Exemption No. 11216

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

In the matter of the petition of

SOLUSIA AIR, LLC.

for an exemption from part 21, Subpart H; part 27; §§ 45.23(b); 45.27(a), 61.113(a) and (b); 91.7(a); 91.9(b)(2) and (c); 91.103; 91.109(a); 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-2014-0912

GRANT OF EXEMPTION

By letter dated November 3, 2014, Mr. Joseph Del Balzo, JDA Aviation Technology Solutions, Agent for Solusia Air, and Mr. Chris Moccia, President and CEO, Solusia Air (hereinafter petitioner or operator), Solusia Air, LLC, 4720 Montgomery Lane, Suite 950, Bethesda, Maryland 20814 petitioned the Federal Aviation Administration (FAA) for an exemption from part 21, Subpart H; part 27 and §§ 45.23(b), 45.27(a), 61.113(a) and (b), 91.7(a), 91.9(b)(2) and (c), 91.103, 91.109(a), 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 exemption would allow the petitioner to operate the Aibot X6 V2 unmanned aircraft system (UAS) to conduct telecommunications and utility structure inspection, construction, and maintenance services.

The petitioner supports its request with the following information:

See Appendix A for the petition submitted to the FAA describing the proposed operations.

The petitioner has provided the following information to support its request for an exemption, which includes its petition and the following supporting documents hereafter referred to as operating documents:

1. Aibotix, Aibot X6 V2 Safety Risk Management Document
2. Solusia Air Standard Operating Procedure
3. Aibot X6 V2 Manual
4. Solusia Air Safety Program

The FAA evaluated the petition and determined it was not precedent-setting. Therefore, a summary of the petition was not published in the Federal Register for public comment.

The FAA's analysis is as follows:

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

Unmanned Aircraft System (UAS)

The petitioner requested relief from 14 CFR part 21, *Airworthiness Certificates* and part 27 Airworthiness Standards: Normal Category Rotorcraft. 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 part 27 as well as any associated noise certification and testing requirements of part 36, is not necessary.

Manned aircraft conducting telecommunications and utility structure inspection, construction, and maintenance services operations can weigh thousands of pounds or more, are operated by an onboard pilot and may carry other onboard crewmembers, as well as carry 100-200 gallons or more of fuel. The petitioner's UA weighs less than 14 pounds. The pilot and crew will be remotely located from the aircraft. The limited weight and construction reduces the potential for harm to persons or damage to property in the event of an incident or accident. The risk to an onboard pilot and crew during an incident or accident is eliminated with the use of a UAS for the proposed operation.

Manned aircraft are at risk of fuel spillage and fire in the event of an incident or accident. The unmanned aircraft (UA) carries no fuel and therefore there is no risk of fire due to fuel spillage following an incident or accident.

The petitioner's UAS has the capability to operate safely after experiencing certain in-flight contingencies or failures and uses an auto-pilot system to maintain UAS stability and control.

The UAS is also able to respond to a loss of GPS or a lost-link event with a pre-coordinated, predictable, automated flight maneuver. These safety features provide an equivalent level of safety compared to a manned aircraft holding a restricted airworthiness certificate performing a similar operation.

Regarding the petitioner's requested relief from 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 because it is an alternate inspection requirement of § 91.409(a)(2). The FAA has evaluated the petitioner's request and determined that an exemption to these requirements is warranted. The FAA notes that the petitioner's operating documents contain preflight and post flight checks for the UAS. The FAA finds that adherence to the operating documents, as required by the conditions and limitations below, is sufficient to ensure that safety is not adversely affected.

UAS Pilot in Command (PIC)

The petitioner requested relief from 14 CFR § 61.113(a) and (b) *Private pilot privileges and limitations*, stating in the petition that its PICs will all hold a private pilot license and second class medical.

Under current regulations, civil operations for compensation or hire require a PIC holding a commercial pilot certificate per 14 CFR part 61. Based on the private pilot limitations in accordance with pertinent parts of 14 CFR § 61.113(a), a pilot holding a private pilot certificate cannot act as PIC of an aircraft for compensation or hire. However, in Grant of Exemption No. 11062 to Astraeus Aerial (Astraeus) (*see* Docket FAA-2014-0352), the FAA determined that a PIC with a private pilot certificate operating the Astraeus UAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

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. 11062. The petitioner plans to operate over private property with controlled access or property where petitioner has secured permission from the owner/controller. Given: 1) the similar nature of the petitioner's proposed operating environment to that of Astraeus, 2) the parallel nature of private pilot aeronautical knowledge requirements to those of commercial requirements as discussed in Exemption No. 11062, and 3) the limited airmanship skills necessary to operate the UAS, the FAA finds that the additional manned airmanship experience of a commercially certificated pilot would not correlate to the airmanship skills necessary for the petitioner's specific proposed operations. The FAA finds that a PIC holding a private pilot certificate and at least a third-class airman medical certificate, and who has completed petitioner's training program, can conduct the proposed UAS operations without adversely affecting the safety of the NAS.

In conclusion, the FAA finds that a PIC holding a private pilot certificate and at least a third-class airman medical certificate, and who has demonstrated the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption per the conditions and limitations, can conduct the proposed UAS operations without adversely affecting the safety of the NAS. Upon consideration of the overall safety case presented by the petitioner, the FAA finds that granting the requested relief from 14 CFR § 61.113(a) is warranted subject to the conditions and limitations outlined below. The FAA also finds that relief from 14 CFR § 61.113(b) is not necessary.

With regard to the airmanship skills necessary to operate the UAS, the conditions and limitations below require the petitioner to ensure the PIC has demonstrated 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 people, vessels, vehicles, and structures.

All flights will be operated within visual line of sight (VLOS) of the PIC and visual observer (VO). The conditions and limitations below stipulate that the PIC must ensure that the VO can perform the functions prescribed in the operating documents. The UAS must never be operated beyond the actual visual capabilities of the VO, and the VO and PIC must have the ability to maintain VLOS with the UA at all times. It is the responsibility of the PIC to be aware of the VO's visual limitations and limit operations of the UAS to distances within the visual capabilities of both the PIC and VO. Moreover, the VO will not be operating the aircraft. As in Grant of Exemption No. 11062 to Astraeus, the FAA does not consider a medical certificate necessary for the VO.

UAS Operating Parameters

The petitioner requests relief from 14 CFR 91.7(a) *Civil aircraft airworthiness* and the FAA finds that relief from § 91.7(a) is necessary. While the petitioner's UAS will not require an airworthiness certificate in accordance with 14 CFR part 21, Subpart H, the FAA considers the petitioner's compliance with its operating documents to be a sufficient means for determining an airworthy condition. Therefore, relief from § 91.7(a) is granted. The petitioner is still required to ensure that its aircraft is in an airworthy condition – based on compliance with the operating documents prior to every flight, and as stated in the conditions and limitations below.

In accordance with 14 CFR § 91.7(b) *Civil aircraft airworthiness*, the PIC of the UAS is responsible for determining whether the aircraft is in a condition for safe flight. The FAA, as in grant of Exemption No. 11062 to Astraeus, has determined that the operating documents include procedures to be used prior to each flight that can ensure compliance with § 91.7(b). The petitioner is required to ensure that its aircraft is in a condition for safe flight – based on compliance with the operating documents– prior to every flight.

Regarding the petitioner's requested relief from §§ 91.9(b)(2*)* and 91.9(c) *Civil aircraft flight manual, marking, and placard requirements* and 91.203(a) and (b) *Civil aircraft: Certifications required*, the FAA has previously determined in Grant of Exemption 11062, Astraeus Aerial, that relief from these sections is not necessary. Relevant materials may be kept in a location accessible to the PIC in compliance with the regulations and as in Exemption No. 11062, petitioner can comply with the registration and marking requirements of part 45.

Regarding the petitioner's requested relief from 14 CFR § 91.103, *Preflight Action*, the petitioner requires each PIC to take certain actions before flight to ensure the safety of the flight. The exemption is needed because the pilot will take separate preflight actions as referenced in the operating documents. Although there will be no approved Airplane or Rotorcraft Flight Manual available, the FAA believes that the petitioner can comply with the other applicable requirements in 14 CFR § 91.103(b)(2). The procedures outlined in the operating documents address the FAA's concerns regarding compliance with § 91.103(b). The PIC will take all actions including reviewing weather, flight battery requirements, landings, and takeoff distances and aircraft performance data before initiation of flight. The FAA has imposed stricter requirements with regard to visibility and distance from clouds; this is to keep the UA from departing the VLOS. The FAA also notes the risks associated with sun glare; the FAA believes that the PIC's and VO's ability to still see other air traffic, combined with the PIC's ability to initiate a return-to-home sequence, are sufficient mitigations. The PIC will also account for all relevant site-specific conditions in his or her preflight procedures. Therefore, the FAA finds that exemption from 14 CFR § 91.103 is not necessary.

Regarding the petitioner's requested relief from 14 CFR § 91.109 *Flight instruction; Simulated instrument flight and certain flight tests*, the petitioner did not describe training scenarios in which a dual set of controls would be utilized or required, i.e. dual flight instruction that would require fully functioning dual controls. Rather, petitioner intends to accomplish training through the procedures referenced in the operating documents. Furthermore, the FAA is requiring the PIC to possess at least a private pilot's certificate and conduct training operations only during dedicated training sessions. Thus, the FAA finds an equivalent level of safety will be achieved by the petitioner's training program. As such, the FAA finds that the petitioner can conduct its operations without the requested relief from § 91.109(a).

Regarding the petitioner's requested relief from 14 CFR § 91.119 *Minimum safe altitudes*, the petitioner did not specify the paragraph(s) in 14 CFR § 91.119 from which it requires relief. Relief from § 91.119(a), which requires operating at an altitude that allows a safe emergency landing if a power unit fails, is not granted. The FAA expects the petitioner to be able to perform an emergency landing without undue hazard to persons or property on the surface if a power unit fails. Relief from § 91.119(b), operation over congested areas, is not applicable, because the petitioner states that operations will be conducted in a restricted sterile environment. Relief from § 91.119(c) is necessary because the aircraft will be operated at

altitudes below 400 feet above ground level (AGL). Section 91.119(c) *Minimum safe altitudes*, states that no person may operate an aircraft below the following altitudes; *over other than congested areas*, an altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Regarding stand-off distances from persons, vessels, vehicles and structures, 14 CFR § 91.119(c) requires that aircraft operate no closer than 500 feet to these persons or objects. As discussed in Exemption No. 11109 (Clayco, Inc.), operations conducted closer than 500 feet to the ground may require that the UA be operated closer than 500 feet to essential persons, or objects that would not be possible without additional relief. Therefore, the FAA is requiring that prior to conducting UAS operations, all persons not essential to flight operations (nonparticipating persons) must remain at appropriate distances. In open areas, this requires the UA to remain 500 feet from all persons other than essential flight personnel (i.e. PIC, VO, operator trainees or essential persons).

The FAA has also considered petitioner's UA's maximum gross weight of less than 14 pounds. If barriers or structures are present that can sufficiently protect nonparticipating persons from the UA or debris in the event of an accident, then the UA may operate closer than 500 feet to persons afforded such protection. The operator must also 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. When considering how to immediately cease operations, the primary concern is the safety of those nonparticipating persons. In addition, the FAA finds that operations may be conducted closer than 500 feet to vessels, vehicles and structures when the owner/controller of any such vessels, vehicles or structures grants permission for the operation and the PIC makes a safety assessment of the risk of operating closer to those objects and determines that it does not present an undue hazard.

Thus, the FAA finds that relief from § 91.119(c) is warranted provided adherence to the procedures in the operating documents and the FAA's additional conditions and limitations outlined below. Relief from § 91.119(d) is not necessary. Regarding the petitioner's requested relief from 14 CFR § 91.121 *Altimeter Settings*, the petitioner has a barometric altimeter and they propose to set that altimeter to zero rather than local barometric pressure. Considering the limited altitude of the proposed operations, relief from 14 CFR § 91.121 is granted to the extent necessary to comply with the applicable conditions and limitations stated below.

Regarding the petitioner's requested relief from § 91.151(a) *Fuel requirements for flight in VFR conditions*, prior relief has been granted for similar UAS in Exemption Nos. 8811, 10808, and 10673 for daytime, visual flight rules (VFR) conditions. Petitioner's UAS provides an indication of battery power remaining in percent to the PIC. The UA batteries provide approximately 30 minutes of powered flight per the aircraft operating documents. The petitioner states the normal operating speed of the UAS will be 22 KIAS. The petitioner

plans to fly for a maximum total time of 30 minutes as a safety measure. Information provided in the operating documents discusses procedures regarding remaining battery power. Those documents contain a condition in which the PIC will initiate a landing procedure when battery remaining reaches 27%. Given the limitations on its proposed operations and the location of those proposed operations, a reduced minimum power reserve for flight in daytime VFR conditions is reasonable. These factors provide the FAA with sufficient reason to grant the relief from 14 CFR § 91.151(a) as requested in accordance with the conditions and limitations below. Thus, the PIC would be prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough power to fly to the intended landing point at normal cruising speed and land the UA with 27% battery power remaining.

The FAA Air Traffic Organization (ATO) reviews all proposed UAS operations and evaluates the safety of these operations relative to the requested airspace through the existing Certificate of Waiver or Authorization (COA) process. The majority of current UAS operations occurring in the NAS are being coordinated through Air Traffic Control (ATC) by the issuance of a COA. This process not only makes local ATC facilities aware of UAS operations, but also provides ATC the ability to consider airspace issues that are unique to UAS operations. The COA will require the operator to request a Notice to Airmen (NOTAM), which is the mechanism for alerting other users of the NAS to the UAS activities being conducted. The conditions and limitations below prescribe the requirement for the petitioner to obtain an ATO-issued COA.

Public Interest

The FAA finds that this grant of exemption is in the public interest. The enhanced safety 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 considered (14 CFR)	**FAA determination (14 CFR)**
Part 21, Subpart H	Relief not necessary
Part 27	Relief not necessary
45.23(b)	Relief not necessary
45.27(a)	Relief not necessary
61.113(a) and (b)	Relief granted for paragraph (a) with conditions and limitations; paragraph (b) relief not necessary
91.7(a)	Relief not necessary
91.9(b)(2) and (c)	Relief not necessary
91.103(b)(2)	Relief not necessary

91.109	Relief not necessary
91.119	Paragraph (a) relief not granted; paragraph (b) relief not applicable; paragraph (c) relief granted with conditions and limitations; paragraph (d) relief not applicable
91.121	Relief granted with conditions and limitations
91.151(a)(1)	Relief granted with conditions and limitations
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, Solusia Air, LLC is granted an exemption from 14 CFR §§ 61.113(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 for the purpose of conducting telecommunications and utility structure inspection, construction, and maintenance services. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

Relative to this grant of exemption, Solusia Air, LLC is hereafter referred to as the operator.

The petition and the following supporting documentation are hereinafter referred to as the operating documents:

1. Aibotix, Aibot X6 V2 Safety Risk Management Document
2. Solusia Air Standard Operating Procedure
3. Aibot X6 V2 Manual
4. Solusia Air Safety Program

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 following aircraft, described in the operating documents, which is the Aibotix, Aibot X6 V2, a six bladed multi-rotor hexicopter configuration with a maximum takeoff weight of 13.22 pounds. Proposed operations of any other aircraft will require a new petition or a petition to amend this grant.

2) UAS operations under this exemption are limited to conducting telecommunications and utility structure inspection, construction, and maintenance services operations.

3) The UA may not be flown at a ground speed exceeding 25 knots.

4) The UA must be operated at an altitude of no more than 400 feet above ground level (AGL), as indicated by the procedures specified in the operating documents. All altitudes reported to ATC must be 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.

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 functions prescribed in the operating documents.

7) The VO must not perform any other duties beyond assisting the PIC with seeing and avoiding other air traffic and other ground based obstacles/obstructions and is not permitted to operate the camera or other instruments.

8) The operating documents and this grant of exemption 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 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 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.

9) Prior to each flight, the PIC must inspect the UAS to ensure it is in a condition for safe flight. 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. The Ground Control Station must be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

10) 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. The PIC who conducts the functional test flight must make an entry of the flight in the UAS aircraft records.

11) The pre-flight inspection must account for all potential discrepancies, e.g. inoperable components, items, or equipment, not already covered in the relevant sections of the operating documents.

12) The operator must follow the UAS manufacturer's aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements.

13) The operator must carry out its maintenance, inspections, and record keeping requirements, in accordance with the operating documents. Maintenance, inspection, alterations, and status of replacement/overhaul component parts must be noted in the aircraft records, including total time in service, description of work accomplished, and the signature of the authorized person returning the UAS to service.

14) Each UAS operated under this exemption must comply with all manufacturer Safety Bulletins.

15) The authorized person must make an entry in the aircraft record of the corrective action taken against discrepancies discovered between inspections.

16) The PIC must possess at least a private pilot certificate and at least a current third-class medical certificate. 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.

17) The operator may not permit any PIC to operate unless the PIC meets the operator's qualification criteria and 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). A record of training must be documented and made available upon request by the Administrator. Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building), 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.

18) The operator may not permit the PIC to operate the UAS unless the PIC has demonstrated and logged in a manner consistent with 14 CFR § 61.51(b), 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 people, vessels, vehicles and structures.

19) Prior to operations conducted for the purpose of this exemption , the PIC and VO must have met all qualification, training, and currency requirements, as outlined in the operating documents. A record of completion of these requirements must be documented and made available to the Administrator upon request.

20) 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.

21) The UA may not operate within 5 nautical miles of an airport reference point as denoted on a current FAA-published aeronautical chart unless a letter of agreement with that airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request.

22) 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.

23) If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the planned operating area and land or be recovered in accordance with the operating documents.

24) The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operating documents.

25) The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough power to fly at normal cruising speed to the intended landing point and land the UA with 27% battery power remaining.

26) The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the

operation. All operations shall be conducted in accordance with airspace requirements in the ATO issued COA including class of airspace, altitude level and potential transponder requirements.

27) 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.

28) Before conducting operations, the radio frequency spectrum used for operation and control of the UA must comply with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.

29) The 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 UAS is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

30) The UA must remain clear and yield the right of way to all manned operations and activities at all times.

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

32) The UA may not be operated over congested or densely populated areas.

33) 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 and/or;

    b. The aircraft is operated near vessels, vehicles or structures where the owner/controller of such vessels, vehicles or structures has granted permission 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, and;

    c. Operations nearer to the PIC, VO, operator trainees or essential persons do not present an undue hazard to those persons per § 91.119(a).

34) 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.

35) 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 March 31, 2017, unless sooner superseded or rescinded.

Issued in Washington, DC, on March 20, 2015.
/s/
John S. Duncan
Director, Flight Standards Service