

12/31/2014

Michael Harvey  
Unmanned Aerial Assessment & Video LLC  
5218 S Malaya Way, Centennial CO 80015

Hon. Michael Huerta  
Administrator  
Federal Aviation Administration  
U. S. Department of Transportation  
Docket Management System  
1200 New Jersey Ave., SE  
Washington, DC 20590

Re: Exemption Request under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from certain parts of the FARs.

Dear Administrator Huerta:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, Unmanned Aerial Assessment & Video, LLC, a Colorado limited liability company, hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow it to operate a small Unmanned Aircraft System ("sUAS") under the conditions and limitations set forth in this Petition.

The requested exemption would permit the operation of small, unmanned and relatively inexpensive sUAS under controlled conditions in airspace that (1) is limited, (2) is predetermined, and (3) would provide safety enhancements to First Responders on the front lines in our communities. Approval of this exemption would thereby enhance safety and fulfill the FAA Administrator's responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system." Section 333(c) of the Reform Act.

The name and address of the applicant is:

Unmanned Aerial Assessment & Video, LLC  
Attn: Michael Harvey  
Telephone: (720) 243-2775  
Email: MichaelHarvey100@yahoo.com  
Address: 5218 S Malaya Way, Centennial CO. 80015

Regulations from which the exemption is requested:

14 CFR Part 21

14 C.F.R. § 45.23(b)

14 CFR § 61.3

14 C.F.R. § 91.7 (a)

14 CFR § 91.9 (b) (2)

14 C.F.R. § 91.103

14 C.F.R. § 91.109

14 C.F. R. § 91.119

14 C.F.R. § 91.121

14 CFR § 91.151 (a)

14 CFR § 91.203 (a) & (b)

14 CFR § 91.205(b)

14 CFR § 91.215

14 CFR § 91.405 (a)

14 CFR § 407 (a) (1)

14 CFR § 409 (a) (2)

14 CFR § 417 (a) & (b) 3

Appendix 1 describes the FARs from which an exemption is requested and summarizes the justification for each requested exemption.

The Petition is submitted to fulfill Congress' goal under Section 333(a) through (c) of the Reform Act, which directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rulemaking required under Section 332 of the Reform Act. In making this determination, the Administrator must determine which types of UASs do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

- The UAS's size, weight, speed, and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within visual line of sight of the operator.

Reform Act § 333 (a).

If the Administrator determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." Id. § 333(c).

The Secretary has delegated his aviation authority to the Administrator of the FAA.

The Federal Aviation Act expressly grants the FAA the authority to grant exemptions from its regulatory requirements for civil aircraft, a term defined under §40101 of the Act, which includes sUASs. The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of the Federal Aviation Act if Administrator finds the exemption in the public interest. 49 U.S.C. § 44701(f) See also 49 USC § 44711(a); 49 USC § 44704; 14 CFR §91.203 (a) (1).

The Petitioner is a startup company, Unmanned Aerial Assessment & Video, LLC, The founder of the company is a retired Military Veteran with training, both academically and militarily in Emergency Management. Prior to starting Unmanned Aerial Assessment & Video, LLC, the founder worked as an Emergency Manager in both the Civilian and Military Contractor venues. He is also a certified Hazmat Specialist with over 15 years of experience with CBRN, (Chemical, Biological, Radiation & Nuclear) activities. Additionally, the founder has a strong interest in UASs and has been recreationally flying them for approximately 2 years, amassing over 120 hours of flight time.

The Petitioner has formulated a business plan to provide Emergency Management assistance to Local, State and Federal entities. The plan is to use small drones for SAR (Search & Rescue), Hazmat/CBRN Management and Emergency & Disaster Response. When responding to an emergency, one of the priorities is to understand how the most critical areas are affected and where they are situated - before putting any more human lives in danger. The unmanned Drone platform puts the power of aerial intelligence directly into the hands of the first responders. Real-time video streaming can show not only the extent of the damage but may also warn responders of additional hazards. Geo-tagged digital photographs provide an aerial record of the on-ground situation completely untouched. It is very improbable for First Responders to acquire, stay trained up on and be on the leading edge of technology with regards to UASs due to turnover and other training requirements that take priority.

Under the plan, the Drones will be DJI Inspires, DJI Phantom 2s or DJI Phantom 2 Visions, flying below 400 feet above ground level and never within 5 miles from an airport. They will operate only within the line of sight of the operator and will only operate in populated areas for life and safety reasons and under the control of the on-scene Incident Commander. Flights will be remote from noise sensitive areas such as parks, schools, hospitals, and churches. Flights will be only conducted in permissible weather – rain, snow, or winds above 12 mph will terminate the flights. The Drones will only be operated by the Petitioner who has considerable experience flying UA Drones. Prior to operating the drones all pre-flight checks will be conducted as per the Petitioners SOP (Standard Operating Procedures). Safety will be the paramount concern in defining flight profiles.

I am aware that this business plan is only permissible if it obtains special permission from the FAA. Many potential competitors of Petitioner are actively flying sUAS, notwithstanding the FAA's stated prohibition. Petitioner also notes and has read the congressional mandate in sections 332 and 333 of the FAA Revitalization and Reform Act of 2012 that the FAA move quickly to accommodate the economic and societal benefits that can result from widespread deployment of sUAS technology. Accordingly, Petitioner applies for authorization under the Federal Aviation Act and the FARs to undertake the following activities for commercial purposes. Unless the Petition is granted, Petitioner will be at a significant competitive advantage if it, as it prefers, complies with FAA policy.

### **Vehicle**

The Petitioner will fly one or more DJI Phantom 2s, DJI Phantom 2 Visions equipped with a three-axis gimbal and camera, small oxygen and radiation sensors and eventually a thermal FLIR for better situational awareness during SAR and Wild land Fire mapping missions.

These vehicles have the built in capability to limit the height they fly above the ground, to limit the radius of the distance they fly from the operator, and to exclude them from class B, C, and D airspace as well any TFR's (Temporary Flight Restricted) areas. The vehicles also have the built-in capability to return to the launching point if the wireless control link is interrupted or if the operator attempts to exceed any of the height, radius, or airspace limitations programmed into them.

The vehicle weighs about five pounds and has a maximum gross weight of approximately twenty pounds. It has a top speed of about 30 knots. It has four fixed-pitch rotors, thrust from which is varied by changing RPM. It is powered by a lithium polymer smart battery.

### Flight profiles

The petitioner will program the Phantom so that it will not fly more than 400 feet above ground level, or more than 1500 feet away from its operator. The PIC (Person in Control) will carefully preflight the vehicle before each mission to assure that its compass and GPS system are properly calibrated and that the return-to-home feature, altitude, and radius limitations work.

It will not operate in controlled airspace. In the unlikely event that a manned aircraft flies below 400 feet AGL where the Petitioner is operating its Phantom, the operator will keep both the vehicle and manned aircraft in sight and avoid the manned aircraft.

More particularly, the Petitioner will fly the Phantom only over the hazard areas that are in control of an on-scene Incident Commander, most likely being a Fire Chief, SAR rep or Police rep, etc.

### Public interest

Granting the petition would be in the public interest because:

1. The Congress of the United States has determined that early accommodation of sUAS into the National Airspace System advances the public interest. The Committee Report leading the House to adopt H.R. 658 said:

"The successful integration of unmanned aircraft systems (UAS) into the National Airspace System (NAS) can support more than 23,000 high-paying jobs in the United States. . . . The absence of a plan to integrate UASs into the NAS is a barrier to such job creation . . . ."1

Granting the Petition represents a step toward such integration, in the absence of a comprehensive regulatory regime for sUAS, and thus would serve the Congressional goal and the public interest.

2. Granting the Petition will facilitate a new era in Emergency Response activities, one in which the responders themselves have a tool to safely, quickly and remotely assess a situation without placing lives in harm's way. In comparison, the EOD robots have saved countless lives since their inception, a feat that will become common place for aerial assessments.

3. Granting the Petition will enable Petitioner to demonstrate the commercial viability of creating new safety techniques and tactics with new aeronautical technology, thereby improving the efficiency of Emergency Responders around the world and making for a safer society.

The rules from which Petitioner seeks exemption artificially and irrationally limit the effective use of new technologies to expand Emergency Response safety and improve the efficiency of markets, thereby subverting the public interest.

---

1. H. R. Rep. 112-29 on H.R. 658, 112th Cong., 1st Sess. at 116. The House-Senate Conference Committee on the FAA Modernization and Reform Act of 2012 recommended amendments to H.R. 658 in lieu of amendments adopted by the Senate. Conference Report to Accompany H.R. 658, H.R. Rep. 112-381, 112th Cong., 2d Sess., at p. 1 (Feb. 1, 2012).

4. Granting the Petition will enable the Petitioner to demonstrate that Wounded War Veterans, as I am, can still thrive and be a part of the business community, regardless of any setbacks they may endure. This alone is in keeping with the Presidents stated ideology as well as the Veterans Administrations vision and in the public's interest.

5. Granting the Petition will fulfill the FAA's own declaration that encouraging new aviation technologies advances the public interest. The FAA itself has recognized the public interest in its role of "Encouraging and developing civil aeronautics, including new aviation technology."<sup>2</sup> Granting the Petition will enhance FAA fulfillment of that commitment, thereby serving the public interest. Air commerce flourishes in the United States because of the rapid pace of innovation in aeronautical and associated technologies, followed by their commercialization and their introduction into the marketplace. The drone technology that the Petitioner uses exemplifies the latest innovative leap forward in aeronautical technology. Preventing it from using this in air commerce subverts achievement of the goal.

6. Granting the Petition will fulfill the Congressional determination that integrating sUAS technology into the NAS serves the public interest. Section 330 of the FAA Modernization and Reform Act of 2012, specifically recognizes the advantages to air commerce obtainable from the deployment of sUAS technologies. It mandated several steps by the FAA to accelerate the availability of these technologies in the National Airspace System, thereby representing a congressional determination that the public interest is served by making these technologies more widely available at the earliest practicable date. The Petition represents a way for the FAA to move incrementally, while still satisfying its congressional mandate and meeting its obligation to enhance the public interest by making new technologies available by allowing the use of sUAS technologies in a manner that protects the public and the rest of the aviation community from significant risk.

The commercial activities by Petitioner proposed in the Petition represent contributions to new forms of air commerce, thereby fulfilling the FAA's statutory mandate under the 2012 Act.

7. Granting the Petition will enhance aviation safety, thereby advancing the public interest. The Petitioner has committed itself in the Petition to safety practices that reduce or eliminate hazards to aircraft in the National Airspace System and to persons and property on the ground. Many others are flying sUAS without regard to these hazards. Granting the Petition will offer the Petitioner up as an example of how the FAA is willing to accommodate the new technology when it is constrained by appropriate limitations to enhance safety. It will also allow the Petitioner to be a role model for safe commercial sUAS operations.

Users of the National Airspace System are confronted by mushrooming threats from sUAS flown in defiance of the FAA's ban. Unless the FAA shows some flexibility to accommodate lawful and safe operation of sUAS for legitimate commercial purposes, the level of defiance will increase, intensifying the hazards to manned aircraft and to persons and property on the ground.

The Petitioner's proposed operations satisfy the criteria provided in Section 333 of the Reform Act relating to size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight, and national security. The Petition justifies grant of the requested exemptions to allow the Petitioner to engage in Emergency Response procedures using small Drones.

---

<sup>2</sup> FAA, Safety: The Foundation of Everything We Do, [http://www.faa.gov/about/safety\\_efficiency/](http://www.faa.gov/about/safety_efficiency/).

Respectfully submitted,  
Michael Harvey  
Unmanned Aerial Assessment & Video LLC

Appendix 1

<b>FAR section</b>	<b>Subject</b>	<b>Justification</b>
<b>14 CFR § 45.23(b)</b>	<b>Requirement to display registration number on vehicle</b>	<b>Insufficient space on vehicle</b>
<b>14 CFR Part 21</b>	<b>Aircraft certification requirements and procedures</b>	<b>Designed for manned aircraft; not suitable for off-the-shelf sUAS</b>
<b>14 CFR § 61.3</b>	<b>Requirement for pilot certificate</b>	<b>Part 61 requirements designed for manned aircraft, not sUAS; petition describes training for sUAS operator</b>
<b>14 CFR § 91.7 (a)</b>	<b>Airworthiness requirement</b>	<b>Designed for manned aircraft; not suitable for off-the-shelf sUAS</b>
<b>14 CFR § 91.9 (b) (2)</b>	<b>Requirement for manual to be available in the cockpit</b>	<b>No one aboard to read manual</b>
<b>14 CFR § 91.103(b)</b>	<b>Requirement for crew members to be onboard</b>	<b>Unmanned vehicle</b>
<b>14 CFR § 91.109</b>	<b>Requirement for dual controls during flight instruction</b>	<b>No one aboard to operate controls</b>
<b>14 CFR § 91.119</b>	<b>Minimum altitudes for safe flight</b>	<b>Safety requires operation below these altitudes</b>
<b>14 CFR § 91.121</b>	<b>Altimeter settings</b>	<b>No one aboard to read altimeter</b>
<b>14 CFR § 91.151(a)</b>	<b>Fuel requirements</b>	<b>Vehicle does not use fuel</b>
<b>14 CFR § 91.203 (a) &amp; (b)</b>	<b>Requirement for registration and airworthiness certificates to be onboard</b>	<b>No one aboard to read certificates</b>
<b>14 CFR § 91.205(b)</b>	<b>Cockpit instruments</b>	<b>No one aboard to read</b>
<b>FAR section</b>	<b>Subject</b>	<b>Justification</b>
<b>14 CFR § 45.23(b)</b>	<b>Requirement to display registration number on vehicle</b>	<b>Insufficient space on vehicle</b>
<b>14 CFR Part 21</b>	<b>Aircraft certification requirements and procedures</b>	<b>Designed for manned aircraft; not suitable for off-the-shelf sUAS</b>
<b>14 CFR § 61.3</b>	<b>Requirement for pilot certificate</b>	<b>Part 61 requirements designed for manned aircraft, not sUAS; petition describes training for sUAS operator</b>
<b>14 CFR § 91.7 (a)</b>	<b>Airworthiness requirement</b>	<b>Designed for manned aircraft; not suitable for off-the-shelf sUAS</b>

<b>14 CFR § 91.9 (b) (2)</b>	<b>Requirement for manual to be available in the cockpit</b>	<b>No one aboard to read manual</b>
<b>14 CFR § 91.103(b)</b>	<b>Requirement for crew members to be onboard</b>	<b>Unmanned vehicle</b>
<b>14 CFR § 91.109</b>	<b>Requirement for dual controls during flight instruction</b>	<b>No one aboard to operate controls</b>
<b>14 CFR § 91.119</b>	<b>Minimum altitudes for safe flight</b>	<b>Safety requires operation below these altitudes</b>
<b>14 CFR § 91.121</b>	<b>Altimeter settings</b>	<b>No one aboard to read altimeter</b>
<b>14 CFR § 91.151(a)</b>	<b>Fuel requirements</b>	<b>Vehicle does not use fuel</b>
<b>14 CFR § 91.203 (a) &amp; (b)</b>	<b>Requirement for registration and airworthiness certificates to be onboard</b>	<b>No one aboard to read certificates</b>
<b>14 CFR § 91.205(b)</b>	<b>Cockpit instruments</b>	<b>No one aboard to read</b>