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

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

July 8, 2015

Exemption No. 11363A
Regulatory Docket No. FAA-2015-0114

Mr. David Ho
8312 Callista Drive
Frankfort, IL 60423

Dear Mr. Ho:

This letter is to inform you that we have granted your petition for an amendment. It explains the basis for our decision, describes its effect, and lists any changes to the original conditions and limitations.

By letter dated May 11, 2015 you petitioned the Federal Aviation Administration (FAA) for an amendment to your current exemption. That exemption from §§ 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) of Title 14, Code of Federal Regulations (14 CFR) allows the petitioner to operate a UAS to perform aerial data collection. You requested an amendment to add DJI Inspire I.

In your petition, you indicate that there has been no change in the conditions and reasons relative to public interest and safety that were the basis for granting the original exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested amendment to the exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner. The unmanned aircraft(s) authorized in the original grant are comparable in type, size, weight, speed and operating capabilities to those in this petition.

Airworthiness Certification

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, C*ertification procedures for products and parts,*

Subpart H—Airworthiness Certificates, and any associated noise certification and testing requirements of part 36, is not necessary.

Our Decision

The FAA has determined that the justification for the issuance of Exemption No. 11363 remains valid and is in the public interest. Therefore, under the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, the operator is granted an amendment to add new aircraft to its UAS operations.

The operator shall add this amendment to its original exemption.

Conditions and Limitations

All conditions and limitations within Grant of Exemption No. 11363 remain in effect except as follows. Condition No. 1 has been updated to reflect the additional aircraft.

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 Inspire 1 and DJI Phantom 2 Vision Plus 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.

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

Sincerely,

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

Exemption Request for David Ho Pursuant To Section 333 of the FAA Reform Act of 2012, March 23, 2015 "Blanket "Request.

5/11/15

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, and March 23, 2015, "Blanket" CoA

Dear Sir or Madam:

I am writing pursuant to the FAA Modernization and Reform Act of 2012 (the "Reform Act") and Blanket COA, of March 23, 2015 and the procedures contained in 14 C.F .R. 11, to request that David Ho, owners and operators of a DJI Inspire 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) UNMANNED AIRCRAFT SYSTEMS (UAS), and a transportable ground station. The INSPIRE 1 is referred to as a quad-copter with the maximum gross weight of about 6.5 pounds. It is equipped with four rotors that are driven by electric motors powered by batteries. The Inspire 1 has a maximum airspeed of 45 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 Inspire 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) 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 Inspire 1 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 Inspire 1 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) 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 (6) 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 Inspire 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) is designed to hover in place via GPS and operate in less than a 45 knots. 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 Inspire 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) 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 200 hundred (200) feet**, conducted during daytime , visual flight rules (VFR) condition and within visual line of sight (VLOS) of me , and I will follow FAA guidelines of operation 5 NM from an airport having an operational control tower , 3 NM from an airport with a published instrument flight procedure, but not an operational tower or 2NM from an airport without a published instrument flight procedure or a operational tower or 2 Nm from a heliport with an instrument flight procedure.

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 Inspire 1

Serial Number: 1 model no. T600 (Serial #W130CA23020947) (camera Serial #w18DBL30011349) (Repeater serial W140CA15030320) weighs less than 7 pounds complete with DJI Factory installed camera:

Exemption Request for David Ho Pursuant To Section 3 3 3 of the FAA Reform Act of 2012, March 23, 2015 "Blanket "Request.

- The Inspire 1, firmware programmed for maximum 200 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

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 200 feet ABOVE GROUND LEVEL and During the day (Operating -50% inside the 200 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;
14. Visual flight rules (VFR) condition and within visual line of sight (VLOS) of me.
15. I will stay away from 5 NM from an airport having an operational control tower.
16. 3 NM from an airport with a published instrument flight procedure, but not an operational tower
17. 2NM from an airport without a published instrument flight procedure or an operational tower or 2 Nm from a heliport with an instrument flight procedure.

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 200 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.

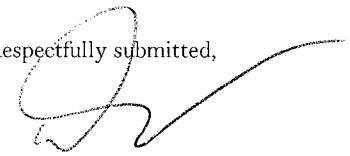
Summary the FAA May Publish in the Federal Register: A. 14 C.F.R. 21 and 14

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