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

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

August 19, 2015

Exemption No. 12523
Regulatory Docket No. FAA−2015−0986

Mr. Brett Kanda
Partner
Verascan Inc.
4600 Polaris Avenue
Las Vegas, NV 89103

Dear Mr. Kanda:

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 letters posted to the public docket on April 13, 2015, and July 22, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Verascan Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial inspections, acquisitions, and research.

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

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

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 2.

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] or/and closed set motion picture and filming. 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, Verascan Inc. is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, Verascan Inc. 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 2 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 August 31, 2017, unless sooner superseded or rescinded.

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

Enclosures

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- Verascan Inc. seeks exemption from the requirements of 14 C.F.R. §§ 61.113(a) & (b), 91.7(a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b), to operate an Unmanned Aircraft System pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA). This exemption will permit Verascan Inc. to operate a DJI Phantom 2 for the commercial purpose of conducting aerial inspections, acquisitions and research within the National Airspace System (NAS) in the industries of agriculture, construction, and engineering.

- Allowing Verascan to commercially operate would improve efficiency in each industry because of strict safety protocols, years of experience, and qualified pilots. Eliminating the need for personnel in hazardous environments is now possible through the effective operations of Verascan. Verascan is located in Las Vegas, which has multiple advantages including being firmly planted in

one of the 6 FAA designated test sites. Our distinct partnerships with UNLV, NStec, and Space Information Laboratories have created a powerful group of people that are ready to demonstrate a positive representation of the UAV industry in both Southern Nevada and on a national level. Our advanced sensors and software outputs will give businesses a cheaper, more effective solution to fill the current gaps in their processes. Our teams of experienced professionals have created an Operations Manual and Training Regimen that represent the budding UAV industry in a positive light.

- If granted an exemption, Verascan would adhere to the attached Operations Manual in a strict manner by conducting commercial flights with a P.I.C. holding a Private Pilots License, necessary medical clearance, a V.O. with U.S.A.F. Unmanned training credentials, fly within V.L.O.S, fly under 200 feet and only to 400 feet if the local FAA office is notified, and follow the guidelines highlighted by the FAA as well as our unique Operations Manual. Conducting these flights with proper risk management, pre-flight checklists, flight checklists, and post-flight checklists would provide a higher level of safety to the community that we would be flying in and the nation as a whole. Verascan Inc. would not conduct commercial flights in crowded areas, at night, at altitudes exceeding 200 feet and up to 400 feet if the local FAA office is not notified, and with an aircraft that has not met our training standards and required test flight times.

Reasons Why An Exemption From The Requirements Of Section 61.113(a) And (b) Would Not Adversely Affect Safety: Verascan submits that the equivalent level of safety established by Section 61.1 DJI Phantom 2 unless that PIC has demonstrated, through the DJI Phantom 2 UAV training and currency requirements, that the PIC is able to safely operate the DJI Phantom 2 in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures. Considering Verascan'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 2, Verascan submits that the additional manned airmanship experience of a commercially certificated pilot would not correlate to the airmanship skills necessary for Verascan's specific proposed flight operations. Additionally, the FAA has previously granted relief from Section 61.113(a) and (b) specific to UAS, in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11110, 11112, 11136, 11138). As in Exemption No. 11109, Verascan will not allow any PIC to operate the DJI Phantom 2 unless that PIC has demonstrated through the DJI Phantom 2 UAV training and currency requirements, that the PIC is able to safely operate the DJI Phantom 2 UAV in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures. A complete description of the DJI Phantom 2 Training and

Qualification requirements is set forth in the attached Operations Manual. Operations Manual contains proprietary information and is to be held in a separate file pursuant to 14 C.F.R. § 11.35(b).

Reasons Why An Exemption From The Requirements Of Section 91.7(a) Would Not Adversely Affect Safety: The equivalent level of safety established by Section 91.7(a) will be maintained because prior to every flight, Verascan will ensure that the DJI Phantom 2 is in an airworthy condition based upon the aircraft's conformity to its type design, including compliance with its operating documents (i.e., the DJI Phantom 2 User Manual and the DJI Phantom 2 Maintenance Manual), and that the UAV is in a condition for safe flight, as stated in the conditions and limitations contained herein.

Reasons Why An Exemption From The Requirements Of Section 91.121 Would Not Adversely Affect Safety: The equivalent level of safety established by Section 91.121 will be maintained because the altitude information of the DJI Phantom 2 will be provided to the PIC via GPS equipment and a radio communications telemetry data link, which downlinks from the UAV to the GCS for active monitoring of the flight path and altitude. This altitude information, combined with Verascan's operation of the DJI Phantom 2 within visual line of sight, at or below 400 feet AGL, will ensure a level of safety equivalent to Section 91.121. The altitude information will be generated by GPS equipment installed onboard the aircraft. Prior to each flight, a zero altitude initiation point is automatically established by the UAV. The FAA has previously granted relief from Section 91.121 specific to UAV, 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).

Reasons Why An Exemption From The Requirements Of Section 91.151(b) Would Not Adversely Affect Safety: A grant of this exemption would ensure an equivalent level of safety established by 14 C.F.R. Section 91.151(b) as a result of (1) the technical specifications of the DJI Phantom 2; (2) the limitations on the proposed flight operations; and (3) the location of the proposed flight operations. Accordingly, Verascan will ensure that it will safely operate the battery powered DJI Phantom 2 during daylight hours in VMC conditions, under VFR, with enough battery power to fly for a total duration of 15 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least five minutes (i.e., 25 percent battery power remaining). Similar to the FAA's Grant of Exemption No. 11109, AgScan hereby submits that the technical specifications of the DJI Phantom 2; the limitations on the proposed flight operations; and the location of the proposed operations, will ensure an equivalent level of safety established by 14 C.F.R. Section 91.151(b). Furthermore, an equivalent level of safety will be ensured as the DJI Phantom 2 provides audible and visual warnings to the PIC at the GCS when the UA reaches 20 percent and 10 percent of battery power remaining. Significantly, previous exemptions granted by the FAA concerning Section 91.151 establish that safety is not adversely affected when the technical characteristics and operating limitations of the UAS are considered. Relief has been granted for manned aircraft to operate at less than the minimums prescribed in Section 91.151, including Exemption Nos. 2689, 5745, and 10650. Moreover, the FAA has previously

granted relief from Section 91.151 specific to UAS, in circumstances similar, in all material respects, to those presented herein (e.g. Exemption Nos. 8811, 10808, 10673, 11042, 11062, 11063, 11064, 11065, 11066, 11067, 11080, 11109, 11110, 11136, 11138). 30

Reasons Why An Exemption From The Requirements Of Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), And 91.417(a) & (b) Would Not Adversely Affect Safety: In seeking this exemption, Verascan submits that an equivalent level of safety with regard to the regulatory maintenance and alteration requirements established by Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) will be met because Verascan will use manufacturer trained technicians to perform maintenance, alterations, or preventive maintenance on the UAS using the methods, techniques, and practices prescribed in the manufacturer's maintenance manual. Furthermore, Verascan will document and maintain all maintenance records for the DJI Phantom 2. Since the DJI Phantom 2 will be inspected as prescribed by the manufacturer's maintenance manual, Verascan will maintain the equivalent level of safety established by Sections 91.405(a), 91.409(a)(1), and 91.409(a)(2). The DJI Phantom 2 System Operations Manual sets forth airworthiness requirements for the UA, including preflight inspections, as well as scheduled maintenance after every three months, every year or 300 flight hours (whichever comes first), and after every 600-flight hours. Likewise, the exemption sought will not adversely affect safety because Verascan will use manufacturer trained technicians to perform maintenance, alterations or preventive maintenance on the UAS using the methods, techniques, and practices prescribed by the

manufacturer's maintenance manual. The DJI Phantom 2 Operations Manual details procedures for inspection, firmware upgrades, motor testing, and motor replacement. A complete description of the DJI Phantom 2 maintenance requirements is set forth in the DJI Phantom 2 Operations Manual, which is attached. Attached Operations Manual contains proprietary information and is to be held in a separate file pursuant to 14 C.F.R. § 11.35(b). Furthermore, the exemption sought would maintain an equivalent level of safety established by Sections 91.407, 91.417(a) and 91.417(b), because all maintenance of the DJI Phantom 2 will be performed by manufacturer trained technicians, which will document and maintain maintenance records for the UAS. Significantly, previous exemptions granted by the FAA concerning the DJI Phantom 2 and Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) establish that safety is not adversely affected when the technical characteristics and operating limitations of the UAS are DJI Phantom 2 Operations Manual, and the technical aspects of the DJI Phantom 2 Verascan 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). 7. The FAA May Prescribe Any Other Conditions For Safe Operation. In accordance with Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA) and 14 C.F.R. § 21.16 entitled Special Conditions, Verascan requests that the FAA prescribe special conditions for the intended operation of the

DJI Phantom 2, which contain such safety standards that the Administrator finds necessary to establish a level of safety equivalent to that established by 14 C.F.R. Part 21, Subpart H, and 14 C.F.R §§ 61.113(a) & (b), 91.7 (a), 91.121, 91.151(b), 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b). 2 Such special conditions will permit Verascan's safe operation of the UA for the limited purpose of conducting aerial acquisitions over certain rural areas of the United States for compensation or hire. FMRA Section 333 sets forth the requirements for considering whether a UAS will create a hazard to users of the NAS or the public, or otherwise pose a threat to national security; and further, provides the authority for such UAS to operate without airworthiness certification in accordance with any requirements that must be established for the safe operation of the UAS in the NAS. Likewise, the Administrator may prescribe special conditions pursuant to 14 C.F.R. § 21.16, for operation of the DJI Phantom 2, since the airworthiness regulations of 14 C.F.R. Part 21 do not contain adequate or appropriate safety standards, due to the novel or unusual design features of the aircraft. Section 21.16, entitled Special Conditions, states the following: If the FAA finds that the airworthiness regulations of this subchapter do not contain adequate or appropriate safety standards for an aircraft, aircraft engine, or propeller because of a novel or unusual design feature of the aircraft, aircraft engine or propeller, he prescribes special conditions and amendments thereto for the product. The special conditions are issued in accordance with Part 11 of this chapter and contain such safety standards for the aircraft, aircraft engine or propeller as the FAA finds necessary to establish a level of safety equivalent to that established in the regulations. See 14 C.F.R. § 21.16.

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

The extent to which we seek relief from the listed sections is described in the attached "Verascan Operations Manual for a DJI Phantom 2."

IMPORTANT PROPRIETARY INFORMATION!!!

Attached "Operations Manual" is a PROPRIETARY DOCUMENT that supports Verascan's petition. Attachment is referenced in the request for exemption and contains trade secret and commercial proprietary information that Verascan has not and will not share with others except under appropriate confidentiality agreements. The Verascan Operations Manual attachment contains operating conditions and procedures that have been developed exclusively by Verascan, and that are not available to the public. Verascan is requesting that these attachments be treated as proprietary information pursuant to 14 C.F.R. Section 11.35, and maintains that they are protected from release under the Freedom of Information Act. See 5 U.S.C. 552 et seq.

The extent of relief you seek, and the reason you seek relief;

14 C.F.R. § 61.113: Private Pilot Privileges and Limitations

Verascan Inc. seeks exemption from 14 CFR § 61.113, which restricts private pilots from flying aircraft for compensation or hire and would also require a second class medical certificate. The purpose of Part 61 is to ensure that the skill and competency of any PIC matches the airspace in which the PIC will be operating, as well as requiring certifications if the pilot is
carrying passengers or cargo for hire. While the UAS will be operated as part of a commercial operation, they carry neither
passengers nor cargo. In the Grant of Exemption in FAA Docket No. FAA-2015-0986, the FAA determined that the unique characteristics of UAS operation outside of controlled airspace did not warrant the additional cost and restrictions attendant with requiring the PIC to have a commercial pilot certificate and a class II medical certificate. The FAA has also determined that the required knowledge for a commercial pilot covers the same fundamental principles as a private pilot. The FAA has also granted exemptions allowing operations by people who hold an airline transport, commercial, private, recreational, or sport pilot certificate with a current FAA airman medical certificate or a valid U.S. driver's license issued by a state or the Federal
Government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56. See FAA Exemption No. 11374. Verascan will ensure the PIC will meet the requirements listed in the above paragraph. Verascan will also ensure the PIC will have completed the manufacturers' training guidelines outlined in the Manuals. The FAA stated in its grant of an exception to Astraeus Aerial the "the FAA considers the overriding safety factor for the limited operations proposed by the petitioner to be the airmanship skills acquired through VAS-specific flight cycles, flight time, and specific make
and model experience, culminating in verification through testing." The restrictions Verascan has placed on its UAS operations meet or exceed the restrictions similarly imposed on Astraeus Aerial in FAA Docket No. F AA-20 14-0352 and those listed in the FAA's "summary grant" process.

14 C.F.R. § 91.7(a): Civil Aircraft Airworthiness

Verascan seeks an exemption from 14 C.P.R.§ 91.7(a), which requires that a civil aircraft be in airworthy condition to be operated. The FAA has stated that no

exemption is required to the extent that the requirements of Part 21 are waived or found inapplicable. Accordingly, Verascan requests that the requirements for Section 91.7 be treated in accordance with FAR
Part 21 Subpart H. See Grant of Exemption No. 11062

14 C.F.R. § 91.121: Altimeter Settings

This petition seeks an exemption from 14 C.F.R. § 91.121, which requires a person operating an aircraft to maintain cruising altitude or flight level by reference to an altimeter that is set to the elevation of the departure airport. The UASs proposed here use both barometricpressure sensors and GPS to determine altitude but do not have the ability to set in a current altimeter setting. An exemption is required to the extent that the UAS does not have a barometric altimeter setting. The altitude of the UAS is monitored by the PIC on the ground control station and by the visual observer.

Extent and Reason for Which Relief is Sought: The FAA has stated that an equivalent level of safety can be achieved if the aircraft will be operated at or below 400 feet AGL and within visual line-of sight in addition to GPS based altitude information relayed in real time to the operator. See Grant of Exemption No. 11062, p. 20-21. As the attached Manuals indicate, the UAS will be operated at or below 400 feet AGL and otherwise comply with the limitations in the Grant of Exemption No. 11062.

14 C.F.R. § 91.151(a): Fuel Requirements for Flight in VFR Conditions

Verascan requests an exemption from 14 C.F.R. § 91.15l(a)'s fuel requirements for flight in VFR conditions. Section 91.151 states:
(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; or (2) At night, to fly after that for at least 45 minutes. Here, the technological limitations on the UAS battery power means that no meaningful flight operations can be conducted while maintaining a 30 minute reserve. The aircraft are battery powered with a maximum flight time of approximately 24 minutes for the Phantom 2. The PIC will ensure that before each flight, there is enough available power for the UAS 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.

Extent and Reason for Which Relief is Sought: The FAA has stated that an equivalent level of safety is provided if the UAS flight is conducted under daytime VFR flight conditions using VLOS, and terminated with at least 25% reserve battery power still available. See Grant of Exemption No. 11062. The FAA's "summary grant" process provides that the PIC is prohibited from beginning a flight unless there is enough available power 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. See FAA Exemption No. 11374 (FAA Docket No. 2015-0091 at p. 5). The Manuals here provide that the PIC will ensure that before each flight, there is enough available power for the UAS 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.

14 C.F.R. §§ 91.405(a), 91.407(a)(l), 91.409(a)(1)(a)(2); 91.417(a) and (b): Maintenance Inspections

Verascan seeks an exemption from the maintenance inspection requirements contained in 14 C.P.R.§ 91.405(a), 91.407(a)(l), 91.409(a)(2); 91.417(a) and (b). These regulations specify maintenance and inspection standards in reference to 14 C.P.R. Part 43. See, e.g., 14 C.P.R.§ 91.405(a) (stating that each owner or operator of an aircraft "[s]hall have the aircraft inspected as prescribed in subpart E of this part and shall between required inspections ... have discrepancies repaired as prescribed in part 43 of this chapter"). An exemption from these regulations is needed because Part 43 and these sections only apply to aircraft with an airworthiness certificate, which the UAS proposed here will not have.

Extent and Reason for Which Relief is Sought: An equivalent level of safety will be achieved because maintenance and inspections will be performed in accordance with the Manuals. This includes maintenance, overhaul, replacement, and preflight inspection requirements. See Exemption No. 11062 (FAA Docket No. 2014-0352, atp. 14-15) and Exemption No. 11374 (FAA Docket No. 2015-0091, at p. 4). Verascan will follow the UAS manufacturer's maintenance requirements. As provided in the attached Operations Manual, flights will not be conducted unless a flight operations checklist is performed that includes all of the aircraft's components.