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

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

August 20, 2015

Exemption No. 12547
Regulatory Docket No. FAA−2015−2339

Mr. Patryk Drozd
PKD Photography
11 Orchard Street
Newton, MA 02458

Dear Mr. Drozd:

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 29, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of PKD Photography (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial video and photography services.

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 a DJI Phantom 2, 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, PKD Photography 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, PKD Photography 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, 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

May 29, 2015

U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE Washington, DC 20590

Re: Exemption Request under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, PKD Photography the operator of the DJI products including the Phantom 2, Phantom 3, and Inspire 1 small Unmanned Aircraft Systems ("sUAS") seeks an exemption from the Federal Aviation Regulations ("FARs") listed below and discussed in Appendix A. User manuals for the DJI Phantom 2, DJI Phantom3, and DJI Inspire 1 sUAS are attached in Appendices C through E. Attached as Appendix B is a summary of this request.

The requested exemption would permit PKD Photography commercial operation of company owned sUAS: DJI Phantom 2, DJI Phantom3, and DJI Inspire 1 which weighs 2.7 lbs., 2.8 lbs., and 6.5 lbs., respectively. On board cameras are used to perform aerial video and photography services. The sUAS's cameras produce high quality images and video that is then edited and sorted and combined with images and video taken from land based photography equipment. Applications can include commercial and residential real estate, aerial survey, mapping, 3D modeling, and general aerial photography.

Operations under the exemption will be subject to strict operating requirements and conditions to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft and under conditions as may be modified by the FAA as required by Section 333.

As described more fully below, the requested exemption would authorize PKD Photography to performed commercial operations of aerial video and photography using its company owned sUAS that are small in size and powered electrically by battery. The sUAS will be operated under controlled conditions at low altitude in airspace that is limited in scope, as described more fully herein; it will have automated control features, as described below. The sUAS is designed to be operated by one person but flight operations generally involve two people: an operator and an observer. The operator is responsible for flying the sUAS, monitoring its status and flight dynamics while maintaining visual line of sight, and keeping the flight within the specified factory limits (in terms of wind, flight range, battery life, etc.) to ensure safe operation of the sUAS itself. The observer is responsible for monitoring the airspace for other aircraft and hazards and instructing the operator before and during flight as necessary to ensure safe separation/de-confliction with these aircraft and hazards. Finally, the airspace in which the sUAS will operate will be disclosed to and approved, as needed, by the FAA in advance.

The sUAS that will be operated by PKD Photography 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*.

In consideration of the speed, weight, size, and limited operating area associated with the unmanned aircraft and its operation, PKD Photography's operation of DJI Phantom 2, DJI Phantom 3, and DJI

Inspire 1 sUAS 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.

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

PKD Photography submits that the requested relief is proper since an equivalent level of safety will be ensured. PKD Photography will use experienced personnel or technicians to perform maintenance, alterations, or preventive maintenance on the sUAS using the methods, techniques, and practices prescribed in the operating documents (i.e., DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 user manuals). Furthermore, PKD Photography will document and maintain all maintenance records for the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS.

Relief from certain requirements of Section 61.113(a) and (b), entitled *Private pilot privileges and limitations: Pilot in command*, is requested by PKD Photography to the extent necessary to allow a Pilot in Command (PIC) holding a sport pilot or higher level certificate, as well as an airman medical certificate or valid driver's license. PIC must also be able to safely operate the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

PKD Photography requests relief from Section 45.23(b), entitled *Marking of the Aircraft*, as the DJI Phantom 2, DJI Phantom 3, or DJI Inspire 1 have no entrances to the cabin, cockpit, or pilot station on which the markings can be placed. Given the size of the sUAS, two-inch lettering will be impossible. Official marking systems for small sUAS have not yet been established for operations inside the NAS. PKD Photography proposes to mark the top of the vehicle with the registration number with marking as large as practicable.

PKD Photography seeks relief from Section 91.119, entitled *Minimum Safe Altitudes*. As set forth herein, the sUAS will never operate at higher than 500 feet AGL. It will, however, be operated to avoid congested or populated areas that are depicted in yellow on VFR sectional charts. Because aerial survey, mapping and inspection work general aerial photography must be accomplished at relatively low altitudes and at altitudes less than 500 feet AGL, an exemption from Section 91.119(c) is needed.

PKD Photography asks for relief from Section 91.7(a), entitled *Civil aircraft airworthiness*, because the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS do not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. As such, PKD Photography submits that it will ensure that the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS are in an airworthy condition, prior to every flight, by determining that the sUAS are in compliance with the operating documents (i.e. DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 user manuals), and that the aircraft are in a condition for safe flight.

PKD Photography also seeks an exemption from the requirements of Section 91.121, entitled *Altimeter Settings*, as the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS will not have a typical barometric altimeter onboard. However, altitude information of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS 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 PKD Photography's operation of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS within visual line of sight, at or below 500 feet AGL, will ensure a level of safety equivalent to Section 91.121.

Additionally, PKD Photography seeks an exemption from the requirements of Section 91.151(b), entitled *Fuel requirements for flight in VFR conditions*. PKD Photography submits that safety will not be affected

by operation of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS 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.

Name and address of the Petitioner

PKD Photography
Attn: Patryk Drozd
Ph: 617-620-4159
Email: patrykdrozd@icloud.com
Address: 11 Orchard Street, Apt. 5
Newton, MA 02458

The Specific Sections Of 14 C.F.R. From Which PKD Photography Seeks Exemption.

14 C.F.R. 45.23(b);
14 C.F.R. 61.113(a) & (b);
14 C.F.R. 91.7(a);
14 C.F.R. 91.119;
14 C.F.R. 91.121;
14 C.F.R. 91.151(a);
14 C.F.R. 91.405(a);
14C.F.R. 91.407(a)(1);
14 C.F.R. 91.409(a)(2);
14 C.F.R. 91.417(a).

Appendix A discusses each rule listed above and explains why exemptions pursuant to the proposal set forth in this letter are appropriate, provide an equivalent level of safety, and are in the public interest.

Mandatory Operating Conditions

Grant of the exemption to PKD Photography will be subject to the following mandatory conditions, which are based upon operating conditions set forth for operation of sUAS by public entities pursuant to Certificates of Authorization, with additional restrictions:

1. Operations authorized by this grant of exemption will be limited to the following aircraft described in the operating documents, rotorcraft sUAS weighing less than 55 pounds maximum gross weight: DJI Phantom 2, DJI Phantom 3, and DJI Inspire

2. sUAS operations under this exemption will be limited to conducting operations for the purpose of aerial video and photography

3. The sUAS may not be flown at an indicated airspeed not exceeding 85 knots

4. The sUA 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 sUAS 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

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

7. This exemption and all documents needed to operate the sUAS 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 sUAS 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. The operator is responsible for maintaining and inspecting the sUAS to ensure that it is in a condition for safe operation

9. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the sUAS 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 sUAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the sUAS is found to be in a condition for safe flight

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

11. Each sUAS operated under this exemption must comply with all manufacturer Safety Bulletins

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

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 meets the operator's qualification criteria and demonstrates the ability to safely operate the sUAS in a manner consistent with how the sUAS 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)

15. sUAS 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

16. 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

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 UA loses communications or loses its GPS signal, it must return to a predetermined location within the planned operating area and land or be recovered in accordance with the operating documents

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

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 5 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 original COA

22. 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

23. Documents used by the operator to ensure the safe operation and flight of the sUAS 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 sUAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request

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

25. The sUAS 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

27. 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

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

As set forth herein, PKD Photography seeks an exemption pursuant to 14 C.F.R. § 11.61 and Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), which will permit safe operation of the DJI Phantom 2, DJI Phantom3, and DJI Inspire 1 sUAS commercially, without an airworthiness certificate, for the limited purpose of conducting aerial video and photography over certain areas of the United States. By granting this Petition, the FAA Administrator will be fulfilling the Congressional mandate of the FAA Modernization and Reform Act of 2012, while also advancing the interests of the public, by allowing PKD Photography to safely, efficiently, and economically operate the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS commercially within the NAS.

Very truly yours,

Patryk Drozd
PKD Photography

_____
Patryk Drozd
11 Orchard Street, Apt. 5
Newton, MA 02458
Tel: 617-620-4159

Appendices:

A – Exemption Request and Equivalent Level of Safety Showing Under Applicable Rules Subject to Exemption
B – Summary of PKD Photography Section 333 Exemption Request
C – DJI Phantom 2 Manufacturer's User Manual
D – DJI Phantom 3 Manufacturer's User Manual
E – DJI Inspire 1 Manufacturer's User Manual

APPENDIX A

EXEMPTION REQUEST AND EQUIVALENT LEVEL OF SAFETY SHOWINGS UNDER APPLICABLE RULES SUBJECT TO EXEMPTION

PKD Photography requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of its sUAS:

14 C.F.R. § 45.23: Marking of the Aircraft

Regulation 45.23 provides:

> (a) Each operator of an aircraft must display on that aircraft marks consisting of the Roman capital letter "N" (denoting United States registration) followed by the registration number of the aircraft. Each suffix letter used in the marks displayed must also be a Roman capital letter.
>
> (b) When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

The DJI Phantom 2, DJI Phantom 3, or DJI Inspire 1 have no entrances to the cabin, cockpit, or pilot station on which the markings can be placed. Given the size of the sUAS, two-inch lettering will be impossible. Official marking systems for small UAS have not yet been established for operations inside the NAS. PKD Photography proposes to mark the top of the vehicle with the registration number with marking as large as practicable.

14 C.F.R. § 61.113(a) & (b): Private Pilot Privileges and Limitations; Pilot in Command.

Section 61.113(a) & (b) limit private pilots to non-commercial operations. Unlike a conventional aircraft that carries a pilot, passengers, and cargo, the DJI Phantom 2, DJI Phantom 3, and DJI Inspire One are in this case remotely controlled with no passengers or property of others on board. Section 61.133(a) requires an individual with a commercial pilot's license to be pilot in command of an aircraft for compensation or hire. PKD Photography respectfully proposes that operator requirements should take into account the characteristics of the particular sUAS.

PKD Photography respectfully proposes to allow a Pilot in Command (PIC) holding a sport, recreational, private pilot or higher level certificate, as well as an airman medical certificate or valid driver's license to operate the sUAS. And that the PIC is able to safely operate the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

14 C.F.R. § 91.7(a): Civil aircraft airworthiness.

This regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. Due to the fact that the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS do not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. As such, PKD Photography submits that it will ensure that the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS are in an

airworthy condition, prior to every flight, by determining that the UASs are in compliance with the operating documents (i.e., DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 user manuals), and that the aircraft are in a condition for safe flight.

14 CFR § 91.119: Minimum Safe Altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Specifically, 91.119(c) limits aircraft flying over areas other than congested areas to 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.

As set forth herein, the sUAS will never operate at higher than 500 feet AGL. It will, however, be operated to avoid congested or populated areas that are depicted in yellow on VFR sectional charts. Because aerial survey, mapping and inspection work must be accomplished at relatively low altitudes and at altitudes less than 500 feet AGL, an exemption from Section 91.119(c) is needed.

The equivalent level of safety will be achieved given the size, weight, speed, and material with which the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 are built. Also, no flight will be taken without the permission of the land owner or those who control the land. Because of the advance notice to the landowner, all affected individuals will be aware of the flights. Compared to aerial survey operations conducted with aircraft or rotorcraft weighing far more than 6 lbs. and carrying flammable fuel, any risk associated with these operations will be far less than those currently allowed with conventional aircraft operating at or below 500 feet AGL. Indeed, the low-altitude operations of the sUAS will maintain separation between these sUAS operations and the operations of conventional aircraft that must comply with Section 91.119.

14 CFR § 91.121: Altimeter Settings

Section 91.121 requires that each person operating an aircraft shall maintain cruising altitude or flight level by reference to an altimeter that is appropriately set to the specified source..

The DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS will not have a typical barometric altimeter onboard. However, altitude information of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS 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 PKD Photography's operation of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS within visual line of sight, at or below 500 feet AGL, will ensure a level of safety equivalent to Section 91.121.

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

This regulation prohibits an individual from beginning "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."

PKD Photography submits that safety will not be affected by operation of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS 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.

The FAA has granted similar exemptions to others, including Exemptions 2689F, 5745, 10673 and 10808.

14 C.F.R. § 91.405(a); 407(a)(1); 409(a)(2); 417(a): Maintenance Inspections

Section 91.405(a) requires that an aircraft operator or owner "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 ..." Section 91.407 similarly makes reference to requirements in Part 43; Section 91.409(a)(2) requires an annual inspection for the issuance of an air worthiness certificate. Section 91.417(a) requires the owner or operator to keep records showing certain maintenance work that has been accomplished by certificated mechanics, under Part 43, or licensed pilots and records of approval of the aircraft for return to service.

PKD Photography requests relief from these sections as they set forth requirements for maintenance that only apply to aircraft with an airworthiness certificate.

PKD Photography submits that the request is proper since an equivalent level of safety will be ensured. PKD Photo will use experienced personnel or technicians to perform maintenance, alterations, or preventive maintenance on the sUAS using the methods, techniques, and practices prescribed in the operating documents (i.e., DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 user manuals). Furthermore, PKD Photography will document and maintain all maintenance records for the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 sUAS.

APPENDIX B

SUMMARY OF PKD PHOTOGRAPHY SECTION 333 EXEMPTION REQUEST

PKD Photography hereby provides pursuant to Part 11 a summary of its exemption application to allow commercial operation of the DJI Phantom 2, DJI Phantom 3, and DJI Inspire 1 small unmanned system in aerial video and photography applications. An exemption is requested from the following regulations:

14 C.F.R. 45.23(b);
14 C.F.R. 61.113(a) & (b);
14 C.F.R. 91.7(a);
14 C.F.R. 91.119;
14 C.F.R. 91.121;
14 C.F.R. 91.151(a);
14 C.F.R. 91.405(a);
14 C.F.R. 91.407(a)(1);
14 C.F.R. 91.409(a)(2);
14 C.F.R. 91.417(a).

APPENDIX C

DJI PHANTOM 2 MANUFACTURER'S USER MANUAL

APPENDIX D

DJI PHANTOM 3 MANUFACTURER'S USER MANUAL

APPENDIX E

DJI INSPIRE 1 MANUFACTURER'S USER MANUAL