

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 Ryan P. Marlow, owner and operator of a small UAS, 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 (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.

1. If certain unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security; and

The operated UAS, DJI INSPIRE 1, meets all the requirements of an Ultralight aircraft except for the ability to carry a passenger. This aircraft is under 254 pounds as required for powered Ultralights, they are electric so they have less than 5 gallon fuel capacity, it is not capable of speeds over 55 knots, and its power-off stall speed is under 24 knots calibrated airspeed. If as requested, it is classified as an Ultralight Aircraft by regulations it cannot be used in congested airspace and can only be used in Class G Airspace without special authorization. As part of this application the UAS will only be used Line of sight in order to meet the public safety requirement of an exemption to Title 14 Chapter I Subchapter F Part 103 Subpart B §103.21

2. Whether a certificate of waiver, certificate of authorization, or airworthiness certification under section 44704 of title 49, United States Code, is required for the operation of unmanned aircraft systems identified under paragraph (1).

If as requested this UAS is classified as an Ultralight, it would not require a certificate of waiver, certificate of authorization, or airworthiness certification. As part of this application I will apply for a Certificate of Authorization so this UAS could support local Emergency Services as necessary.

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

- Name and address:

a. Ryan Patrick Marlow

b. 7960 Upper O'Malley Road, Anchorage Alaska 99507

- Section of 14 CFR from which I seek an exemption

a. 103.1 (a) Is used or intended to be used for manned operation in the air by a single occupant.

b. 103.1 (b) Is used or intended to be used for recreation or sport purposes only. c. 103.21 No person may operate an ultralight vehicle except by visual reference with the surface.

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

- 103.1 (a) Request the operation of the air vehicle as an UAS. By definition it will not be manned.

- 103.1 (b) Request that the UAS be allowed to be used for commercial purposes. It will be used for aerial photograph, agriculture field inspection and aerial property monitoring.

- 103.21 Request that the vehicle be operated by visual reference "from the ground "not "with the ground". This will be accomplished by maintaining maximum altitude and distance from the PIC of 200ft.

- The reasons why granting your request would be in the public interest; that is, how it would benefit the public as a whole.

- By designating small UAS as Ultralight Aircraft and setting below requirements for an exemption to the probation for commercial use, public safety will be greatly enhanced. With the low cost of these devices, many are in the process of using them in a non-regulated none tracked manner. In addition to the exemption list above the PIC will follow the below requirements.

- 50 hours of flight time prior to use for commercial purposes. The hours will be documented on the standard FAA Log book.

- Completion of an FAA Grounds school program or home study course and successfully completion of the knowledge test.

- The above stipulations along with the designation of this UAS as Ultralight will enhance public safety in the following ways.

- Aircraft and PIC will be registered and connected to allow for accountability.

- Presently, with their low cost of these devices many people are operating these UASs in a non-regulated manner. By providing a way for the Aircraft to be registered to a Specific PIC, if there is an incident the aircraft can be traced back to an individual. I will notify the FAA if an aircraft is added or removed from the fleet.

- UAS, DJI INSPIRE 1 s/n W13DBL26020551

- PIC Ryan Marlow

- By matching the UAS to the PIC the FAA can review the log book to ensure that the PIC has spent the time with the particular aircraft to ensure safety.

- Although the UAS has a home function as a redundant safety feature, if the Aircraft should malfunction and not respond to the transmitter or home function, the PIC will notify the area controlling station in the same manner as an accidentally released tethered balloon. Once an Aircraft is found the Serial number of the Aircraft can confirm the PIC responsible for it.

c. By designating the Aircraft as an Ultralight the rules and regulation for its operation are already established for safe operation in public airspace.

- The Aircraft cannot operate above a congested gathering nor can it operate above congested parts of a town or city.

- The Aircraft can only operate within the hours of daylight, unless it has the applicable markings and safety light.

- The Aircraft can only operate in class G airspace. This will keep the aircraft away from other air traffic.

- The aircraft can only operate in airspace as stipulated by the cloud cover requirements within the proper 103. Ensuring safe operation around other aircraft.

- As stipulated in the application I am asking for an exception stating that the UAS can only operate less than 200 feet AGL. Although this more restrictive than the Ultralight requirements it will insure a clear line of sight connection between the PIC and the UAS.

- Aircraft will operate in airspace controlled by emergency personnel only when PIC is in direct voice contact with Incident Commander or Designee.

- Designating the UAS as an Ultralight, the following regulations will not apply however public safety will not be reduced by the actions listed and will be enhanced by not being overly burdensome to the operator and increasing compliance.

- As stipulated in 103.7 (c) An "N" number will not be required. The "N" number is used for Aircraft identification. Limiting the Aircraft to Class G Airspace or Airspace controlled by emergency personnel under Incident commander control eliminated the need for visual identification of an aircraft within an Airport control. The requirement of the "N" number for accident identification is fulfilled by the registration of the Aircraft and the PIC.

- As stipulated in 103.7 (b) An Air worthiness certificate is not required and due to the size of the drone. Similar to other Ultralight aircraft, the safety hazard represented by the Aircraft is limited. Also the requirement the aircraft will operate only in line of sight of the PIC and not over congested areas further reduce any hazard. Mandating that the PIC has a \$1 million dollar insurance policy ensure that proper restitution can be made if an incident does occur. Public safety is improved by reducing the burden on operator to ensure proper registration and ensuring that the PIC is properly insured and trained.

- iii. As stipulated in 103.7 (a) a pilot certificate is not required. Due to the differences in flying a UAS and operating a manned aircraft for personal or commercial use, little is gained from requiring one of these certifications for UAS operation. Passing the practical test and showing required logged time in a manned aircraft will not increase the safety of the drone operation. This being said, the part of the pilot certification that would be applicable is the knowledge and ground school portion of the certification. This part of the certification would give the PIC an understanding of the aircraft operations that the UAS will share NAS with and the importance of staying within its operating parameters. The Knowledge test is also only good for two years and will have to be renewed insuring recertification of a UAS operating permit. Public safety will also be enhanced by requiring that an FAA log be filled out showing knowledge of Specific UAS operation. The above will ensure public safety while not placing a burden on UAS operators that may encourage unregistered operation.

g. My request for an exemption differs from the majority of request that I have read but has many advantages.

i. Starting with the stipulating that these small drones are Ultralight aircraft, many of the rules and regulations necessary to keep a separation from other manned aircraft are already in effect.

- No person may operate an ultralight vehicle except between the hours of sunrise and sunset.

- Notwithstanding paragraph (1) of this section, ultralight vehicles may be operated during the twilight periods 30 minutes before official sunrise and 30 minutes after official sunset or, in Alaska, during the period of civil twilight as defined in the Air Almanac, if:

- The vehicle is equipped with an operating anti-collision light visible for at least 3 statute miles; and

- All operations are conducted in uncontrolled airspace.

- Each person operating an ultralight vehicle shall maintain vigilance so as to see and avoid aircraft and shall yield the right-of-way to all aircraft.

- No person may operate an ultralight vehicle in a manner that creates a collision hazard with respect to any aircraft

- No person may operate an ultralight vehicle over any congested area of a city, town, or settlement, or over any open air assembly of persons.

- UAS can only be operated in Class G airspace

a. No person may operate an ultralight vehicle within Class A, Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport unless that person has prior authorization from the ATC facility having jurisdiction over that airspace

- Any person operating an ultralight vehicle under this part shall, upon request, allow the Administrator, or his designee, to inspect the vehicle to determine the applicability of this part.

- No person may operate an ultralight vehicle in prohibited or restricted areas unless that person has permission from the using or controlling agency, as appropriate.

- No person may operate an ultralight vehicle in areas designated in a Notice to Airmen under §91.137, §91.138, §91.141, §91.143 or §91.145 of this chapter, unless authorized by:

a. Air Traffic Control (ATC); or

b. A Flight Standards Certificate of Waiver or

Authorization issued for the demonstration or event.

- The pilot or operator of an ultralight vehicle must, upon request of the Administrator, furnish satisfactory evidence that the vehicle is subject only to the provisions of this part.

- No person may operate any ultralight vehicle in a manner that creates a hazard to other persons or property.

- No person may allow an object to be dropped from an ultralight vehicle if such action creates a hazard to other persons or property.

- No person may conduct operations that require a deviation from this part except under a written waiver issued by the Administrator. This section mandates that several aspect of Section 107 be waived ensuring proper registration of UAS being used in a commercial enterprise and that the PIC is properly experienced.

ii. Stipulating these small UAS as ultralight aircraft an Airman certification is not required. By stipulating that the knowledge test portion of the air certification is enforced, all operators will be required to understand the requirement to keep UAS away from manned aircraft and the rules in which they will operate ensuring public safety.

iii. Mandating document hours on the specific UAS prior to commercial use will ensure public safety by ensuring the PIC is proficient a particular airframe. This will also mandate the proper documentation to prove this proficiency.

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

Respectfully submitted by Ryan P. Marlow