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

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

August 11, 2015

Exemption No. 12435
Regulatory Docket No. FAA–2015–2234

Mr. Robert Peak
Owner
Robert Peak Design
129 Lost Point Lane
Berkeley Springs, WV 25411

Dear Mr. Peak:

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 24, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography, videography, 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. However, the FAA received four comments in support of the petition made to the docket.

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 2 and 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. Robert Peak 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.

[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.

Conditions and Limitations

In this grant of exemption, Mr. Robert Peak is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 and 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

May 24, 2015

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

RE: Exemption Request Section 333 of the FAA Reform Act of the Federal Aviation Regulations from 14 C.F.R. 45.23(b); 14 C.F.R. Part 21; 14 C.F.R. 61.113(a)&(b); 91.7(a); 91.9(b); (2); 91.103(b); 91.109; 119.121; 91.151(a); 91.203(a)&(b); 91.405(a); 91.407(a) (1); 91.409(a) (2); 91.417 (a)&(b)

Dear Sir or Madam,

I, Robert A. Peak Jr, am writing pursuant to the FAA Modernization and Reform Act of 2012 and the procedures contained within 14 C.F.R. 11, to request that I, Robert A. Peak Jr, an owner and operator of small unmanned aircraft, be exempt from the Federal Aviation Regulations ("FARs") listed below so that I, Robert A. Peak Jr, may operate my small ultra-light weight unmanned aircraft system ("sUAS") commercially in airspace regulated by the Federal Aviation Administration ("FAA").

As described herein, I, Robert A. Peak, Jr. am a graphic designer, commercial photographer and short film cinematogapher provide clients with expertise and knowledge in advanced technologies and solutions to increase marketablity, efficiency, productivity and effectiveness. Robert A. Peak, Jr. provides its clients with both still photography and video for use in print and online promotional materials. Robert A. Peak, Jr. has established himself as a technological innovator in multimedia and is recognized as a leader in providing quality business marketing solutions. In addition, Robert A. Peak, Jr. has over 12 years recreational/hobby experience flying sUAS' and three (3) years experience flying quadcopter sUAS' with cameras. I have two quadcopters which are each equipped with a camera and intended for aerial videography/cinematography. The objective of Robert A. Peak, Jr. aerial video and photography operations is to provide high quality video and still imaging for a variety of commercial, public, and residential uses, specifically targeting:

- Documentary and promotional film production
- Aerial filming for tourism promotion in West Virginia
- Aerial event filming
- Aerial location filming
- Aerial real estate filming
- Aerial location scouting and safety inspection
- Increase public knowledge of sUAS and promote safe sUAS operations.

My, Robert A. Peak Jr, exemption request would permit operation of the ultra-light weight, unmanned (piloted by remote control) and comparatively inexpensive sUAS(s) in tightly controlled and limited airspace. Predetermined in areas away from general public, airports, heliports and vehicular traffic for community videos, and within property boundaries for businesses and individual homeowner real estate listing videos/photos. Currently, similar lightweight, remote control sUAS' are legally operated by unmonitored amateur hobbyists with no safety plan or

controls in place to prevent catastrophe. I, Robert A. Peak Jr, have personally instilled safety protocols and controls to avoid and prevent public hazard, as well as manned aircraft hazards/catastrophe.

I, Robert A. Peak Jr, have invested a tremendous amount of time and money for education and proper equipment with the main objective of safety in order to provide a safe and professional alternative for my client's promotional videos; following exemption and approval by the FAA. To further safety protocols exclusive to lightweight sUAS' specific to promotional video and photography usage as I, Robert A. Peak Jr, record flight data and other information gained through permitted flight operations to share with the FAA through any required FAA reports to assist with future protocol and safety regulation.

Granting my, Robert A. Peak Jr's, request comports with the Secretary of Transportation's (FAA Administrations) responsibilities and authority to not only integrate sUAS' into the national airspace system, but to "...establish requirements for the safe operation of such aircraft systems [sUAS'] in the national airspace system" under Section 333(c) of the Reform Act specific to the use of sUAS' for commercial video recording purposes. Further, I, Robert A. Peak Jr, will conduct my operations in compliance with the protocols described herein or as otherwise established by the FAA.

For the reasons stated below, I, Robert A. Peak Jr, respectfully request the grant of an exemption allowing me to operate ultra-light weight, remote controlled sUAS' for academic community awareness to benefit/stimulate attraction to the West Virginia area and to enhance commericial and non-profit videos for business owner's who cannot afford expensive manned aircraft for the same purpose. Both of which will promote local economic growth through increased employment and increased tax base. Both with public safety in mind by keeping heavier manned aircraft containing combustible fuel that poses potential public hazard.

I. Contact Information:

Robert A. Peak Jr / Owner/sUAS Pilot
Robert Peak Design
129 Lost Point Lane
Berkeley Springs, WV 25411
304-258-7647
Email: bob@robert-peak.com

II. The Specific Sections of Title 14 of the Code of Federal Regulations From Which Robert A. Peak Jr Requests Exemption are:

14 CFR 21;
14 C.F.R. 45.23(b);
14 CFR 61.113 (a) & (b);
14 C.F.R. 91, et seq.;
14 CFR 407 (a) (1);
14 CFR 409 (a) (2); and,
14 CFR 417 (a) & (b).

III. The Extent of relief Robert A. Peak Jr seeks and the Reason He Seeks Such Relief:

I, Robert A. Peak Jr, submit this application in accordance with the Reform Act, 112 P.L. 95 §§ 331-334, seeking relief from any currently applicable FARs operating to prevent me, Robert A. Peak Jr, contemplated commercial

cinematic, academic and other flight operations within the national airspace system. The Reform Act in Section 332 provides for such integration of civil unmanned aircraft systems into our national airspace system as it is in the public's interest to do so. My, Robert A. Peak Jr's, ultra light weight sUAS meets the definition of "small unmanned aircraft' as defined in Section 331 and therefore the integration of my ultra light weight sUAS is expressly contemplated by the Reform Act. I would like to operate my ultra light weight sUAS prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft. Thereby, providing direct experience and valuable information for formal regulation that can be administered uniformly to all commercial and non-profit projects related sUAS aerial video and photography. The Reform Act guides the Secretary in determining the types of sUAS' that may operate safely in our national airspace system. Considerations include: The weight, size, speed and overall capabilities of the sUAS'; Whether the sUAS will be operated near airports or heavily populated areas; and, Whether the sUAS will be operated by line of sight. 112 P.L. 95 § 333 (a). Each of these items reflect in favor of an exemption for me, Robert A. Peak Jr. My sUAS utilizes four (4) counter-rotating propellers for balance, control and stability. My sUAS is equipped with GPS and auto return safety technology. Weighing less than five (5) pounds (far below the maximum 55 pound limit); including camera with gimbal.

I, Robert A. Peak Jr, consider safety as foremost with each flight. My small unmanned aircraft is designed to hover in place via GPS and operate in less than a 24 knot (15 mph) wind. For safety, stability and fear of financial loss, I will not fly in winds exceeding 16 kph (10 mph). Built in safety systems, include a GPS mode that allows my sUAS to hover in place when radio controls are released. When pilot communication is lost sUAS is designed slowly descend to point of take-off. I do not operate my sUAS near airports, Hospital nor Police heliports, and do not operate near areas where general public is within harms way depending on location, conditions and weather. I am constantly on alert for any manned aircraft (Police/Medical helicopters, etc.) and am prepared to land/abort immediately to the nearest and safest ground point should a manned aircraft approach my location or I suspect manned aircraft my approach near my location. My sUAS is capable of vertical and horizontal operations, and are flown only within my line of sight of me, as the remote control pilot. Utilizing battery power rather than combustible fuels, flights generally last between 10 to 20 minutes, with an altitude under four hundred (400) feet. I, Robert A. Peak Jr, utilize a fresh fully charged battery with each flight as a safety precaution; full flight time limit for each battery is 15 to 25 minutes as tested. I do not operate my sUAS at or below manufacture recommend minimum charge levels for operation; preferring to remain well within safe operating range to insure adequate communication between radio control and sUAS to eliminate potential for crash, loss of control or hazard. Reserve batteries are at hand with each exercise to insure replacement for sufficient safe level of operation. I do not believe in taking risk that may cause a crash, that could create hazard to the public/property/manned aircraft, and have no desire to lose an investment. I have clocked numerous practice flights in familiarization with the characteristics of these specific sUAS' performance under different temperature and weather conditions. I also have with me at all practice flights and future commercial flights a second team member acting solely as a spotter. All for the sake of safety.

I, Robert A. Peak Jr, am extremely cautious when operating of my sUAS/ultra lightweight unmanned aircraft and will not "create a hazard to users of the national airspace system of the public." 112 P. L. 95 § 333 (b). Given the small size and weight of my sUAS it falls well within Congress' contemplated safety zone when it promulgated the Reform Act and the corresponding directive to integrate sUAS' into the national airspace system. Robert A. Peak Jr's sUAS, used in hobby flight, has a demonstrable safety record and does not pose any threat to the general public or national security.

IV. How Robert A. Peak Jr's Request Will Benefit the Public as a Whole:

Aerial videography for geographical awareness and for marketing has been around for a long time through manned fixed wing aircraft and helicopters. For small budget companies and average homeowners the expense of such aerial videography is cost prohibitive. Only large companies and high end businesses can afford such expense. Depriving lower budget businesses and homeowners from a valuable marketing tool. It is my objective to provide this service as a trained professional with a "safety first" mindset so that the eventual commercialization of sUAS flight is not affected negatively by those who are doing this without proper training.

Congress has already proclaimed that it is in the public's interest to integrate commercially flown sUAS' into the national airspace system, hence the passing of the Reform Act. Granting my, Robert A. Peak Jr, exemption request furthers the public interest through academic/visual awareness of the geographical benefits in and around the West Virginia area. My ultralight weight sUAS is battery powered and creates no emissions that can harm the environment. The consequence of my ultra light weight sUAS crashing is far less than a full size helicopter or fixed wing aircraft; which are heavy, contain combustible fuel and can cause catastrophic devastation to the public. The public's interest is furthered by minimizing ecological and crash threat by permitting aerial video/photo capture through my battery operated ultra light weight sUAS'. Permitting me, Robert A. Peak Jr, to immediately fly within national air space furthers economic growth. Granting my exemption request substantially furthers the economic impact for the West Virginia area for tourism as well as the businesses that could promote their business through the use of aerial video. Both of which serve as a stimulus to the state of West Virginia.

V. Reasons Why Robert A. Peak Jr's Exemption Will Not Adversely Affect Safety Or How The Exemption Will Provide a Level of Safety At Least Equal To Existing Rule:

My, Robert A. Peak Jr, exemption will not adversely affect safety. Quite the contrary, for the reasons stated permitting me, Robert A. Peak Jr, to log more flight time in FAA controlled airspace, with communication with the FAA, will allow me to contribute to the innovation and implementation of new and novel, as of yet undiscovered safety development in cooperation with the FAA. In addition, I, Robert A. Peak Jr, submit the following representations of enhancements to current aerial videography and photography for business & promotion:

- My sUAS', each weighs less than 5 pounds complete with a small ultra lightweight high quality GoPro 4 Black Camera;
- I usually operate my sUAS below 200 feet (well within the 400 foot permissible ceiling set by the FAA Modernization and Reform Act of 2012);
- My sUAS only operates for 10 to 20 minutes per flight;
- I land my sUAS prior to manufacturer recommended minimum level of battery power;
- I pilot my sUAS through remote control only by line of sight and with an additional spotter;
- My sUAS has GPS a flight safety feature whereby it hovers and then slowly lands if communication with the remote control pilot is lost;
- I actively analyze flight data and other sources of information to constantly update and enhance safety protocols;
- I only operate in reasonably safe environment that are strictly controlled, are away from power lines, elevated lights, airports and actively populated areas;
- I conduct extensive pre-flight inspections and protocol, during which safety carries primary importance;
- I always obtain all necessary permissions prior to operation; and,
- I have procedures in place to abort flights in the event of safety breaches or potential danger.

My, Robert A. Peak Jr's, safety protocols provide a level of safety equal to or exceeding existing rules. It is important to note that absent the integration of commercial sUAS into our national airspace system, helicopters are the primary means of aerial video and photography for community awareness and commercial video. While the safety record of such helicopters is remarkably astounding, there has been incident involving loss of life as well as extensive property damage; it is far safer to operate a battery powered ultra light weight sUAS.

- First, the potential loss of life is diminished because sUAS' carry no people on board and I only operate my sUAS in specific areas away from mass populations.
- Second, there is no fuel on board a sUAS and thus the potential for fire or explosion is greatly diminished.
- Third, the small size and extreme maneuverability of my sUAS allow me to remotely pilot away from and avoid hazards quickly and safely.
- Lastly, given its small size and weight, even when close enough to capture amazing images, my sUAS need not be so close to the objects they are focused on through the technology and use of post editing software allowing pan and zoom.
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Accordingly, my sUAS has been experimentally operated for familiarization/competency and will continue to operate at and above current safety levels.

Vl. A Summary The FAA May Publish in the Federal Register:

A. 14 C.F.R. 21 and 14 C.F.R. 91: Airworthiness Certificates, Manuals and The Like.

14 C.F.R. 21, Subpart H, entitled Airworthiness Certificates, sets forth requirements for procurement of necessary airworthiness certificates in relation to FAR § 91.203(a)(1). The size, weight and enclosed operational area of my, Robert A. Peak Jr's sUAS permits exemption from Part 21 because my sUAS meets (and exceeds) an equivalent level of safety pursuant to Section 333 of the Reform Act. The FAA is authorized to exempt aircraft from the airworthiness certificate requirement under both the Act (49 U.S.C § 44701 (f) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA exempt sUAS' from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. My, Robert A. Peak Jr's, current and projected sUAS' meet or exceed each of the elements.

14 C.F.R. 91.7(a) prohibits the operation of an aircraft without an airworthiness certificate. As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable.

14 C.F.R. § 91.9 (b) (2) requires an aircraft flight manual in the aircraft. As there are no on board pilots or passengers, and given the size of the sUAS', this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a safety/flight manual delineating areas of where safety can be defineds. The FAA has previously issued exemptions to this regulation in Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167A, 10602, 10700 and 32827.

14 C.F.R. § 91.121 regarding altimeter settings is inapplicable insofar as my sUAS utilizes electronic global positioning systems with a barometric sensor.

14 C.F.R. § 91.203 (a) and (b) provides for the carrying of civil aircraft certifications and registrations. They are inapplicable for the same reasons described above. The equivalent level of safety will be achieved by maintaining any such required certifications and registrations by me, Robert A. Peak Jr.

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

Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. My sUAS are, by definition, unmanned. They therefore do not have a cabin, cockpit or pilot station on which to mark certain words or phrases. Further, two-inch lettering is difficult to place on such small aircraft with dimensions smaller than minimal lettering requirement. Regardless, I will mark its sUASs in the largest possible lettering by placing the word "EXPERIMENTAL" on its fuselage as required by 14 C.F.R § 45.29 (f) so that I the pilot, or anyone assisting me as a spotter with the UAV will see the markings. The FAA has previously issued exemptions to this regulation through Exemptions Nos. 8738, 10167, 10167A and 10700.

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

Pursuant to 14 C.F.R. §§ 61.113 (a) & (b), private pilots are limited to non-commercial operations. I, Robert A. Peak Jr, can achieve an equivalent level of safety as achieved by current Regulations because my sUAS does not carry any pilots or passengers. Further, while helpful, a pilot license will not ensure remote control piloting skills. The risks attended to the operation of my sUAS is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. § 61, et seq. Thus, allowing me, Robert A. Peak Jr, to operate my sUAS meet and exceed current safety levels in relation to 14 C.F.R. § 61.113 (a) & (b).

D. 14 C.F.R. 91.119: Minimum Safe Altitudes.

14 C.F.R. § 91.119 prescribes safe altitudes for the operation of civil aircraft. It allows helicopters to be operated at lower altitudes in certain conditions. My sUAS will never operate at an altitude greater than 400 AGL, and has been programmed to not exceed 400 AGI. I, Robert A. Peak Jr, will however operate my sUAS in safe areas away from public and traffic, providing a level of safety at least equivalent to or below those in relation to minimum safe altitudes. Given the size, weight, maneuverability and speed of my sUAS, an equivalent or higher level of safety will be achieved.

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

The above-cited Regulations require, amongst other things, aircraft owners and operators to "have [the] 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...."

These Regulations only apply to aircraft with an airworthiness certificate. They will not, therefore, apply to my, Robert A. Peak Jr's, sUAS. However, as a safety precaution, I inspect my sUAS before and after each flight.

A Summary The FAA May Publish in the Federal Register: A. 14 C.F.R. 21 and 14 C.F.R. 91: Airworthiness Certificates, Manuals and The Like. 14 C.F.R. 21, Subpart H, entitled Airworthiness Certificates, sets forth requirements for procurement of necessary airworthiness certificates in relation to FAR § 91.203(a)(1). The size, weight and enclosed operational area of my sUAS permits exemption from Part 21 because my, Robert A. Peak Jr's, sUAS meets an equivalent level of safety pursuant to Section 333 of the Reform Act. The FAA is authorized to exempt aircraft from the airworthiness certificate requirement under both the Act (49 U.S.C. § 44701 (f)) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA to exempt sUAS' from the airworthiness

certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. My sUAS meets or exceeds each of these elements. 14 C.F.R 91.7(a) prohibits the operation ofan aircraft without an airworthiness certificate. As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable. 14 C.F.R. § 91.9 (b) (Z) requires an aircraft flight manual in the aircraft. As there are no pilots or passengers, and given the size of the sUAS', the Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a manual. The FAA has previously issued exemptions to this regulation in Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, maintenance program that involves regular software updates and curative measures for any damaged hardware. Therefore, an equivalent level of safety will be achieved.

In Summary, Robert A. Peak Jr seeks an exemption from the following Regulations:

14 C.F.R. 21, subpart H; 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. § 91.9 (b)(2); 14 C.F.R. § 91.103(b); 14 C.F.R. § 91.109; 14 C.F.R. § 91.119; 14 C.F.R. § 91.121; 14 C.F.R. § 91.151 (a); 14 C.F.R. §§ 91.203 (a) and (b); 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. § 91.409 (a)(2); and 14 C.F.R. §§ 91.417 (a) & (b) to commercially operate my, Robert A. Peak Jr's, small unmanned vehicle/lightweight unmanned aircraft vehicle in community awareness and commercial video applications. Currently, area awareness and commercial aerial videography/photography relies primarily on the use of larger aircraft running on combustible fuel. Posing potential risk to the public. Granting my, Robert A. Peak Jr's, request for exemption will reduce current risk levels and thereby enhance safety. My sUAS craft do not contain potentially explosive fuel, is smaller, lighter and more maneuverable then conventional aircraft with much less flight time. Further, I operate at lower altitudes and in controlled airspace eliminating potential public risk flying to and from established air fields. I, Robert A. Peak Jr, have been informally analyzing flight information and will compile safety protocols and the implementation of a flight operations manual that exceeds currently accepted means and methods for safe flight. Formal collection of information shared with the FAA will enhance the FAA's internal efforts to establish protocols for complying with the FAA Modernization and Reform Act of 2012. There are no personnel on board my, Robert A. Peak Jr's sUAS and therefore the likelihood of death or serious bodily injury is significantly diminished. My, Robert A. Peak Jr's, operation of my sUAS, weighing less than 5 pounds and traveling at lower speeds within limited areas will provide an equivalent level of safety as that achieved under current FARs. Accordingly, I, Robert A. Peak Jr, respectfully request that the FAA grant my exemption request and am willing to cooperate in sharing information to benefit the FAA, safety of manned aircraft, and the general public at large.

Respetfully submitted,

Robert A. Peak Jr, Owner
Robert Peak Design
129 Lost Point Lane
Berkeley Springs, WV 25411

APPENDICES:

A – DJI Phantom 2 and Specifications Data Sheet

B – DJI Phantom 2 Manufacturer's User Manual — *Attachment*

C – DJI iOSD Mini User Manual — *Attachment*

D – Flysight Black Mamba TX5820 video transmitter

E – Flysight Black Pearl Manufacturer's Manual — *Attachment*

F – DJI Phantom 3 Professional Specifications Data Sheet

G – DJI Phantom 3 Professional User Manual — *Attachment*

H – Monthly Maintenance Log

APPENDIX – A

DJI PHANTOM 2 TECHNICAL SPECIFICATIONS

Robert A. Peak, Jr. only utilizes safe and reliable UAS'. DJI is an industry leader in small UAS production. DJI UAS' are loaded with ground breaking software enabling the user to set parameters which will not allow flight into controlled airspace. Parameters can also be set to limit flight to no higher than a predetermined and set altitude as well as limit flight to a predetermined and set distance. In addition, DJI software in conjunction with the DJI IOSD Mini and ImmersionRC Transmitter provides real-time altitude and location information to the PIC via the linked Flysight Black Pearl monitor.

1.1.1 Aircraft
- 1.1.1.1 Supported Battery – DJI 5200 mAh LiPo 3S Battery
- 1.1.1.2 Weight (Battery & Propellers included) – 1000g
- 1.1.1.3 Hover Accuracy (Ready to Fly) – Vertical: 0.8m; Horizontal: 2.5m
- 1.1.1.4 Max Yaw Angular Velocity – 200°/s
- 1.1.1.5 Max Tilt Angle – 35°
- 1.1.1.6 Max Ascent / Descent Speed – 6m/s
- 1.1.1.7 Max Descent Speed – 2m/s
- 1.1.1.8 Max Flight Speed – 15m/s (NOT RECOMMENDED)
- 1.1.1.9 Diagonal Length – 350mm
- 1.1.1.10 Flight Time – 25mins
- 1.1.1.11 Take-off Weight – ≤1300g
- 1.1.1.12 Operating Temperature – -10°C ~ 50°C
- 1.1.1.13 Supported Battery – DJI Smart Battery

1.1.2 DJI Smart Battery
- 1.1.2.1 Battery Type – 3S LiPo
- 1.1.2.2 Capacity – 5200mAh, 11.1V
- 1.1.2.3 Charging Environment Range – 0 to 40
- 1.1.2.4 Discharging Environment Range – -20 to 50
- 1.1.2.5 2.4GHz Remote Control

1.1.3 2.4GHz Remote Control
- 1.1.3.1 Operating Frequency – 2.4GHz ISM
- 1.1.3.2 Communication Distance (open area) – 1000m
- 1.1.3.3 Receiver Sensitivity (1%PER) – -97dBm
- 1.1.3.4 Working Current/Voltage – 120 mA@3.7V
- 1.1.3.5 Built-in LiPo Battery Working Current/Capacity – 3.7V, 2000mAh

APPENDIX – B

DJI PHANTOM 2 MANUFACTURER'S USER MANUAL

Attached as a separate document. Also available for download at:
download.dji-innovations.com/downloads/phantom_2/en/PHANTOM2_User_Manual_v1.4_en.pdf

APPENDIX – C

DJI IOSD MINI USER MANUAL

Attached as a separate document. Also available for download at:
download.dji-innovations.com/downloads/nazam-v2/en/iOSD_mini_User_Manual_v1.06_en.pdf

APPENDIX – D

FLYSIGHT BLACK MAMBA 5.8 VIDEO TRANSMITTER VIDEO TRANSMITTER SPECIFICATIONS

Style: Radio Control Toy
Type: Helicopter
Power: Battery
Material: PCB board
Radio Control Style: RC Hobby
Place of Origin: Guangdong, China (Mainland)
Brand Name: Flysight
Model Number: TX5820-V2(Wireless Audio Video RC Transmitter), TX5820-V2(Black Mamba)
Transmitter power: 2000mW/33dBm
Transmitting distance: ≥8000m-9000M(open area)
Working frequency: ISM 5.8GHZ
Input voltage: DC 6-28V
Dimension(L*W*H): 55*35*27mm
Output voltage: 5V/12V optional
Weight: 52g
Antenna connertor: SMA/RPSMA optional

TX5820-V2 Black Mamba 2000mW FPV Transmitter	
Model Number	TX5820-V2(Black Mamba)
Transmitter power	2000mW/33dBm
Transmitting distance	>8000m-9000m(open area)
Working frequency	ISM 5.8Ghz
Input voltage	DC 6-28V
Output voltage	5V/12V optional
Channel	32CH (compatible with Fatshark, ImersionRC and DJI)
Antenna connertor	SMA/RPSMA optional
Dimension:	55*35*27mm(L*W*H)
Weight	52g

APPENDIX – E

FLYSIGHT BLACK PEARL 7" MONITOR FOR DJI PHANTOM 2

Attached as a separate document. Also available for download at:
www.unmannedtech.co.uk/uploads/6/7/0/2/6702064/rc801-black-pearl-manual.pdf

APPENDIX – F

DJI PHANTOM 3 TECHNICAL SPECIFICATIONS

Robert A. Peak, Jr. only utilizes safe and reliable UAS'. DJI is an industry leader in small UAS production. DJI UAS' are loaded with ground breaking software enabling the user to set parameters which will not allow flight into controlled airspace. Parameters can also be set to limit flight to no higher than a predetermined and set altitude as well as limit flight to a predetermined and set distance. In addition, DJI software provides real-time altitude and location information to the PIC via the linked tablet or smart phone.

1.1.1 Aircraft
- 1.1.1.1 Supported Battery – DJI 480 mAh LiPo 4S Battery
- 1.1.1.2 Weight (Battery & Propellers included) – 1280g
- 1.1.1.3 Hover Accuracy (Ready to Fly) – Vertical: 10cm; Horizontal: 1m
- 1.1.1.4 Max Yaw Angular Velocity – 200°/s
- 1.1.1.5 Max Tilt Angle – 35°
- 1.1.1.6 Max Ascent / Descent Speed – 5m/s
- 1.1.1.7 Max Descent Speed – 3m/s
- 1.1.1.8 Max Flight Speed – 16 m/s (ATTI mode, no wind)
- 1.1.1.9 Diagonal Length – 590 mm (including propellers)
- 1.1.1.10 Flight Time – 23 mins
- 1.1.1.11 Take-off Weight – 1280 g
- 1.1.1.12 Operating Temperature – 0°C ~ 40°C
- 1.1.1.13 Supported Battery – DJI LiPo 4S Smart Battery

1.1.2 DJI Smart Battery
- 1.1.2.1 Battery Type – 4S LiPo
- 1.1.2.2 Capacity – 4480 mAh, 15.2 V
- 1.1.2.3 Charging Environment Range – 0°C to 40°C
- 1.1.2.4 Discharging Environment Range – -10°C to 40°C
- 1.1.2.5 2.4GHz ISM Remote Control

1.1.3 2.4 GHz Remote Control
- 1.1.3.1 Operating Frequency – 2.400 GHz-2.483 GHz
- 1.1.3.2 Communication Distance (open area) – 2000 m
- 1.1.3.3 Receiver Sensitivity (1%PER) – -101 dBm ±2 dBm
- 1.1.3.4 Working Current/Voltage – 1.2 A @7.4 V

APPENDIX – G

DJI Phantom 3 Professional User Manual

Attached as a separate document. Also available for download at:
download.dji-innovations.com/downloads/phantom_3/en/Phantom_3_Professional_User_Manual_v1.0_en.pdf

APPENDIX – H

Monthly Maintenance Log

UAS:	Date Issue Discovered	Date Issue Addressed	Issue (Description / Maintenance Conducted)	Maintenance Performed by: Print & Sign