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

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

September 9, 2015

Exemption No. 12795
Regulatory Docket No. FAA−2015−2646

Mr. Adam Marquart
3815 South 191 Street
Omaha, NE 68130

Dear Mr. Marquart:

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

By letter dated June 11, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. You requested to operate an unmanned aircraft system (UAS) to conduct aerial photography, videography, surveying, and inspections.

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

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

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 3 Professional.

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, Mr. Adam Marquart 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. Adam Marquart 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 Professional when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

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

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

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

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

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

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

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

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

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

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

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

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

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with

14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Enclosures

June 11, 2015

Name and Address of Petitioner:
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402-577-0109
adam.marquart@hotmail.com

Request for Exemption, Section 333 of the FAA Reform Act pertaining to Federal Aviation Regulations 14 CFR, Part 21, 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(l) & (a)(2), 91.409(a)(l), 91.417(a)&(b)

I, Adam Marquart, the petitioner, request exemptions in order to legally operate an Unmanned Aircraft Systems (UAS), a DJI Phantom 3 Professional, in the National Airspace System. The DJI Phantom 3 Professional this petitioner seeks exemption to use will be referred to as 'Named UAS'. All flights of the 'Named UAS' will be flown by line of sight (LOS) and performed under 400' above ground line (AGL). The 'Named UAS' does have GPS guidance and "return to home" safety feature installed. The 'Named UAS' also uses a smartphone to enhance controls by showing current AGL and visual location of the 'Named UAS' to the subject and its surroundings. The petitioner wishes to be granted the exemption for use of the 'Named UAS' for commercial videography and photography of:

1. Residential and Commercial Real Estate, for marketing the sale of each.
2. Construction Process (Residential and Commercial), providing a visual review of the construction process to be used for marketing of a construction company or documentation to be provided to the owner.
3. Property Survey, providing a visual review of the property to the land owner to be sold, purchased, or prior to construction.
4. Property Inspection, providing a visual review of existing conditions to the land owner.
5. Property Landscape, provide visual documentation of 'before and after' improvement to a land owner.

The Petitioner believes the use of the DJI Phantom 3 Professional is more economical and safe to use than a manned aircraft for the aforementioned purposes. In the past, a manned aircraft would be used to provide a visual review of land and property, which involves pilot fees, inspections,and use of an airport. Use of the 'Named UAS' rather than a manned aircraft is more economical to the consumer, and beneficial to the general public due to its small size, low noise, and minimal potential for accident.

Additionally, I the petitioner, would like to point out that in order to have a successful business it is in my best interest to be safe. That safety will directly benefit the public because that safety relates to protecting my investment in a UAS. If the UAS is damaged, so is my means of providing a service and profiting from it. Also, if I don't provide a safe service to my customers

they will be less likely to recommend me to their neighbors. So I have to provide a safe service in order to gain the trust of other potential customers.

My request for the following exceptions are based on those provided to Exemption No. 11623, 11650, 11664, and 11734. I reviewed and quote these public letters because of the similarities to the use of a UAS to capture photography and videography of real estate and construction for hire.

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Request for Exemption, Section 333 of the FAA Reform Act pertaining to Federal Aviation Regulations:

14 CFR Part 21

Certification Procedures For Products and Parts

REASON FOR EXCEPTION

It has been determined that similar UAS's do not require an airworthiness certificate as granted in Exemption No. 11623, 11650, 11664, and 11734.

14 CFR 91.7(a)

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

REASON FOR EXCEPTION

It has been determined that similar UAS's do not require an airworthiness certificate, however the petitioner will ensure airworthiness through the combined use of the manufacturer's Operations Manual and preflight checks.

14 CFR 91.119(c)

Minimum Safe Altitudes:(c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle or structure.

REASON FOR EXCEPTION

The use of 'Named UAS' will be flown no higher than 400' AGL in LOS over developed and developing residential areas that may be considered congested areas. That will not always be the case when providing a 'Property Survey' flight because they could be conducted over empty lots or acreages with no structures. This will minimize the amount of bystanders present or in the surrounding area. In the case of flying over or near existing private property while providing a 'Residential and Commercial Marketing', 'Construction Process', 'Property Inspection', and 'Property Landscaping' landowners will be notified in person by the petitioner, or by a card left behind by the petitioner, of an occurring 'Named UAS' flight. The petitioner also proposes to display a caution sign on site while a 'Named UAS' flight is ongoing. The petitioner will review with the landowners of associated risks to people and property. Due to the small size of the 'Named UAS' the associated risk to persons, vessels, vehicles, and structures is not comparable to manned aircraft and should be taken into consideration.

14 CFR 91.121
Altimeter Settings:
REASON FOR EXCEPTION
The ‘Named UAS’ does not have a barometric altimeter. It does have a GPS that will calculate altitude. The petitioner will limit flights to a maximum altitude of 400 feet AGL as granted in Exemption No. 11623, 11650, 11664, and 11734.

14 CFR 91.151(a)(l)
Fuel requirements for flight in VFR conditions:(a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed(1) During the day, to fly after that for at least 30 minutes.
REASON FOR EXCEPTION
The ‘Named UAS’ provides low battery warnings to indicate when you should return the ‘Named UAS” to the launch point. A fail safe automatic landing will occur if the battery reaches critical low voltage. The ‘Named UAS’ will be landed upon the 1st low battery alert.. The petitioner will not initiate a flight unless (considering wind and forecast weather conditions) there is enough power to fly at normal cruising speed to the intended landing point. All flights will be done during the day and at an appropriate time as to not be a nuisance to others.

14 CFR 91.405(a)
Maintenance required: Each owner or operator of an aircraft- (a) Shall have that aircraft inspected as prescribed in Subpart E of this part and shall between required inspections,except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter.
REASON FOR EXCEPTION
The petitioner shall inspect the aircraft prior to every flight. The petitioner plans to follow manufacturer's recommended preflight checklist. Reference given to the Operations Manual.

14 CFR 91.407(a)(l)
Operation after maintenance, preventive maintenance, rebuilding, or alteration: (a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless(1)It has been approved for returned to service by a person authorized under 43.7 of this chapter
REASON FOR EXCEPTION
The petitioner who has the responsibility for the operation and safety of the ‘Name UAS’ will follow the manufacturer's suggestions for maintenance and repair. Including the use of suggested replacement parts.

14 CFR 91.409(a)(l) & (2)

Inspections: (a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had (1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by 43.7 of this chapter; or (2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter. No inspection performed under paragraph (b) of this section may be substituted for any inspection required by this paragraph unless it is performed by a person authorized to perform annual inspections and is entered as an "annual" inspection in the required maintenance records.

REASON FOR EXCEPTION

The petitioner will follow manufacturer's suggestions to ensure that the 'Named UAS' is in a condition for safe flight.

14 CFR 91.417(a) & (b)

Maintenance Records: (a) Except for work performed in accordance with 91.411 and 91.413, each registered owner or operator shall keep the following records (l)(i) (ii)(iii) (2)(i)(ii)(iii)(iv)(v)(vi) for the periods specified in paragraph (b) of this section: (1)(2)(3)

REASON FOR EXCEPTION

The petitioner will keep a record of all repairs and modifications. The petitioner also proclaims to use approved manufactured parts for repairs and modifications.

SUMMARY

I, Adam Marquart the petitioner request for exemption, Section 333 of the FAA Reform Act pertaining to Federal Aviation Regulations 14 CFR, Part 21, 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(l) & (a)(2), 91.409(a)(l), 91.417(a)&(b) in order to legally operate an Unmanned Aircraft Systems (UAS), a DJI Phantom 3 Professional, in the National Airspace System in order to take aerial video and photography of real estate and construction processes.