and DJI Inspire 1 UAS's safely in the NAS, without creating a hazard to users of the NAS, or the public, or otherwise pose a threat to national security.

Respectfully submitted,

Mike H. Lee, Petitioner