U.S. Department
of Transportation
**Federal Aviation
Administration**

800 Independence Ave., S.W.
Washington, D.C. 20591

August 25, 2015

Exemption No. 12584
Regulatory Docket No. FAA–2015-0686

Mr. Jonathan Doud
6525 Appaloosa Court
Klamath Falls, OR 97603

Dear Mr. Doud:

This letter is to inform you that we have granted your request for exemption. It transmits our decision, explains its basis, and gives you the conditions and limitations of the exemption, including the date it ends.

By letter dated March 19, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography.

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

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

Airworthiness Certification

The UAS proposed by the petitioner is a Flight Test Dragonfly.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft

meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Mr. Jonathan Doud is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, Mr. Jonathan Doud is hereafter referred to as the operator.

[1] 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.

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 Flight Test Dragonfly when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the

operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance; overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC

qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

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

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

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

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

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

    The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

To: U. S. Department of Transportation
From: Jonathan Doud
Date: March 14th, 2015
Subject: Exemption Request Section 333 of the FAA Reform Act.

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act), Jonathan Doud (the operator/applicant), planned operator of Small Unmanned Aircraft Systems (UAS) equipped to conduct aerial photography and survey for various industries hereby applies for an exemption from Federal Aviation Regulations (FARs) to allow commercial operation of his UAS, 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.
As described more fully below, the requested exemption would permit the operation of UAS by the applicant for commercial use that would provide the following benefits:

1. Operations would be performed in an area of operation limited in size suitable to the specific use, in advance of flight.
2. The flight would be planned in advance to minimize hazards to persons and property in the air and on the ground.
3. The operator would reasonably limit or control access to provide safety to those not involved in the operation.
4. Operation of a UAS would provide significant safety, environmental and other enhancements not possible by larger sized aircraft.
5. Provide a beneficial and currently unavailable service to government organizations and the general public that would serve the public interest.

Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator) responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system." Section 333(c) of the Reform Act.

It is possible to operate UAS so to not create a hazard to users of the National Airspace System (NAS), the public or pose a threat to national security if done so safely and responsibly. The applicant has demonstrated their willingness to act safely and responsibly by not engaging in commercial UAS operations.

AIRCRAFT AND EQUIVALENT LEVEL OF SAFETY

The applicant proposes that the exemption requested herein apply to civil aircraft that have the characteristics of UAS and that operate with the limitations listed herein.
These limitations provide for at least an equivalent or higher level of safety to operations under the current regulatory structure as the proposed operations represent a safety enhancement to the already safe aerial commercial photography and survey operations conducted with conventional aircraft.

The UAS's planned to be operated are rotorcraft and fixed wing aircraft, each weighing 55 or fewer pounds including payload. They would operate, under normal conditions, at a speed of no

more than 50 knots. The principal construction material of these UAS craft would be foam and/or plastic. Operations will be performed by a qualified UAS PIC, as outlined below, to insure that the UAS will "not create a hazard to users of the national airspace system or the public." Given the small size of the UAS involved and the pre-planned environment within which they will operate, the applicant believes that these operations fall 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 UAS to commence immediately. Also, operation in a researched (to include applicable NOTAM), pre-defined area will prevent the possibility of a national security issue. The operation of UAS by knowledgeable professionals with experience in the NAS will serve to enhance safety, add to the public benefit and reduce environmental impacts related to current methods of aerial photography and survey.

These limitations and conditions to which the operator, or its employees, acting as UAS PIC agrees to be bound when conducting commercial operations under an FAA issued exemption:

Safety will be the first and foremost consideration in any UAS operation. Flights will be operated within line of sight of the PIC and/or an observer.

The UAS will weigh less than 55 lbs total. Flights will be operated in Class G airspace whenever possible. If operation in other airspace is required, the relevant controlling agency will be notified at least 24 hours prior to the operation and, if required, any necessary permission obtained.

Flights will be operated under visibility and cloud clearance requirements equivalent to Visual Flight Rules (VFR).

1. The UAS will at all times give way to any aircraft carrying persons.
2. Minimum crew for each operation will consist of the UAS PIC. An observer will be utilized if the UAS will be flown beyond line of sight of the PIC. The observer, if required and PIC will at all times be able to communicate by voice and/or text.
3. Prior to a UAS flight, an area of operation will be established. This area of operation will include a defined lateral and vertical area, where the UAS will operate. Safety procedures will be established for persons, property and applicable airspace within the area of operation.
4. Flight planning will include flight completion with at least 20% battery power remaining as measured by the UAS or appropriate timing.
5. If equipped, and appropriate for the operation, UAS aircraft will utilize GPS navigation, failsafe, return-to-home (RTH) and/or flight abort safety features.
6. A briefing will be conducted in regard to the planned UAS operations prior to operation at each new location. All personnel who will be performing duties within the boundaries of the area of operation will be present for this briefing.
7. All required permissions and permits will be obtained from appropriate state, county or city jurisdictions, including local law enforcement, fire, or other appropriate governmental agencies.
8. Written, to include electronic, and/or oral permission from the relevant property owners will be obtained prior to an operation.
9. The UAS pilot will be trained in advance for the safe operation of the UAS to be operated. This will include operation of the UAS both in normal and emergency modes of operation, and will include familiarization with the operation manual (or similar) if published by the UAS manufacturer. Training will also include types of maneuvers to be performed and the safe operation in relation to persons, property and applicable airspace.

It is the applicant's belief that the size, speed, operating environment, limitations and level of applicant's experience in the NAS outlined provides an "equivalent level of safety" or better when operating a UAS for the public interest as outlined in Section 333 in the FAA Modernization and Reform Act of 2012. It is requested that the FAA issue an exemption to permit safe, legal, commercial UAS operation by the applicant as soon as possible.

Thank you for your consideration,

Jonathan Doud
6525 Appaloosa Ct
Klamath Falls, OR 97603

Appendix A
EXEMPTION REQUESTS AND EQUIVALENT LEVEL OF SAFETY
Jonathan Doud requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of UAS's:

14 CFR Part21, Subpart H: Airworthiness Certificates
This part establishes the procedures for the issuance of an airworthiness certificate.
While the FAA continues to work to develop airworthiness standards for UAS, we request an experimental certificate be issued for the UAS's operated by the applicant under either or both of the following provisions:

21 .191 Experimental certificates.
Experimental certificates are issued for the following purposes:
(a) Research and development. Testing new aircraft design concepts, new aircraft equipment, new aircraft installations, new aircraft operating techniques, or new uses for aircraft.
(b) Showing compliance with regulations. Conducting flight tests and other operations to show compliance with the airworthiness regulations including flights to show compliance for issuance of type and supplemental type certificates, flights to substantiate major design changes, and flights to show compliance with the function and reliability requirements of the regulations.
Since the experimental certificate can be used for commercial purposes such as market surveys, sales demonstrations, and customer crew training, we would expect that an experimental certificate would permit our commercial purpose as well.
The aircraft will not carry persons or property and will only fly under strict operational requirements. Combined with the fact that any aircraft operated would be light weight and is constructed primarily out of foam or plastic, we propose that a UAS will be at least as safe, if not safer, than a conventionally certificated aircraft performing the same function. If an experimental airworthiness certificate is not appropriate for this application, then we request an exemption of 14 CFR Part21, Subpart H, and the requirement for an airworthiness certificate in general, citing the equivalent level of safety outlined in the previous paragraph.

14 CFR 91.203(a) & (b) Civil Aircraft: Certifications required. The regulation provides that an airworthiness certificate, with the registration number assigned to the aircraft and a registration certificate must be aboard the aircraft.

Additionally, subparagraph (b) provides that the airworthiness certificate be "displayed at the cabin or cockpit entrance so that it is legible to passengers or crew." A UAS is too small to carry documentation, does not have an entrance, and is not capable of carrying passengers or crew. To obtain an equivalent level of safety and meet the intent of 91.203, we propose that documents deemed appropriate for this aircraft by the FAA will be co-located with the crew at the ground control station and available for inspection upon request. ln order to identify the aircraft, we propose the use of the UAS' unique manufacturers serial number, and a contact telephone number be mounted on the UAS on a placard of reasonable size in relation to the UAS. In the event that a unique manufacturer's serial number is not available, the previously mentioned placard will be affixed to the UAS consisting of the model name and number of the UAS, as well as a contact telephone number.

14 CFR 45.23 Display of marks; general and 45.29 Size of marks.
These regulations provide that each aircraft must display "N" and the aircraft's registration number in letters at least 3 inches high. Additionally, the aircraft must display the word "EXPERIMENTAL" in letters at least 2 inches high near the entrance to the cabin, cockpit, or pilot station. A UAS does not have an entrance in which the word "EXPERIMENTAL" can be placed, and may not have a registration number assigned to it by the FAA. We propose to achieve an equivalent level of safety by including the word "EXPERIMENTAL" on the top or side of the aircraft, in the form of a placard. The label will be of a size that will not overwhelm the aircraft, but will be reasonably readably to someone near the UAS. The placard outlined in the previous paragraph will provide sufficient identity should someone discover the aircraft on the ground.

14 CFR 91.9 Civil aircraft flight manual, marking, and placard requirements.
This regulation provides that no person may operate an aircraft unless a current, approved flight manual is in the aircraft. The intent of this requirement is to ensure that flight manual information is available to the aircrew while operating the aircraft. We request an exemption to this requirement since the UAS cannot carry such a manual, and if the UAS did carry such manual, it would be unavailable to the crew for review.
To obtain an equivalent level of safety and meet the intent of 91.9, we propose that a current, UAS operation manual or equivalent be available the crew at the ground station anytime the aircraft is in, or preparing for, flight.

14 CFR 91.109 Flight instruction; Simulated instrument flight and certain flight tests
The regulation provides that "No person may operate a civil aircraft that is being used for flight instruction unless that aircraft has fully functioning dual controls." The controls for a UAS do not currently have a set of fully functioning dual controls. If a UAS pilot is being trained, the pilot performing the training would be directly supervising and could take over the controls from the pilot in training if the need arose. This would be similar to the technique of a "throw-over type" control wheel in some fixed wing aircraft. We feel that this technique meets the intent 91 .109 and provides an equivalent level of safety.

14 CFR 91.119 Minimum safe altitudes: General.
The regulation provides that over sparsely populated areas the aircraft cannot be operated closer than 500 feet to any person, vessel, vehicle, or structure. Since the typical mission of this UAS

would be photography or survey of persons, vessels, vehicles or structures it would be necessary to operate closer than 500 feet to the items listed. Operations will only be flown over property or persons where permission has been obtained, and careful pre-planning has been performed. Further, UAS aircraft operate at a very slow airspeed, and a low mass, and do not need as much space to operate safely, as outlined in 91.119. We believe the slower speed, smaller mass and careful pre-planning would provide an equivalent level of safety.

14 CFR 9l.l21Altimeter settings.
The regulation provides that aircraft shall maintain cruising altitudes by reference to an altimeter setting available within 100 nautical miles of the aircraft. The UAS will normally be flying close to the ground, and in line of sight of the PIC or an observer.
This line of sight operation will provide separation from other aircraft, obstructions and terrain, and would override the use of an altimeter for such a purpose. We feel that this will provide an equivalent level of safety.

14 CFR 91.151 Fuel requirements for flight in VFR conditions.
The regulation provides that no person may begin a flight in an airplane under day-VFR conditions unless there is enough fuel to fly to the first point of intended landing and to fly after that for at least 30 minutes. We feel the intention of this paragraph it to provide a reasonable reserve of energy to plan for a safe landing should there be a delay in landing. The close proximity to the ground station, the ability for both rotorcraft and small fixed wing aircraft to land in a very small space and the built in energy level monitoring of the UAS we feel provide an equivalent level of safety if the flight is planned to be completed with 20% battery energy remaining. We request an exemption to the word "fuel" and ask for an equivalent interpretation with the word "energy".

14 CFR Subpart E (91.401 -91.4171- Maintenance, Preventive Maintenance, and Alterations
The regulation provides that the operator is primarily responsible for maintaining the aircraft in an airworthy condition, including compliance with part 39 and 43. Paragraphs 91.407 and 91.409 require that the aircraft be "approved for return to service by a person authorized under 43.7" after maintenance and inspection. It is our intention that the PIC perform maintenance and inspection of the aircraft and "be authorized to approve the aircraft for return to service."
Prior to every flight, the PIC will inspect the aircraft to ensure that it is in an airworthy condition. Any general maintenance procedures or replacement of consumable items outlined by the UAS manufacturer, if applicable, will be complied with by the PIC. ln no circumstance will a UAS be operated in a condition that is deemed, or suspected to be, unsafe. If such a determination is reached, and the problem cannot be remedied to the satisfaction of the PIC, the UAS will not be operated until consulting with the manufacturer or one of its authorized dealers to complete necessary repairs. We feel that due to the size, construction, and simplicity of the aircraft, the PIC can ensure an equivalent level of safety.

8900.227 Paragraph 16(cXa) PIG Medical. and Paragraph 16(eX1) Observer Medical.
This policy provides that both the PIC and observer must have a valid FAA second-class medical certificate issued under part 67 in order to perform as a pilot or observer.
Requiring the crew to meet the same medical requirements as a commercial pilot carrying passengers in a large aircraft is an unnecessary burden.

We propose that the minimum medical requirements be vision corrected to 20/20 and a valid, state-issued driver's license. The risk of both the PIC and observer becoming incapacitated at the same time and suddenly is very low. Further, since the UAS is operating close to the ground, it could be brought in for landing in a very short time if incapacitation was suspected. Finally, most UAS's are equipped with an automatic return to home feature which would provide a final level of safety. We feel this would provide an equivalent level of safety.