Exemption No. 12645

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20591

In the matter of the petition of **ALLIED DRONES** for an exemption from part 21; §§ 45.23(b); 61.3(a) and (c); 61.113(a) and (b); 91.7(a); 91.9(b)(2); 91.103; 91.109; 91.119; 91.121; 91.151(a); 91.203(a) and (b); 91.405(a); 91.407(a)(1); 91.409(a)(2); and 91.417(a) and (b) of Title 14, Code of Federal Regulations	**Regulatory Docket No. FAA–2014-0804**

GRANT OF EXEMPTION

By letters dated October 2, 2014, and January 28, 2015, which included supplemental proprietary information submitted to the Federal Aviation Administration (FAA) under separate cover, Mr. Joshua Kornoff, Allied Drones (hereinafter Petitioner or Operator), 7272 Saturn Drive, Unit K, Huntington Beach, CA 92647 petitioned the FAA for an exemption from part 21, §§ 45.23(b), 61.3(a) and (c), 61.113(a) and (b), 91.7(a), 91.9(b)(2), 91.103, 91.109, 91.119, 91.121, 91.151(a), 91.203(a) and (b), 91.405(a), 91.407(a)(1), 91.409(a)(2), and 91.417(a) and (b) of Title 14, Code of Federal Regulations (14 CFR). The petitioner requested to operate the Allied Drones HV 44 tethered unmanned aircraft system (UAS) to conduct aerial infrastructure inspections and surveys for the bridge, tower, and building construction and maintenance industries.

See Appendix A for the petition submitted to the FAA describing the proposed operation and the regulations that the petitioner seeks an exemption.

The petitioner has provided the following information along with its petition to support its request for an exemption:

1. Allied Drones HV 44 Flight Operations and Procedures (Confidential)

The petition and the document above are hereinafter referred to as the operating documents.

Discussion of Public Comments:

A summary of the petition was published in the Federal Register on November 13, 2014 (79 FR 67532). Two comments were received from the Small UAS Coalition (Coalition) and the National Agricultural Aviation Association (NAAA).

In support of the petition, the Coalition stated the petitioner has proposed to abide by stronger safety measures than hobby and modeler groups operating similar aircraft. The Coalition stated that it does not believe that heightened safety measures should be required for the petitioner simply because of the commercial nature of its operations. The Coalition urged the FAA to adopt an evaluation framework for UAS operations under section 333 of Pub. L. 112–95 that weighs the relative safety issues and risks of UAS by class and operational circumstances, rather than adopting artificial distinctions among unmanned aerial vehicles based on commercial and noncommercial operations. The Coalition suggested FAA safety regulations be proportionate to the risks posed by the particular proposed UAS operations by distinguishing between UAS. The petitioner's UAS pose considerably less safety risk than larger UAS. The Coalition asserted that because UAS operations like the petitioner's pose minimal risk to safety, they should be subject to minimal and appropriate regulations.

The Coalition noted the FAA is to consider the seven factors[1] in section 333 as a minimum. The Coalition stated the petition shows the FAA should consider factors other than those specified in section 333, such as the location and altitude of its small UAS. The Coalition maintained that the petitioner's proposed operations satisfy the seven factors in section 333 and include several additional mitigating factors to ensure the safety and security of the proposed UAS operations. The Coalition emphasized the FAA must evaluate each factor within the context of the petitioner's proposed UAS operations.

The Coalition also commented that the FAA should grant relief from the requirement to hold an airman's certificate, but stated that at a minimum the FAA should provide an exception from part 61 and approve training and testing regiments that pertain to UAS commercial operations pertinent to the aircraft and operation proposed. The Coalition also asserted that Congress intended the section 333 national security criterion to focus on the operation rather than on the pilot and that shifting that focus imposes an unnecessary burden.

In response, as discussed in the grant of exemption to Trimble Navigation Ltd. (Exemption No. 11110), neither section 333 nor the FAA's authority to exempt from its regulations found in 49 USC § 44701(f), authorizes the FAA to provide exemption to the statutory requirement to hold an airman certificate as prescribed in 49 USC § 44711.

[1] Section 333(b) of P.L. 112-95 states, in part: "In making the determination under subsection (a), the Secretary shall determine, at a minimum-- (1) which types of 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; …"

The FAA notes that under this exemption the petitioner proposed to use pilots holding private certificates and it will be able to use the training program it proposed. Finally, the FAA does not agree that relying on the pilot certificate for a national security finding poses an unnecessary burden because pilots under this exemption, and the exemptions granted previously to section 333 requests, are already required to hold a pilot certificate to satisfy 49 USC § 44711.

The Coalition commented that a visual observer (VO) should not be required for all small UAS operation. The Coalition further asserted that the presence of one or more VOs may allow the UAS to be operated beyond VLOS of the PIC and that the petitioner's proposal to operate the UA within VLOS of the PIC *and/or* VO should be permitted. The FAA notes that one of the determinations for operations under section 333 is operation within visual line of sight. As the PIC is determined to be in command of the UA, he must maintain VLOS while operating the UA. The FAA also notes that a VO complements the PICs capability to see and avoid other aircraft, including when the PIC may be momentarily attending to other flying tasks. The VO provides an additional level of operational safety.

NAAA stated that UAS operators should hold a commercial certificate. NAAA asserted that holding similar high standards as commercial aircraft operators ensures that UAS operators are aware of their responsibilities within the NAS. NAAA stated that medical requirements ensure that UAS operators have the necessary visual and mental acuity to operate a commercial aircraft repeatedly over a sustained period of time.

The FAA has reviewed the knowledge and training required to obtain a sport, recreational, private and commercial certificate and concluded that a PIC with a minimum of a sport pilot certificate operating the UAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

NAAA noted that its members operate in low-level airspace, and therefore clear low-level airspace is vital to the safety of these operators. NAAA stated that seeing and avoiding other aircraft and hazardous obstructions is the backbone for agricultural safety, and that agricultural pilots depend on pilots of other aircraft to perform their see-and-avoid functions to prevent collisions. NAAA believes UAS operations at low altitudes will increase the potential for collision with agricultural aircraft.

The FAA recognizes these concerns and has incorporated associated conditions and limitations into this exemption, including: (a) a Notice to Airmen (NOTAM) issued for all operations; (b) operations conducted within VLOS of the pilot in command (PIC) and the VO; and (c) the UAS PIC must always yield right-of-way to manned aircraft.

NAAA stated that FAA airworthiness certification should be a requirement for all unmanned aircraft to operate within the NAS. NAAA recommended UAS be equipped with ADS-B or similar identification and positioning systems, strobe lights, high-visibility markings and registration numbers. NAAA also recommended UAS be operated strictly within the line-of-sight of the ground controller, with the assistance of a VO and clear of any low-flying manned aircraft.

As discussed below, Section 333 of the FAA Modernization and Reform Act of 2012 authorizes the Secretary of Transportation to determine, considering a number of factors laid out in the statute, that an airworthiness certificate is not necessary for certain operations. The Secretary has made that determination in this case and therefore the aircraft operated by the petitioner will not need to be certificated by the FAA.

The FAA's analysis is as follows:

The FAA has organized its analysis into four sections: (1) UAS, (2) the UAS pilot in command (PIC), (3) the UAS operating parameters, and (4) the public interest.

UAS

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 P.L. 112-95 in reference to 49 USC § 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, and any associated noise certification and testing requirements of part 36, are not necessary.

The petitioner's requested relief from 14 CFR § 45.23(b), *Display of marks: general,* is not necessary because its UAS will not be certificated under 14 CFR § 21.191. The petitioner's UA 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 per § 45.29(f).[2]

The petitioner requested relief from the following sections: 14 CFR §§ 91.405(a) *Maintenance required,* 91.407(a)(1) *Operation after maintenance, preventive maintenance, rebuilding, or alteration,* 91.409(a)(2) *Inspections,* and 91.417(a) and (b) *Maintenance records.* The FAA has determined that relief from § 91.409(a)(1) is also necessary. The FAA has evaluated the petitioner's request and determined that adherence to the conditions and limitations below regarding the responsibilities for maintaining, inspecting, and pre-flight inspection are sufficient to ensure that safety will not be adversely affected. Therefore the FAA finds that exemption from 14 CFR §§ 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b) is warranted subject to the conditions and limitations below.

The petitioner has proposed to operate a tethered UAS. The proposed operations as well as additional conditions and limitations included are discussed in the UAS Operating Parameters section of this exemption.

[2] An exemption from 14 CFR § 45.27 would not be necessary because of the allowance in § 45.29(f).

UAS PIC

The FAA has analyzed the petitioner's proposed operation and has determined that it does not differ significantly from the situation described in Grant of Exemption No. 11213 to Aeryon Labs, Inc. (Docket No. FAA-2014-0642). Therefore, the FAA finds that a PIC conducting operations under this grant of exemption may operate the UAS for compensation or hire, or in furtherance of a business, with any of the following pilot certificates: sport, recreational, private, commercial, or airline transport. Additionally, a PIC must hold and possess either a medical certificate issued under 14 CFR part 67 or a U.S. issued driver's license irrespective of the pilot certificate held. In addition, PICs must comply with 14 CFR § 61.53, *Prohibition on operations during medical deficiency*.

The petitioner also requested an exemption to § 61.113(b) which provides an exception to the prohibition on private pilot certificate holders from acting as PIC of an aircraft for compensation or hire found in § 61.113(a). However, because relief is granted to the underlying prohibition of § 61.113(a) an exemption to paragraph (b) is unnecessary and is therefore not granted.

The petitioner requested relief from 14 CFR § 61.3(a) and (c), *Requirements for certificates, ratings, and authorizations*. As detailed in Grant of Exemption No. 11213, PIC conducting operations under this grant of exemption must operate with a pilot certificate and either a medical certificate issued under 14 CFR Part 67 or a U.S. issued driver's license. As a result of these conditions and limitations, the FAA is not granting an exemption to 14 CFR § 61.3(a) and (c).

UAS Operating Parameters

The FAA has analyzed the petitioner's proposed operation and has determined that it does not differ significantly from the situation described in Grant of Exemption No. 11213 to Aeryon Labs, Inc. (Docket No. FAA-2014-0642) except as described below. Therefore, the FAA finds that:

1. the pilot may determine the aircraft is in an airworthy condition;
2. the PIC will take all actions including reviewing weather, flight battery requirements, landings, and takeoff distances and aircraft performance data before initiation of flight
3. flight manuals and other relevant material may be kept in a location accessible to the PIC;
4. operations may be conducted below 500 feet AGL in compliance with the conditions and limitations in this grant;
5. when the UA is not equipped with a barometric altimeter, an alternate means for measuring and reporting UA altitude is necessary, such as GPS;
6. the PIC is prohibited from beginning a UAS flight unless (considering wind and forecast weather conditions) there is enough available power for UAS to operate for the intended operational time and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

The petitioner proposes operations using a tethered UAS which receives power to operate from the tether for close-range inspection of infrastructure assets such as towers, bridges, and buildings. The FAA analyzed the petitioner's proposed operation and notes there are aspects of tethered operations that require additional conditions and limitations on the operation. The petitioner points out that a tethered UAS is similar to a moored balloon because the tether provides a means to limit the range of the aircraft.

As with moored balloons and kites, which are also flown at the end of a cable or rope, other aircraft must be able to see and avoid the tether in addition to the UA. Accordingly, consistent with the FAA's approach to lighting and marking requirements for moored balloons and kites the conditions and limitations below require the tether line to have colored pennants or streamers attached at not more than 50 foot intervals beginning at 150 feet above the surface of the earth and visible from at least one mile. S*ee* 14 CFR § 101.17. This is required to ensure the tether line is visible to other air traffic and to the PIC and VO. As in 14 CFR § 101.17, the requirement for pennants or streamers is not applicable when the UA is operating exclusively below the top of and within 250 feet of any structure. This condition adds that the UA may not obscure the lighting of the structure meant to alert pilots.

The conditions and limitations also require the PIC, when operating a tethered UAS, to consider both the tether and the UA when planning normal as well as emergency and evasive maneuvers (for example, to prevent entanglement of the tether with people, obstacles, or the aircraft itself). Additionally, consistent with previously granted exemptions, the conditions and limitations below require that the PIC and VO maintain visual line of sight with the UA and in this case also its tether. *See, e.g.*, Exemption No. 11213 (Docket No. FAA-2014-0642).

The PIC must also consider the UA's power source when planning normal and emergency maneuvers to ensure adequate power reserves as noted in item 6 above. For UA powered through the tether by a ground-based power source (e.g. a battery or generator), although the ground-based power source may allow for longer flight times compared to UAs with an onboard power source, consistent with previously issued exemptions, the PIC must plan operations such that, factoring in weather and wind conditions, at least five minutes (or the manufacturer recommendation if greater) of reserve power is preserved. *See, e.g.*, Exemption No. 11213 (Docket No. FAA-2014-0642). A power failure is still possible regardless of the power source; however, compliance with the condition and limitation regarding operating distances from nonparticipants below mitigates the hazards related to this failure mode. The PIC is responsible to ensure that the loss of power during operations will not endanger the life or property of another.

Public Interest

The FAA finds that a grant of exemption is in the public interest. The enhanced safety and reduced environmental impact achieved using a 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.

The following table summarizes the FAA's determinations regarding the relief sought by the petitioner:

Relief sought by petitioner (14 CFR)	FAA determination (14 CFR)
21	Relief not necessary
45.23(b)	Relief not necessary
61.3(a) and (c)	Relief not necessary
61.23(a) and (c)	Relief granted with conditions and limitations
61.101(e)(4) and (5)	Relief granted with conditions and limitations
61.113(a)	Relief granted with conditions and limitations
61.113(b)	Relief not necessary
61.315(a)	Relief granted with conditions and limitations
91.7(a)	Relief granted with conditions and limitations
91.7(b)	Relief not necessary
91.9(b)(2)	Relief not necessary
91.103	Relief not granted
91.109	Relief not necessary
91.119(a)	Relief not granted
91.119(b) and (d)	Not applicable
91.119(c)	Relief granted with conditions and limitations
91.121	Relief granted with conditions and limitations
91.151(a)(1)	Relief granted with conditions and limitations
91.151(a)(2)	Relief not necessary
91.203(a) and (b)	Relief not necessary
91.405(a)	Relief granted with conditions and limitations
91.407(a)(1)	Relief granted with conditions and limitations
91.409(a)(1) and (2)	Relief granted with conditions and limitations
91.417(a) and (b)	Relief granted with conditions and limitations

The FAA's 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, Allied Drones 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.[3] This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this exemption, Allied Drones 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 Allied Drones HV44 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, (including the tether if so equipped), 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

[3] 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.

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. For tethered UAS operations, the tether line must have colored pennants or streamers attached at not more than 50 foot intervals beginning at 150 feet above the surface of the earth and visible from at least one mile. This requirement for pennants or streamers is not applicable when operating exclusively below the top of and within 250 feet of any structure, so long as the UA operation does not obscure the lighting of the structure.

19. 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.

20. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

21. 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.

22. 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.

23. 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.

24. 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.

25. The UA must remain clear and give way to all manned aviation operations and activities at all times.

26. The UAS may not be operated by the PIC from any moving device or vehicle.

27. 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.

28. 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.

29. 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: www.ntsb.gov.

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 September 30, 2017, unless sooner superseded or rescinded.

Issued in Washington, DC, on August 26, 2015.

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

Enclosures

ALLIED DRONES

October 2, 2014

U.S. Department of Transportation, Docket Operations
West Building Ground Floor, Room w12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: 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 61.3(a) & (c); 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).

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, Allied Drones, developer and operator of tether-powered Small Unmanned Aircraft Systems ("sUAS") equipped to conduct aerial infrastructure inspections and surveys for the bridge, tower, and building construction and maintenance industries hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its sUAS, so 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 333.1

As described in detail below, the requested exemption would permit the operation of small, tether-powered, unmanned and relatively inexpensive sUAS under controlled conditions in airspace that is 1) limited 2) predetermined 3) controlled as to access and 4) would provide greatly enhanced safety advancements to hazardous inspection and surveying work currently performed manually by trained personnel. Approval of this exemption would thereby enhance safety and eliminate workplace accidents and deaths for certain industrial tasks which would fulfill the Secretary of Transportation's (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:

Allied Drones
Attn: Joshua Kornoff
Ph:714-473-2911
Email:josh@allieddrones.com
Address: 7272 Saturn Drive, Unit K, Huntington Beach, CA 92647

Regulations from which the exemption is requested:

14 CFR Part 21
14 CFR 45.23(b)
14 CFR 61.3(a) & (c)
14 CFR 61.113 (a) & (b)
14 CFR 91.7 (a)
14 CFR 91.9 (b) (2)
14 CFR 91.103
14 CFR 91.109
14 CFR 91.119
14 CFR 91.121
14 CFR 91.151 (a)
14 CFR 91.203 (a) & (b)
14 CFR 91.405 (a)
14 CFR 407 (a) (1)
14 CFR 409 (a) (2)
14 CFR 417 (a) & (b)

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law 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 Secretary is required to determine which types of UAS 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). Lastly, if the Secretary 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) (emphasis added)[1].

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority by its terms includes exempting civil aircraft, as the term is defined under §40101 of the Act, that includes sUAS, from the requirement that all civil aircraft must have a current airworthiness certificate.

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[1] Applicant interprets this provision to place the duty on the Administrator to not only process applications for exemptions under section 333, but for the Administrator to craft conditions for the safe operation of the sUAS, if it should be determined that the conditions set forth herein do not fulfill the statutory requirements for approval.

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 this title if the 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).

Allied Drones' sUASs are rotorcraft, weighing 55 or fewer lbs. including payload. One of the defining technical characteristics of the sUAS is that *all* of the electric power required to operate the rotors and electronics subsystems is transmitted to the sUAS via a tether cable. They operate, under normal conditions at a speed of no more than 2 knots and have the capability to hover, and move in the vertical and horizontal plane simultaneously. Because the length of the tether is relatively short and limited, the sUAS can only operate in line of sight and will operate only within the sterile area described in the Confidential Flight Operations and Procedures, attached as Exhibit 1 (hereinafter "the Manual")[2]. Such operations will insure that the sUAS will "not create a hazard to users of the national airspace system or the public."[3]

Given the small size of the sUAS involved and the restricted tether-limited sphere within which they can fly, and the industrial environment in which the sUAS is designed to operate, the Applicant falls squarely within that zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of sUAS to commence immediately. Also due to the size of the sUAS and the restricted areas in which the relevant sUASs will operate, approval of the application presents no national security issue. Given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations, *and the significant public benefit, including enhanced workplace personal safety, more frequent infrastructure inspections leading to enhanced industrial maintenance and safety, the grant of the requested exemptions is in the public interest.* Accordingly, the Applicant respectfully requests that the FAA grant the requested exemption without delay.

AIRCRAFT AND EQUIVALENT LEVEL OF SAFETY

The Applicant proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to workplace personal safety for certain types of industrial inspection and surveying work.

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[2] Applicant submits this Manual as a Confidential document under 14 CFR 11.35 (b) as the entire manual contains proprietary information that the Applicant has not and will not share with others. the Manual contains operating conditions and procedures that are not available to the public and are protected from release under the Freedom of Information Act 5 USC 552 et.seq.

[3] Reform Act Section 333 (b).

These limitations and conditions to which Allied Drones agrees to be bound when conducting commercial operations under an FAA issued exemption include:

1. The sUAS will weigh approximately 10 lbs in most flight and payload configurations, but no more than than 55 lbs.
2. Flights will be operated within line of sight of the operator technician.
3. Flights will be operated at a typical altitude 60-250 feet, but no more than 400 feet AGL.
4. The sUAS will only operate within a confined "safety perimeter" as defined in the Manual. Safety cones and/or tape will define the safety perimeter when operating in areas that could pose a hazard to the general public.
5. A briefing will be conducted in regard to the planned sUAS operations prior to each day's inspection activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.
6. As with any other industrial workplace setting, appropriate safety gear will be worn by all personnel within the safety perimeter including, but not limited to, hardhats and brightly colored safety vests.
7. Operator technician will have been trained in operation of sUAS and received up-to-date information on the particular sUAS to be operated as required Section E of the Manual.
8. Operator technician and other workers within the safety perimeter will at all times be able to communicate by voice or hand signals.
9. Written and/or oral permission from the relevant property holders will be obtained.
10. All required permissions and permits will be obtained from territorial, state, county or city jurisdictions, including local law enforcement, fire, or other appropriate governmental agencies for the work being done on site.
11. If the sUAS loses communications or loses its GPS signal, the sUAS will have capability to return to a pre-determined location within the Security Perimeter and land.
12. The sUAS will have the capability to abort a flight in case of unpredicted obstacles or emergencies.
13. The operator will file a FAA Form 7711-1, or its equivalent, as modified in light of the requested exemption, with the appropriate Flight Standards District Office for certain tethered sUAS operations that are substantially outside the immediate shielding vicinity of tower, bridge, or building work locations (§77.15)

TECHNICAL/OPERATIONAL LIMITATIONS AND PUBLIC SAFETY

The sUAS developed and operated by the Applicant are designed for very specific industrial inspection and survey work. One of defining characteristics of this sUAS platform is its power-tether subsystem. All electric power required for flight is transmitted to the sUAS through an electrical tether cable. With the power tether the sUAS is capable of nearly unlimited flight endurance, but only within a sphere defined by the length of the tether. Without the tether, the system is incapable of flight.

Similar to moored balloons, the tether in this sUAS provides a means to limit the range of the aircraft under normal operating conditions. However, unlike moored balloons or sUAS featuring *unpowered* tethers which would continue to fly free if the tether cable were severed, the sUAS operated by Allied Drones would have no potential to "fly away". The physical length of the tether defines the absolute limits of the range of the sUAS. Any persons or property outside this range would be safe in the unlikely event of a failure of one of the critical sUAS subsystems. In this way the tether-powered sUAS has more in common with cranes, manlifts, and camera masts than it does with traditional *untethered* sUAS.

Another aspect relating to public safety in regards to the operation of the Applicants sUAS is the environment in which it is designed to operate. The tether-powered sUAS does not pose a hazard to other aircraft in the vicinity when performing its intended mission, which is a close-range inspection of various infrastructure assets such as towers, bridges, and buildings. The altitude-limiting tether combined with the close proximity in which the proposed surveys are done, almost certainly means that the tower, bridge, or building under inspection by the sUAS is an equal, or even more hazardous obstacle to passing aircraft than the sUAS itself. The Applicant's proposal is to operate "shielded by existing structures of a permanent and substantial character"[4].

Finally, the location of the various infrastructure assets at which the sUAS operates are generally not in publicly accessible places. Much of the infrasture is on private property, behind fences, in remote locations, or in industrial settings that are not open to the public. The safety procedures described in the Manual, combined with the limitations and conditions outlined above would provide a sufficient level of public safety for the operation in the NAS.

14 C.F.R. Part 21, Subpart H: Airworthiness Certificates 14 C.F.R. §91.203 (a) (1)

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by the Applicant, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act (49 U.S.C.§44701 (f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular sUAS. In

[4] 14 CFR §77.15

all cases, an analysis of these criteria demonstrates that the sUAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

The sUAS to be operated hereunder is less than 55 lbs. fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable liquid fuels, and operates exclusively within a secured area as set out in the Manual. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by the operator, pursuant to the Manual's requirements, and under the requirements and in compliance with local public safety requirements when in operation where the general public could be a factor. The FAA will have advance notice of all operations where the sUAS is operating outside the immediate vicinity of a an existing tower, bridge, or building. Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the sUAS, due to its size, speed of operation, location of operation, tether limited range, lack of explosive materials or flammable liquid fuels, and inability to carry a substantial external load.

14 C.F.R. § 45.23 (b). Marking of the Aircraft

The regulation requires:

When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

Even though the sUAS will have no airworthiness certificate, an exemption may be needed as the sUAS will have no entrance to the cabin, cockpit or pilot station on which the word "Experimental" can be placed. Given the size of the sUAS, two-inch lettering will be impossible. The word "Experimental" will be placed on the fuselage in compliance with §45.29 (f).

The equivalent level of safety will be provided by having the sUAV marked on its fuselage as required by §45.29 (f) where the pilot, observer and others working with the sUAV will see the identification of the sUAS as "Experimental." The FAA has issued the following exemptions to this regulation to Exemptions Nos. 10700, 8738, 10167 and 10167A.

14 C.F.R. §91.3(a) and (c): Requirements for certificates, ratings, and authorizations.

Section 91.3 (a) & (c) requires that a person must possess a valid pilot certificate as well as an appropriate medical certificate in order to act as pilot in command of a civil aircraft.

Because of the range-limiting power tether, close proximity to other shielding structures, relatively low operating altitudes, very slow speed, and low weight, the risks associated with the operation of the sUAS are better mitigated through equipment-specific training rather than through private pilot certification. Technicians working with cranes,

manlifts, scaffolding, antennas, masts, and other tall industrial equipment all receive special training for the safe operation of their equipment. The tethered sUAS in operation is very similar to these types of industrial equipment. It is the intent of the Applicant to operate the sUAS in much the same manner as a crane or manlift and therefore this type of power-tethered sUAS is fundamentally different in operation and type of risk than *untethered* sUAS.

The equivalent level of safety will be maintained by equipment-specific training and knowledge for the tethered sUAS as outlined in the Manual Section E.

The Applicant is open to finding a workable solution that puts this sUAS inspection tool into the hands of trained survey and inspection technicians without requiring every field level technician to become a certified pilot.

14 C.F.R. § 61.113 (a) & (b): Private Pilot Privileges and Limitations: Pilot in Command.

Sections 61.113 (a) & (b) limit private pilots to non-commercial operations. If an exemption is denied for section 91.3(a) and (b) mentioned above, then because the sUAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by requiring the PIC operating the aircraft to have a private pilot's license rather than a commercial pilot's license to operate this sUAS. Unlike a conventional aircraft that carries the pilot and passengers, the sUAS is remotely controlled with no living thing on board. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance as set forth in the Manual. The level of safety provided by the requirements included in the Manual exceeds that provided by a single individual holding a commercial pilot's certificate operating a conventional aircraft. The risks associated with the operation of the sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS as requested with a private pilot as the PIC exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b).

14 C.F.R. §91.7(a): Civil aircraft airworthiness.

The regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. As there will be no airworthiness certificate issued for the aircraft, should this exemption be granted, no FAA regulatory standard will exist for determining airworthiness. Given the size of the aircraft and the requirements contained in the Manual for maintenance and use of safety check lists prior to each flight, an equivalent level of safety will be provided.

14 C.F.R. § 91.9 (b) (2): Civil Aircraft Flight Manual in the Aircraft.

Section 91.9 (b) (2) provides:

No person may operate a U.S.-registered civil aircraft ...

(2) For which an Airplane or Rotorcraft Flight manual is not required by §21.5 of this chapter, unless there is available in the aircraft a current approved airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

The sUAS, given its size and configuration, has no ability or place to carry such a flight manual on the aircraft, not only because there is no pilot on board, but because there is no room or capacity to carry such an item on the aircraft.

The equivalent level of safety will be maintained by keeping the flight manual at the ground control point where the operator flying the sUAS will have immediate access to it. The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700.

14 C.F.R. § 91.103: Preflight action

This regulation requires each pilot in command to take certain actions before flight to insure the safety of flight. As FAA approved rotorcraft flight manuals will not be provided for the aircraft an exemption will be needed. An equivalent level of safety will be provided as set forth in the Manual. The operator will take all actions including reviewing weather, power source requirements, landing and takeoff distances and aircraft performance data before initiation of flight.

14 C.F.R. §91.109: Flight instruction:

Section 91.103 provides that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.

sUAS and remotely piloted aircraft, by their design, do not have fully functional dual controls. Primary flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. the Manual outlines procedures for new operator training and certification using a single set of controls during instruction. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos.5778K & 9862A. The equivalent level of safety provided by the fact that neither a pilot nor passengers will be carried in the aircraft and by the size and speed of the aircraft.

14 C.F.R. §91.119: Minimum safe altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. As this exemption is for a sUAS that is a helicopter and the exemption requests authority to operate at altitudes from 0 AGL up to 400 AGL. An exemption may be needed to allow such operations. As set forth herein, the sUAS will never operate at higher than 400 AGL. It will however be operated in restricted areas with a safety perimeter, where the general public will not be exposed to operations.

The equivalent level of safety will be achieved given the size, weight, speed of the sUAS as well as the location where it is operated. No flight will be taken without the permission of the property owner. Because of the advance notice to the property owner and participants in the inspection activity, all affected individuals will be aware of the planned flight operations as set forth in Section C of the Manual. Compared to flight operations with aircraft

or rotorcraft weighing far more than the maximum 55lbs. proposed herein and the lack of flammable fuel, any risk associated with these operations is far less than those presently presented with conventional aircraft operating at or below 500 AGL in surveying and inspection work. In addition, the low-altitude operations of the sUAS will ensure separation between these small-UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

14 C.F.R. §91.121 Altimeter Settings

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "...to the elevation of the departure airport or an appropriate altimeter setting available before departure." As the sUAS may only have a digital barometric sensor and/or a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to the Manual and Preflight Checklist, confirming the altitude of the launch site shown on the ground station altitude indicator before flight.

14 C.F.R. § 91.151(a): Fuel Requirements for Flight in VFR Conditions

Section 91.151 (a) prohibits an individual from beginning "a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing, and, assuming normal cruising speed – (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes."

The tether-powered subsystem of the sUAS provides virtually unlimited flight endurance, the only limitation being the endurance of the ground power source. Given the limitations on the sUAS proposed flight area and the location of its proposed operations within a predetermined area, a 30 minute fuel reserve for flight in daylight or night VFR conditions is reasonable.

14 C.F.R. §91.203 (a) and (b): Carrying Civil Aircraft Certification and Registration

The regulation provides in pertinent part:

(a) Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:

(1) An appropriate and current airworthiness certificate. . . .

(b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The sUAS fully loaded weighs no more than 55 lbs and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the sUAS.

An equivalent level of safety will be achieved by keeping these documents at the ground control point where the operator flying the sUAS will have immediate access to them, to the extent they are applicable to the sUAS. The FAA has issued numerous exemptions to

this regulation. A representative sample of other exceptions includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797A, 9816A, and 10700.

14 C.F.R. §91.405 (a); 407 (a) (1); 409 (a) (2); 417(a) & (b): Maintenance Inspections

These regulations require that an aircraft operator or owner "shall have that 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...," and others shall inspect or maintain the aircraft in compliance with Part 43.

Given that these section and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to the Applicant. Maintenance will be accomplished by the operator pursuant to the Flight Operations and Procedures as referenced in the Manual. An equivalent level of safety will be achieved because these small sUAS are very limited in size and will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise the sUAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in the Manual, the operator will ensure that the sUAS is in working order prior to initiating flight, perform required basic maintenance, and keep a log of any maintenance performed. Moreover, the operator is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012--size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security – provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of Applicant's sUAS in the infrastructure inspection survey industry pursuant to the Manual appended hereto.

Sincerely,

Joshua J. Kornoff

President, Allied Drones

Troutman, Jake (FAA)

From: Josh Kornoff <josh@allieddrones.com>
Sent: Wednesday, January 28, 2015 4:01 PM
To: Troutman, Jake (FAA)
Cc: Pappas, Rob (FAA)
Subject: Re: Request for Additional Information - Allied Drones [FAA-2014-0804]
Attachments: Confidential - Allied Drones HV44 Operators Manual v2.pdf

Hello Mr. Troutman -

Thank you for giving me the opportunity to revise the application to better address the key issues outlined in your email. Here are the changes made to the application and confidential operations manual.

Visual Observer
The role of the VO is now addressed in the application (pg 4., item #15) as well as in the confidential operations manual (Section D "Safety" and Section E "Training")

Proximity to Airports
We enhanced our proposed operations guidelines for proximity to airports and aircraft by addressing AC 70/74601K, 14 CFR §77.13 and §77.15. Those can be found in the application, pg. 4 #13, and page 10 AC 70/74601K: Obstruction Marking and Lighting. We wanted to note that we foresee operations around airports as being a rare event and that should such a need arise, it looks like the FAA has regulations in effect that we might be able to fall under should the situation arise on a case-by-case basis.

Proposed Pilot Medical Requirements
14 CFR 61.3(a) is one of the cornerstones of our application. I want to make sure that you know that I want very much to find a solution for the tether-powered sUAS given it's unique operating limitations. I am happy to discuss any concerns or questions as you consider this part of my application.

That being said, my original application mislabeled my section on 61.3(a) & (c) as *"91.3"*. I caught that error this time around and made those revisions to address your question about medical requirements. My original application requested exception from 61.3(a) as well as (c). However, it seems very reasonable that at least a Third Class medical be required for the sUAS operator. So I have removed the request for exception from 61.3(c) in my application. (pg. 4 # 14, and pg. 7).

I have attached the revised confidential operations manual as a PDF to this email. I will upload a revised Sec. 333 to the www.regulations.gov website today.

Please don't hesitate to contact me again should you have any questions or concerns.

Joshua Kornoff
info@allieddrones.com
+1 714 794-2811 vm
+1 714-473-2911 cell
Skype: allieddrones

Office and Manufacturing
Huntington Beach, California
United States

On Jan 26, 2015, at 10:30 AM, <Jake.Troutman@faa.gov> <Jake.Troutman@faa.gov> wrote:

Dear Mr. Joshua Kornoff:

This letter is to inform you that the following information is missing from your petition (Docket No. FAA-2014-0804). This information is necessary for the Federal Aviation Administration (FAA) to process your petition.

- If a visual observer (VO) is proposed as part of the overall operation, please provide a description of the VO requirements and responsibilities.
- Provide description of proximity to airports.
- Provide a description of the proposed pilot medical requirements.

Please submit the additional information (non-proprietary) to your docket at www.regulations.gov and submit any proprietary information to the FAA Headquarters or electronically via e-mail to jake.troutman@faa.gov. If you want us to process your request any further, we must receive the information described above by 02/09/2015. If we do not receive the information, we will close the docket without notifying you further.

If you have any questions, please feel free to contact me at (202) 267-9521.

Sincerely,

Jake J Troutman
Program Analyst | Rulemaking
FAA Office of Aviation Safety
Airmen and Airspace Rules Division
202-267-9521