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

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

April 17, 2015

Exemption No. 11363
Regulatory Docket No. FAA–2015–0114

Mr. David Ho
8312 Callista
Frankfort, IL 60423

Dear Mr. Ho:

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.

The Basis for Our Decision

By letter dated January 14, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct saleable aerial cinematography in video or still format to enhance real estate listings.

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

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

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 2 Vision Plus V3.0.

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

Conditions and Limitations

In this grant of exemption, Mr. David Ho 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 Vision Plus V3.0 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 April, 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

1/14/15

United States Department of Transportation
Docket Operations
1200 New Jersey Ave.SE
West Building Ground Floor Room W12-140
Washington DC 20590

Re: Exemption Request Pursuant To Section 333 of the FAA Reform Act of 2012

Dear Sir or Madam:

I am writing pursuant to the FAA Modernization and Reform Act of 2012 (the "Reform Act")
And the procedures contained in 14 C.F .R. 11, to request that David Ho, owners and operators of a DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) UNMANNED AIRCRAFT SYSTEMS (UAS), and a transportable ground station. The PHANTOM is referred to as a quad-copter with the maximum gross weight of about 3 pounds. It is equipped with four rotors that are driven by electric motors powered by batteries. The Phantom has a maximum airspeed of 30 knots and to be exempted from the Federal Aviation Regulations (FAR's) listed below.
The exemption is needed in order to operate a small lightweight unmanned aircraft system (UNMANNED AIRCRAFT SYSTEMS (UAS) commercially in airspace regulated by the Federal Aviation Administration (FAA). These operations will be conducted within and under the conditions outlined herein or as may be established By the FAA as required by Section 333.§11.81.
The following aspects of Section 333 of the FAA Modernization and Reform Act of 2012 should be considered.

The following information is submitted to meet the requirement of the above act.

1. **Name and address:**
   a. David Ho
   b. 8312 Callista, Frankfort Il 60423
   c. Office: 779-324-0788
   d. Email: David@aerialphoto.pics

2. **The Specific Sections of Title 14 of the Code of Federal Regulations from Which David Ho 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 FR 417 (a) & (b).

3. **The extent of relief you seek, and the reason you seek relief:**

David Ho, respectfully submits this request in harmony with the Reform Act, 112 P.L. 95 §§ 331-334, pursuing reprieve from any currently applicable FARs operating to preclude me, David Ho intended use is saleable aerial cinematography in video or still format within the Greater Chicago region to provide information for intended parties that enhances real estate listings or any legal business that provide supplementary tool adding a greater degree of flexibility which supplements the present abilities obtainable by manned aircraft inside the national airspace system.

The Reform Act in Section 332 provides for such incorporation of civil unmanned aircraft systems into our national airspace system as it is in the public's interest to do so. David Ho's, DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) quad-copter small UNMANNED AIRCRAFT SYSTEMS (UAS), meets the definition of "small unmanned aircraft" as defined in Section 331 and therefore the integration of my ultra-light weight UNMANNED AIRCRAFT SYSTEMS (UAS) is expressly considered by the Reform Act. David Ho would like to operate my DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) ultra-light weight UNMANNED AIRCRAFT SYSTEMS (UAS), prior to the time period, by which the Reform Act requires the FAA to broadcast rules governing such craft. The Reform Act guides the Secretary in defining the types of UNMANNED AIRCRAFT SYSTEMS (UAS)'s that may operate safely in

our national airspace system. Considerations include: The weight, size, speed and overall capabilities of the UNMANNED AIRCRAFT SYSTEMS (UAS)'s; whether the UNMANNED AIRCRAFT SYSTEMS (UAS) will be operated near airports or heavily populated areas; and, Whether the UNMANNED AIRCRAFT SYSTEMS (UAS) will be **operated by line of sight**. My DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) UNMANNED AIRCRAFT SYSTEMS (UAS) operates four (4) counter-rotating propellers for stability, control and steadiness. My UNMANNED AIRCRAFT SYSTEMS (UAS) 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.

Operation of the UNMANNED AIRCRAFT SYSTEMS (UAS) preceding flight and post flight must be operated in a check list format and that safety is paramount with each flight. My DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) is designed to hover in place via GPS and operate in less than a 22 knots (25 mph) wind. David Ho operates this UNMANNED AIRCRAFT SYSTEMS (UAS) with in mind that safety, stability and fear of detrimental financial loss, I will not fly in winds exceeding 13 knots (15 mph). Built in safety systems include a GPS mode that allows my UNMANNED AIRCRAFT SYSTEMS (UAS) to hover in place when radio controls are released. This is the safest, most dependable and unwavering mode to prevent accident and hazard. When pilot communication is lost UNMANNED AIRCRAFT SYSTEMS (UAS) is designed to slowly descend to point of origination, the UNMANNED AIRCRAFT SYSTEMS (UAS) has a function that instantaneously video records once communication is lost. I do not and will not operate my UNMANNED AIRCRAFT SYSTEMS (UAS) near airports, Hospitals or helipads, and do not operate near areas where general public is one hundred (100) yards depending on location, conditions and weather. David Ho is constantly vigilant on alert for any manned aircraft and prepared either avoid and shall yield the right-of-way to all aircraft and operate in a manner to avoid any type of collision hazard with respect to persons on the ground or property and to land/terminate instantly to the nearby and safest ground point should a manned aircraft approach my location or suspect manned aircraft may approach near my location, My DJI Phantom 2 Vision Plus V3.0 model no. PV331 (Serial # PH645472832) UNMANNED AIRCRAFT SYSTEMS (UAS) is capable of vertical and horizontal operations, and are flown only within **my line of sight of me. As the Remote controlled pilot** The UNMANNED AIRCRAFT SYSTEMS (UAS) is operation under the power of a battery power rather than combustible fuels, flights generally last between ten (10) to 15 minutes, with an altitude under three hundred fifty (300) feet.

4. How Request Will Benefit the Public As A Whole:

In-flight videography for topographical awareness and real estate marketing or any legal business utilizing aerial photographs or video has been around for an extensive period of time done with manned fixed wing aircraft and helicopters. For the small budget businessperson the expense of such aerial Videography is enormously fee and cost prohibitive. Depriving, many others of the smaller businessperson from exploiting a valuable advertising tool. Manned aircraft exposes a superior hazard to the public through conceivable cataclysmic crash causing loss to property and or life. UNMANNED AIRCRAFT SYSTEMS (UAS) pose no such hazards due its size, speed and nonexistence of flammable fuel significantly reduces any potential threat to the public.

5. Reasons Why Exemption Will Not Adversely Affect Safety or How the Exemption Will Provide a Level of Safety At Least Equal To Existing Rule:

David Ho's safety protocols will enhance safety; exemption will not adversely affect safety.
In addition I, submit the following representations of enhancements to current aerial videography and photography for real estate or any legal business requiring photographic images:

DJI Phantom 2 Vision +

Serial Number: PH645472832 weighs less than 5 pounds complete with DJI Factory installed camera:

- The Phantom 2 Vision +, firmware programmed for maximum 300 feet Above ground level and 1000 feet radius distance are limited distance for maintaining Visual sight line of operation. Most intended operation will only requires range of 25-125 above ground level and less than 200 feet lateral distance from Pilot in command.

Current firmware upgrades for:

- Main Controller
- GPS
- Receiver
- Battery
- Zen IMU

Current Physical upgrades:

- DJI factory Prop Guards

1. I for one always obtain all essential permissions prior to operation and postings a warning sign reading "Attention Use of Quad Rotor Drone for Aerial Photography in progress- Remain Back 125 feet";
2. I for one will conduct operations under strict personal and flight safety protocols and constantly strive to update and enhance safety protocols;
3. I for one conduct extensive pre-flight inspections and protocol, during which safety carries principal importance;
4. No payloads other than gimbaled camera;
5. I for one only operate in reasonably safe environment that are strictly controlled, are away from power lines, elevated lights, airports and actively populated areas;
6. I for one, pilot my UNMANNED AIRCRAFT SYSTEMS (UAS) through remote control only by line of sight;
7. I for one, only operate my UNMANNED AIRCRAFT SYSTEMS (UAS) with a height limitation set for a maximum of 300 feet ABOVE GROUND LEVEL. (Operating -25% inside the 400 foot permissible ceiling set by the FAA Modernization and Reform Act of 2012);
8. I for one, UNMANNED AIRCRAFT SYSTEMS (UAS) only operate for 3-7 minutes per flight, well with in tolerances issued by the manufacture;
9. I for one will land my UNMANNED AIRCRAFT SYSTEMS (UAS) prior to manufacturer recommended minimum level of battery power;
10. I for one will employ the GPS a flight safety feature whereby it hovers and then slowly lands if communication with the remote control pilot is lost and continues to record flight as per manufacture settings;
11. I for one will maintain records specific to retain until the work is repeated or superseded by other work for one year after the work is performed;
12. I for one will maintain records shall retain and transferred with the aircraft at the time the aircraft is sold ;
13. I for one will list or denote in records a list of defects furnished to a registered owner or operator shall be retained until defects are repaired and the aircraft is approved for return service;

David Ho's operating procedures exceeding existing rules. First, the possible loss of life is lessened because UNMANNED AIRCRAFT SYSTEMS (UAS)'s carry no pilots or passengers on board and I only operate my UNMANNED AIRCRAFT SYSTEMS (UAS) safely in the direct detailed areas of operation versus fixed wing or helicopter requires travel to the region of need. Second, there is no fuel on board an UNMANNED AIRCRAFT SYSTEMS (UAS) and thus the probability for fire or explosions is significantly diminished. Lastley, the small size and extremely maneuverability of my UNMANNED AIRCRAFT SYSTEMS (UAS) allow me to remotely pilot away from hazards quickly and safely.

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

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, David Ho's, UNMANNED AIRCRAFT SYSTEMS (UAS) permits exemption from Part 21 because my UNMANNED AIRCRAFT SYSTEMS (UAS) 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 to exempt UNMANNED AIRCRAFT SYSTEMS (UAS)'s from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. My, David Ho's, current and projected UNMANNED AIRCRAFT SYSTEMS (UAS)'s meet or exceed each of the details.

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 UNMANNED AIRCRAFT SYSTEMS (UAS)'s, this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining safety/flight manual delineating areas of where safety can be defined.(See Enclosed) The FAA has previously issued exemptions to this regulation in Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 10700 and 32827.

14 C.F.R. § 91.121 regarding altimeter settings is inapplicable insofar as my UNMANNED AIRCRAFT SYSTEMS (UAS) 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, David Ho.

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

Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. My UNMANNED AIRCRAFT SYSTEMS (UAS) 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 that minimal lettering requirement. Regardless, I will mark its UNMANNED AIRCRAFT SYSTEMS (UAS)s 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.

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, David Ho, can achieve an equivalent level of safety as achieved by current Regulations because my UNMANNED AIRCRAFT SYSTEMS (UAS) 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 UNMANNED AIRCRAFT SYSTEMS (UAS) is far less than the risk levels inherent in the commercial activities outlined

in 14 C.F.R. § 61, et seq. Thus, allowing me, David Ho, to operate my UNMANNED AIRCRAFT SYSTEMS (UAS) meet and exceed current safety levels in relation to 14 C.F.R. §61.113 (a) & (b).

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 UNMANNED AIRCRAFT SYSTEMS (UAS) will never operate at an altitude greater than 300 ABOVE GROUND LEVEL; safely below the standard of 400 ABOVE GROUND LEVEL. I, David Ho, will however operate my UNMANNED AIRCRAFT SYSTEMS (UAS) 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 UNMANNED AIRCRAFT SYSTEMS (UAS), an equivalent or higher level of safety will be achieved.

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, David Ho's, UNMANNED AIRCRAFT SYSTEMS (UAS). However, as a safeguard I inspect my UNMANNED AIRCRAFT SYSTEMS (UAS) beforehand and afterward each flight.

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 UNMANNED AIRCRAFT SYSTEMS (UAS) permit exemption from Part 21 because my, David Ho's, UNMANNED AIRCRAFT SYSTEMS (UAS) 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 UNMANNED AIRCRAFT SYSTEMS (UAS)'s from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. My UNMANNED AIRCRAFT SYSTEMS (UAS) meets or exceeds 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 pilots or passengers, and given the size of the UNMANNED AIRCRAFT SYSTEMS (UAS)'s, this 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.

7. **There is no request to exercise the privileges of your exemption outside the United States.**

Respectfully submitted,

David Ho