



August 4, 2015

Exemption No. 12305 Regulatory Docket No. FAA–2015–1224

Mr. Zainil M. Kadiwal CEO DroneForce Studios, LLC 1422 Kyle Hill Lane Sugar Land, TX 77479

Dear Mr. Kadiwal:

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.

By letter dated April 16, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of DroneForce Studios, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography and cinematography.

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 Inspire 1.

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<sup>1</sup>. 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, DroneForce Studios, LLC 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.

<sup>&</sup>lt;sup>1</sup> Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

## **Conditions and Limitations**

In this grant of exemption, DroneForce Studios, LLC 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 Inspire 1 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: <a href="www.ntsb.gov">www.ntsb.gov</a>.

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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan Director, Flight Standards Service

Enclosures

## DroneForce Studios LLC

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Date: 4/16/15

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 DroneForce Studios LLC, an owner and operator of small unmanned aircraft, be exempted from the Federal Aviation Regulations ("FARs") listed below so that DroneForce Studios, may operate its small unmanned aircraft I 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, Zainil Kadiwal, and his company DroneForce Studios, is an experienced, recognized veteran in the cinematography and photography industry. Mr. Kadiwal and his previous production experience have been producing and delivering great and unmatched quality videos.. Mr. Kadiwal has also been an avid R/C model flyer for over eight (8) years. Mr. Kadiwal has had extensive production service contracts with many entertainment multi-media conglomerates. DroneForce Studios 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. It is currently one of the very few companies that is developing advanced technical applications and abilities for future commercial service applications. DroneForce Studios has fully equipped each of its small unmanned aircraft for aerial photography and cinematography, primarily for use in the television broadcast industry, though given their stability and maneuverability, they may be used for other cinematography, by law enforcement personnel, search and rescue and by other first responders.

To date, DroneForce Studios has rejected all offers to work with film, television, commercial television production companies and directors 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 UAS like those flown by other peer companies. DroneForce Studios exemption request would permit its operation of lightweight, unmanned (remotely controlled in line of sight) UAS in tightly controlled and limited airspace. Predetermined, specifically marked areas of operation, cordoned off locations and corresponding enhancements to current safety controls will allow DroneForce Studios to operate within current safety parameters and new ones being implemented. As identified, similar lightweight, remote controlled UAS are legally operated by amateurs with no flight experience, safety plan or controls in place to prevent catastrophe. DroneForce Studios is developing a state-of-theart client website application to monitor, evaluate and implement all aerial cinematography activities with a pre-flight safety and flight plan system. Granting DroneForce Studios request comports with the Secretary of Transportation's (FAA Administrator's) responsibilities to not only integrate UAS into the national airspace system, but to "... establish requirements for the safe operation of such aircraft systems [UAS] in the national airspace system" under Section 333(c) of the Reform Act. Further, DroneForce Studios will conduct its operations in compliance with the protocols described herein or as otherwise established by the FAA. DroneForce Studios respectfully requests the grant of an exemption allowing it to operate lightweight, remote controlled UAS. The Specific Sections of Title 14 of the Code of Federal Regulations, DroneForce Studios.

Equipment: (UAS) DJI Inspire 1

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 CFR 417 (a) & (b).

Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation

Regulations from 14 C.F.R. 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 DroneForce Studios Seeks and the Reason It Seeks Such Relief:

DroneForce Studios 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 DroneForce Studios 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. DroneForce Studios lightweight UAS meet the definition of "small unmanned aircraft" as defined in Section 331 and therefore the integration of DroneForce Studios lightweight UAS are expressly contemplated by the Reform Act. DroneForce Studios would like to operate its lightweight UAS prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft. The Reform Act guides the Secretary in determining the types of UAS that may operate safely in our national airspace system. Considerations include:

The weight, size, speed and overall capabilities of the Dji Inspire 1; 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 DroneForce Studios. DroneForce Studios UAS utilizes four counter-rotating propellers for extreme balance, control and stability. They each weigh less than 25 pounds, including cinematic or other equipment. Each of DroneForce Studios small unmanned aircraft are designed to primarily hover in place and operate at less than a 35 knot maximum 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, DroneForce Studios uses a spotter and a technician, such that, at minimum, three DroneForce Studios personnel govern the safe flight of an DroneForce Studios aircraft at all times. Utilizing battery power and not combustible fuels, flights generally last between five and twenty minutes DroneForce Studios does not operate its UAS with less than twenty five percent battery capacity. Safety systems in place include a GPS mode that allows DroneForce Studios UAS to hover in place if communication with the radio control pilot is lost and then slowly descend the UAS at twenty five percent battery capacity. Further, DroneForce Studios Dji Inspire 1 is programmed, in some instances, to slowly follow a predetermined set of waypoints to return to a safety point if communications are lost. DroneForce Studios does not operate its UAS 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 DroneForce Studios UAS vehicles to operate near airports or restricted fly zones. The failsafe software will disable the UAS vehicles from taking off and also limit the UAS systems from operating within specific GPS preset no-fly zones. To date, DroneForce Studios has only operated its fleet on private sets, cordoned off areas and areas under the control of DroneForce Studios clients. DroneForce Studios only operates its UAS in predetermined areas and only in compliance with well regarded safety protocols such as those contained within the well established and commonly known Motion Picture and Television Operations Manual. DroneForce Studios operation of its Dji Inspire 1 of small unmanned aircraft will not "create a hazard to users of the national airspace system or the public." 112 P.L. 95 § 333 (b). Given the small size and weight of DroneForce Studios UASs, combined with their operation in cordoned off and wellcontrolled areas, DroneForce Studios Dji Inspire 1 falls within Congress's contemplated safety zone when it promulgated the Reform Act and the corresponding directive to integrate UAS into the national airspace system. Indeed, DroneForce Studios UAS 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 DroneForce Studios pursuant to the Federal Aviation Act, 85 P.L. 726 (1958), as amended (the "Act"). Commercial and Public Benefits Granting DroneForce Studios exemption request furthers the public interest. First, Congress has already pronounced that it is in the public's interest to integrate commercially flown UAS into the national airspace system, hence the passing of the Reform Act. Second, DroneForce Studios conducts research into safe UAS operations every time it flies one of its UAS. Flight data, visual inspections, recorded observations and flight analyses are compiled to further enhance current safety protocols. Allowing DroneForce Studios 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. DroneForce Studios UAS are battery powered and create no emissions. If an DroneForce Studios UAS crashes there is no fuel to ignite and explode. The impact of DroneForce Studios lightweight UAS 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 DroneForce Studios lightweight UAS. Progression of the arts and sciences has been fundamental to our society since its inclusion in the United States Constitution. Indeed, Congress mandated the integration of UASs into our national airspace system, in part, to achieve progression in this noteworthy, and inevitable, field. Permitting DroneForce Studios to immediately fly within the United States furthers these goals. Whether it is the amalgam of scientific discoveries applicable to feature film making (including those drawing upon architecture, physics, engineering and cultural inclusiveness) to advancements in publicly usable technologies or advancements in equipment available to law enforcement personnel I first responders that does not cost millions of dollars, granting DroneForce Studios exemption request substantially furthers the public's interest in ways known and currently unknown.

Reasons Why DroneForce Studios Exemption Will Not Adversely Affect Safety Or How The Exemption Will Provide a Level of Safety At Least Equal To Existing Rule: DroneForce Studios exemption will not adversely affect safety. Quite the contrary, for the reasons stated, supra, permitting DroneForce Studios to log more flight time in FAA controlled airspace will allow DroneForce Studios to innovate and implement new and as of yet undiscovered safety protocols. In addition, DroneForce Studios submits the following representations of enhancements to current aerial motion picture capture techniques:

- DroneForce Studios UAS weigh less than 25 pounds complete
- DroneForce Studios only operates its UAS below 300 feet;
- DroneForce Studios UAS only operate for 5-25 minutes per flight;
- DroneForce Studios lands its UAS when they reach 25% battery power;
- DroneForce Studios remote control pilots operate DroneForce Studios UAS by line of sight;
- DroneForce Studios remote control pilots have video backup should they somehow lose sight of the UAS
- DroneForce Studios staffs each flight with a remote control pilot, technician and

spotter with communication systems enabling real time communication between them;

- DroneForce Studios UASs have GPS flight modes whereby they hover and then slowly land if communication with the remote control pilot is lost or battery power is below25%;
- DroneForce Studios actively analyses electronic flight data and other sources of information to constantly update and enhance safety protocols;
- DroneForce Studios only operates in secured areas that are strictly controlled, are away from airports and populated areas;
- DroneForce Studios conducts extensive briefings prior to flight, during which safety carries primary importance;

DroneForce Studios always obtains all necessary permissions and permits prior to operation; and, DroneForce Studios has procedures in place to abort flights in the event of safety breaches or potential danger. DroneForce Studios 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 UAS 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 UAS carry no people on board and DroneForce Studios only operates them in 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 DroneForce Studios UAS allow our remote control pilots to avoid hazards. Lastly, given their small size and weight, even when close enough to capture amazing images, DroneForce Studios UAS need not be so close to the objects they are focused on. Accordingly, DroneForce Studios UAS 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)(l). The size, weight and enclosed operational area of DroneForce Studios UAS permits exemption from Part 21 because DroneForce Studios UAS 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 (l)) and Section 333 of the Reform Act. Both pieces of legislation permit the FAA to exempt UAS from the airworthiness certificate requirement in consideration of the weight, size, speed, maneuverability and proximity to areas such as airports and dense populations. DroneForce Studios UAS 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 at the flight operations center. 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 DroneForce Studios UAS utilize electronic global positioning systems and internal gyroscopes to provide spatial coordination. 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 such certifications and registrations at the DroneForce Studios 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. DroneForce Studios 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. Regardless, DroneForce Studios will mark its UASs in the largest possible lettering on its fuselage as required by 14 C.F.R. §45.29 (f) so that the pilot, technician, spotter 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. DroneForce Studios can achieve an equivalent level of safety as achieved by current Regulations because DroneForce Studios UAS do not carry any pilots or passengers. Further, while helpful, a pilot license will not ensure remote control piloting skills, though DroneForce Studios pilot vetting and training programs will. Further, private pilot licensees will operate DroneForce Studios UAS with the same skill. Further, the risks attendant to the operation of DroneForce Studios UAS is far less than the risk levels inherent in the commercial activities outlined in 14 C.F.R. § 61, et seq. Thus, allowing DroneForce Studios to operate its UASs with a private 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. DroneForce Studios UAS will never operate at an altitude greater than 300 AGL. DroneForce Studios 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 DroneForce Studios UAS, 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 DroneForce Studios should its requested exemption be granted. DroneForce Studios 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. DroneForce Studios has researched and developed its own designs.

## Summary

DroneForce Studios seeks an exemption from the following Regulations: 14 C.F.R. 21, subpart H: 14 C.P.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) and (b); 14 C.F.R. § 91.405 (a); 14 C.F.R. § 91.407 (a)(1); 14 C.P.R. § 91.409 (a)(2); 14 C.P.R. § 91.409 (a)(2); and, 14 C.P.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 I first responders, search and rescue. Granting DroneForce Studios request for exemption 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. DroneForce Studios craft do not contain potentially explosive fuel, are smaller, lighter and more maneuverable than conventional motion picture aircraft. Further, DroneForce Studios operates at lower altitudes and in controlled airspace. DroneForce Studios 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 DroneForce Studios UAS and therefore the likelihood of death or serious bodily injury is significantly limited DroneForce Studios operation of its UAS, weighting less than 25 pounds and traveling at speeds lower than 35 knots in cordoned off areas will provide at least an equivalent level of safety as that achieved under current FARs. DroneForce Studios respectfully requests that the FAA grant its exemption request without delay. The FAA has the authority to issue the exemption sought by DroneForce Studios pursuant to the Federal Aviation Act, 85 P.L. 726 (1958), as amended (the "Act").

Sincerely,

Zainil M Kadiwal, CEO DroneForce Studios, LLC. 1422 Kyle Hill Lane

Sugar Land, TX 77479



Carlos Cascos Secretary of State

## Office of the Secretary of State

# CERTIFICATE OF FILING OF

DroneForce Studios LLC File Number: 802185419

The undersigned, as Secretary of State of Texas, hereby certifies that a Certificate of Formation for the above named Domestic Limited Liability Company (LLC) has been received in this office and has been found to conform to the applicable provisions of law.

ACCORDINGLY, the undersigned, as Secretary of State, and by virtue of the authority vested in the secretary by law, hereby issues this certificate evidencing filing effective on the date shown below.

The issuance of this certificate does not authorize the use of a name in this state in violation of the rights of another under the federal Trademark Act of 1946, the Texas trademark law, the Assumed Business or Professional Name Act, or the common law.

Dated: 03/30/2015

Effective: 03/30/2015



Carlos Cascos Secretary of State

Phone: (512) 463-5555 Prepared by: Bridget Mouton Come visit us on the internet at http://www.sos.state.tx.us/

Fax: (512) 463-5709 TID: 10306 Dial: 7-1-1 for Relay Services Document: 598826170002



## CERTIFICATE OF AVIATION LIABILITY INSURANCE

04/15/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(les) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER ·	NAME: Martha Christian									
Falcon Insurance Agency of Houston, Inc.	PHONE [A/C, No, Ext): (281) 540-8822 [A/C, No):	No):								
	ADDRESS:									
19747 Highway 59 N., Suite 314	ADDRESS: PHODUCER CUSTOMER ID #:									
Sugar Land, TX 77479										
	INSURER(8) AFFORDING COVERAGE	%	NAIC #							
INSURED	INSURER A: QBE insurance Corporation	100	39217							
Drone Force Studios, LLC	INSURER B :									
1422 Kyle Hill Lane	INSURER C:									
Sugar Land, TX 77479	INSURER D:									
ougui Euro, ixi ii ii	INSURER E :									
	INSURER F ;									

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

AIRPORT & FBO LIABILITY COVERAGES CERTIFICATE NUMBER: 1								REVI	REVISION NUMBER: A						
INSURER LE		QAV00026			04/13/2015 EXPIRATION DATE 04/13/2016		ADDITIONAL INSURED? (Y/N) NO		SUBROGATION WAIVED? (Y / N) NO						
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DESCRIPTION OF OPERATIONS / REMARKS (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

For informational purposes only.

CERTIFICATE HOLDER

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

Tim Wanasek

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