October 25, 2014

United States Department of Transportation

Docket Management System

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:

We are 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 Drone Filmworx, an owner and operator of small unmanned aircraft, be exempted from the Federal Aviation Regulations ("FARs") listed below so that Drone Filmworx, may operate its small unmanned aircraft / lightweight unmanned aircraft systems ("UAS") commercially in airspace regulated by the Federal Aviation Administration ("FAA"); as long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333. The conditions identified and proposed by the applicant are drawn from Order 8900.1 CHG 0, Volume 3, Chapter 8 - Issue a Certificate of Waiver for Motion Picture and Television Filming.

As identified and described herein, Anthony Cullen, and his company Drone Filmworx, is an experienced and recognized veteran in the television and motion picture industries. Mr. Cullen has been an avid RC model flyer for many years and is a member of the Academy of Model Aeronautics ("AMA").

Drone Filmworx has been actively involved in the technical development of UAS/UAV service applications to provide high definition film quality by aerial cinematography with small, unmanned aircraft and lightweight UAS's. Drone Filmworx has fully equipped each of its small unmanned aircraft for aerial cinematography, primarily for use in the television and motion picture industries, though given their stability and maneuverability, they may be used for other cinematography, by law enforcement, search and rescue and by other first responders.

To date, Drone Filmworx has rejected all offers to work with television, motion picture and commercial production companies on locations within the United States, to ensure it is in compliance with any applicable FARs. It, like other applicants, has done so despite Judge Patrick G. Geraghty's decision in the Raphael Pirker matter and his reasoning that no FARs prohibit the use of small unmanned aircraft or lightweight UASs like those flown by other peer companies.

Drone Filmworx exemption request would permit its operation of lightweight, unmanned (remotely controlled – within line of sight) UASs in tightly controlled and limited airspace. Predetermined, specifically marked areas of operation, cordoned off locations and corresponding enhancements to current safety controls will allow Drone Filmworx to operate within current safety parameters and new ones being implemented. As identified, similar lightweight, remote controlled UASs are legally operated by amateurs with no flight experience, safety plan or controls in place to prevent catastrophe.

Granting Drone Filmworx request comports with the Secretary of Transportation's (FAA Administrator's) responsibilities to not only integrate UASs into the national airspace system, but to "...establish requirements for the safe operation of such aircraft systems (UASs) in the national airspace system" under Section 333(c) of the Reform Act. Further, Drone Filmworx will conduct its operations in compliance with the protocols described herein or as otherwise established by the FAA.

Drone Filmworx respectfully requests the grant of an exemption allowing it to operate lightweight, remote controlled UAS's.

The Specific Sections of Title 14 of the Code of Federal Regulations, Drone Filmworx requests exemption are: 14 CFR 21; 14 CFR 45.23(b); 14 CFR 61.113(a) & (b); 14 CFR 91, et seq.; 14 CFR 407(a)(1); 14 CFR 409(a)(2); and 14 CFR 417(a) &(b).

Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 CFR 45.23(b); 14 CFR Part 21; 14 CFR 61.113(a)&(b);91.7(a); 91.9(b)(2); 91.103(b), 91.109; 91.119; 91.121; 91.151(a); 91.203(a)&(b); 91.405 (a); 91.407(a)(1); 91.409(a)(2); 91.417(a)&(b).

The Extent of Relief Drone Filmworx Seeks and the Reason It Seeks Such Relief:

Drone Filmworx submits this application in accordance with the Reform Act,112 P.L. 95 331-334, seeking relief from any currently applicable FARs operating to prevent Drone Filmworx contemplated commercial cinematic, research 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. Drone Filmworx lightweight UASs meet the definition of "small unmanned aircraft" as defined in Section 331 and therefore the integration of Drone Filmworx lightweight UASs are expressly contemplated by the Reform Act. Drone Filmworx would like to operate its lightweight UASs prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such aircraft.

The Reform Act guides the Secretary in determining the types of UASs that may operate safety in our national airspace system. Considerations include:

The weight, size, speed and overall capabilities of the UAS; Whether the UAS will be operated near airports or populated areas; and, Whether the UAS will be operated by line of sight.

112 P.L. 95 333(a). Each of these items militates in favor of an exemption for Drone Filmworx.

Drone Filmworx UASs utilizes four counter-rotating propellers for extreme balance, control and stability. They each weigh less than 55 pounds, including cinematic or other equipment. Each of Drone Filmworx small unmanned aircraft are designed to primarily hover in place and operate at less than a 50 knot air speed. They are capable of vertical and horizontal operations but operate only within the line of sight of the remote control pilot. In addition to the remote control pilot, Drone Filmworx uses a spotter and a technician, such that, at a minimum, three Drone Filmworx personnel govern the safe flight of a Drone Filmworx aircraft at all times.

Utilizing battery power and not combustible fuels, flights generally last between five and twenty minutes. Drone Filmworx does not operate its UASs with less than twenty-five percent battery capacity. Safety systems in place include a GPS mode that allows Drone Filmworx UASs to hover in place and then return home to its original take-off location, descend and land the UASs at twenty-five percent capacity if communication with the radio control pilot is lost.

Drone Filmworx does not operate its UASs near airports and generally does not operate them near populated areas. The UAS operating software and GPS navigation systems do not allow any of the Drone Filmworx UAS vehicles to operate near airports or restricted no-fly zones. To date, Drone Filmworx has only operated its fleet on private sets, cordoned off areas and areas under the control of Drone Filmworx clients, Drone Filmworx only operates its UASs in predetermined areas and only with well regarded safety protocols such as those contained within the well-established and commonly known Motion Picture and Television Operations Manual.

Drone Filmworx operation of its fleet of small unmanned aircraft will not "create a hazard to users of the national airspace system or the public." 112 P.L. 333(b). Given the small size and weight of Drone Filmworx UASs, combined with their operation in cordoned off and well controlled areas, Drone Filmworx fleet falls within Congress's contemplated safety zone when it promulgated the Reform Act and the corresponding directive to integrate UASs into the national airspace system. Indeed, Drone Filmworx UASs have a demonstrable safety record and do not pose any threat to the general public or national security.

The FAA has the authority to issue the exemption to Drone Filmworx pursuant to the Federal Aviation Act, 85 P.L. 726 (1958), as amended (the "Act"). Commercial and Public Benefits.

Granting Drone Filmworx exemption request furthers the public interest. First, Congress has already pronounced that it is in the public's interest to integrate commercially flown UASs into the national airspace system, hence the passing of the Reform Act. Second, Drone Filmworx conducts research into safe UAS operations every time it flies one of its UASs. Flight data, visual inspections, recorded observations and flight analyses are compiled to further enhance current safety protocols. Allowing Drone Filmworx to log more flight time directly relates to its research and its ability to further enhance current safety measures. Third, the public has an interest in reducing the danger and emission associated with current aerial cinematic capture methods, namely, full size helicopters. Drone Filmworx UASs are battery powered and create no emissions. If a Drone Filmworx UAS crashes there is no fuel to ignite and explode. The impact of Drone Filmworx lightweight UASs is far less than a full size helicopter, notwithstanding the statistically noteworthy safety record of full size helicopters used in motion picture capture. The public's interest is furthered by minimizing ecological and crash impacts by permitting motion picture capture through Drone Filmworx lightweight UASs.

Progression of the arts and sciences has been fundamental to our society since its inclusion in the Unites States Constitution. Indeed, Congress mandated the integration of UASs into our national airspace system, in part, to achieve progression in tis noteworthy, and inevitable, field. Permitting Drone Filmworx to immediately fly within the United States furthers these goals. Whether it is the amalgam of scientific discovers applicable to feature film making (including those drawing upon engineering, architecture, physics and cultural inclusiveness) to advancements in publicly technologies or advancements in equipment available to law enforcement and first responders that does not cost millions of dollars, granting Drone Filmworx exemption request substantially furthers the public's interest in ways known and currently unknown.

Reasons Why Drone Filmworx Exemption Will Not Adversely Affect Safety or How the Exemption Will Provide a Level of safety at Least Equal to Existing Rule:

Drone Filmworx exemption will not adversely affect safety. Quite the contrary, for the reasons stated, supra, permitting Drone Filmworx to log more flight time in FAA controlled airspace will allow Drone Filmworx to innovate and implement new and as of yet undiscovered safety protocols. In addition, Drone Filmworx submits the following representations of enhancements to current aerial motion picture capture techniques:

- Drone Filmworx UASs weigh less than 55 pounds complete with HD motion picture capture cameras and stabilization gimbles.

- Drone Filmworx only operates UASs below 400 feet.

- Drone Filmworx only operate for 5-20 minutes per flight.

- Drone Filmworx lands its UASs when they reach 25% battery power.

- Drone Filmworx remote control pilots operate Drone Filmworx UASs by line of sight.

- Drone Filmworx remote control pilots have video backup should they somehow lose sight of the UASs.

- Drone Filmworx staffs each flight with a remote control pilot, spotter and technician with communication systems enabling real time communication between them.

- Drone Filmworx UASs have GPS flight control modes whereby they hover, return home and slowly land if communication with the remote control pilot is lost or battery power is below 25%.

- Drone Filmworx actively analyses electronic flight data and other sources of information to constantly update and enhance safety protocols.

- Drone Filmworx only operates in secured areas that are strictly controlled, are away from airports and populated areas.

- Drone Filmworx conducts extensive briefings prior to flight, during which safety carries primary importance.

- Drone Filmworx always obtains all necessary permissions and permits prior to operation; and, Drone Filmworx has procedures in place to abort flights in the event of safety breaches or potential danger.

Drone Filmworx provides a level of safety at least equal to existing rules, and in nearly every instance, greater than existing rules. It is important to note that absent the integration of commercial UASs into our national airspace system, helicopters are the primary means of aerial motion picture capture. While the safety record of such helicopters is remarkably astounding, it is far safer to operate a battery powered lightweight UAS. First, the potential loss of life is diminished because UASs carry no people on board and Drone Filmworx only operates them is specific areas away from mass populations. Second, there is no fuel on board a UAS and thus the potential for fire or explosions is greatly diminished. Third, the small size and extreme maneuverability of Drone Filmworx UASs allow our remote control pilots to avoid hazards. Lastly, given their small size and weight, even when close enough to capture amazing images, Drone Filmworx UASs need not be so close to the objects they are focused on. Accordingly, Drone Filmworx UASs have operated and will continue to operate at and above current safety levels.

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 Drone Filmworx UASs permits exemption from Part 21 because Drone Filmworx UASs meet 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 UASs from airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. Drone Filmworx UASs 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 pilots or passengers, and given the size of the UASs, this Regulation is inapplicable. An equivalent level of safety will be achieved by maintaining a manual in the flight operations center. The FAA has previously issued exemptions to tis 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 Drone Filmworx UASs utilize electronic global positioning systems and internal gyroscopes to provide spatial coordination.

14 C.F.R. 91.203(a)(b) provides for the carrying of civil aircraft certifications and registrations. They are inapplicable for the same reason described above. The equivalent level of safety will be achieved by maintaining such certifications and registrations at the Drone Filmworx flight operations center.

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

Applicable Codes of Federal Regulation require aircraft to be marked according to certain specifications. Drone Filmworx UASs 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. Regardless, Drone Filmworx will mark its UASs 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 the pilot, spotter, technician and others working 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. Drone Filmworx can achieve an equivalent level of safety as achieved by current Regulations because Drone Filmworx UASs do not carry any pilots or passengers. Further, while helpful, a pilot license will not ensure remote control piloting skills, though Drone Filmworx pilot vetting and training programs will. Further, private pilot licensees will operate Drone Filmworx UASs with the same skill. Further, the risks attendant to the operation of Drone Filmworx UASs is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. 61, et seq. Thus, allowing Drone Filmworx to operate its UASs with a private pilot as the pilot as the pilot in control will 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. Drone Filmworx UASs will never operate at an altitude greater than 400 feet AGL. Drone Filmworx will, however, operate its UASs in cordoned off

areas with security perimeters, providing a level of safety at least equivalent to those in relation to minimum safe altitudes. Given the size, weight, maneuverability and speed of Drone Filmworx UASs, an equivalent 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 Drone Filmworx should its requested exemption be granted. Drone Filmworx conducts an extensive maintenance program that involves regular software updates and constant inspection for assessment of any damaged hardware. Therefore, an equivalent level of safety will be achieved. Drone Filmworx has researched and developed its own designs.

F. Summary

Drone Filmworx 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)(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. 91.417(a)(b) to commercially operate its fleet of small unmanned vehicles and lightweight unmanned aircraft vehicles in motion picture or television operations, to conduct its own research and to develop economic platforms for law enforcement, first responders and search and rescue.

Granting Drone Filmworx request for exemptions will reduce current risk levels and thereby enhance safety. Currently, motion picture image capture relies primarily on the use of larger aircraft running on combustible fuel. Drone Filmworx craft do not contain potentially explosive fuel, are small, lighter and more maneuverable than conventional motion picture aircraft. Further, Drone Filmworx operates at lower altitudes and in controlled airspace. Drone Filmworx has been analyzing flight data and other information in compiling novel safety protocols and the implementation of a flight operations manual that exceeds currently accepted means and methods of safe flight

There are no people on board Drone Filmworx UASs and therefore the likelihood of death or serious bodily injury is significantly limited. Drone Filmworx operation of its UASs, weighting less than 55 pounds and traveling at speeds lower than 50 knots in cordoned off areas will provide at least an equivalent level of safety as that achieved under current FARs.

Drone Filmworx respectfully requests that the FAA grant its exemption request without delay. The FAA has the authority to issue the exemption sought by Drone Filmworx pursuant to the Federal Aviation Act, 85P.L. 726 (1958), as amended (the "Act").

Sincerely,

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