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

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

April 2, 2015

Exemption No. 11273
Regulatory Docket No. FAA–2014–0913

Mr. Mark E. McKinnon, Esq.
Counsel for AIG PC Global Services, Inc.
McKenna Long & Aldridge LLP
1676 International Drive Penthouse
McLean, VA 22102

Dear Mr. McKinnon:

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.

The Basis for Our Decision

By letter dated October 31, 2014, you petitioned the Federal Aviation Administration (FAA) on behalf of AIG PC Global Services, Inc. (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct research and development at AIG PCGS's and corporate affiliates' own facilities or property and inspections for risk assessment, risk management, loss control, and surety performance for insured customers.

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

Discussion of Public Comments:

A summary of the petition was published in the Federal Register on February 24, 2015, (80 FR 9848). No comments were received.

Airworthiness Certification

The UAS proposed by the petitioner are the Hawkeye Lancaster MK-III, IRIS+, Phantom 2 Vision, and senseFly eBee.

The petitioner requested relief from 14 CFR part 21, C*ertification 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, 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. 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, AIG PC Global Services, Inc. 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, AIG PC Global Services, Inc. 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 Hawkeye Lancaster MK-III, IRIS+, Phantom 2 Vision, and senseFly eBee. 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 Colombia, 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 April 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Albany
Atlanta
Brussels
Denver
Los Angeles
Miami
New York

McKenna Long & Aldridge LLP

1676 International Drive • Penthouse
McLean, VA 22102
Tel: 703.336.8800
mckennalong.com

Northern Virginia
Orange County
Rancho Santa Fe
San Diego
San Francisco
Seoul
Washington, DC

MARK E. MCKINNON
703.336.8708

EMAIL ADDRESS
mmckinnon@mckennalong.com

October 31, 2014

U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, D.C. 20590

Re: Petition of AIG PC Global Services, Inc., for an Exemption Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012

Dear Gentlemen:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 ("Reform Act") and 14 C.F.R. Part 11, AIG PC Global Services, Inc. ("AIG PCGS"), hereby applies for an exemption from the Federal Aviation Regulations ("FARs") identified below, to allow commercial operations of small unmanned aerial vehicles (*i.e.* "small unmanned aircraft" or "UAS").

The exemption is made based on information in this petition, as well as the accompanying AIG PCGS Operations and Safety Manual ("Operations Manual") and the flight and maintenance manuals for the UASs identified and incorporated by reference into Section 2 of the Operations Manual. Petitioner submits these supporting materials as confidential documents under 14 C.F.R. § 11.35(b), as they contain confidential commercial and proprietary information that Petitioner has not and will not share with others. Similarly, these documents contain operating conditions and procedures that are not available to the public and are protected from release under the Freedom of Information Act, 5 U.S.C. § 552 *et seq.*, and any other requirements established by the FAA pursuant to Section 333 of the FAA Reform Act.

For your convenience, the petition is organized as follows:

I. Description of Petitioner
II. Types of Operations
A. Request to Use UASs for R&D at Test Sites Owned or Controlled by AIG PCGS

B. Request to Use UASs for Survey and Inspection of Damage After Casualty Events
C. Request to Use UASs for Risk Assessment, Risk Management, Loss Control, and Surety Performance
III. Relevant Statutory Authority
IV. AIG PCGS's Proposed UAS Operations Meet the Requirements of Section 333 of the Reform Act
V. Regulations From Which Exemption is Requested
A. 14 C.F.R. Part 21, Subpart H – Airworthiness Certificates and 14 C.F.R. § 91.203
B. 14 C.F.R. Part 27 Airworthiness Standards: Normal Category Rotorcraft
C. 14 C.F.R. § § 91.9(c), 45.23(b) and 45.27(a): Aircraft Marking and Identification Requirements
D. 14 C.F.R. § 91.9(b)(2): Civil Aircraft Flight Manual in the Aircraft and 14 C.F.R. § 91.203(a) and (b): Carrying Civil Aircraft Certification and Registration
E. 14 C.F.R. § 91.7(a): Civil Aircraft Airworthiness
F. 14 C.F.R. § 91.103: Preflight Action
G. 14 C.F.R. § 91.109(a): Flight Instruction
H. 14 C.F.R. § 91.119: Minimum Safe Altitudes
I. 14 C.F.R. § 91.121: Altimeter Settings
J. 14 C.F.R. § 91.151(a): Fuel Requirements for Flight in VFR Conditions
K. 14 C.F.R. § 91.405(a), 91.407(a)(1), 91.409(a)(2); 91.417(a) and (b): Maintenance Inspections
L. 14 C.F.R. § 61.113
VI. Drug and Alcohol Program
VII. Public Interest
VIII. Privacy
IX. Federal Register Summary
X. Conclusion

I. DESCRIPTION OF PETITIONER

AIG PCGS is an indirect, wholly-owned subsidiary of American International Group, Inc. (AIG). AIG PCGS provides services to, or on behalf of, other subsidiaries and affiliates of AIG. Founded in 1919, AIG is the world's largest insurance organization. AIG has more than 88 million customers, serving commercial, institutional and individual customers. AIG is a leader in property casualty insurance, life insurance, retirement services and mortgage insurance.

AIG is a network of over 64,000 people in more than 130 countries and jurisdictions. The company's goal is to come together to provide the best service to its customers. In this regard, AIG invests in the latest technology to meet the needs and challenges facing its policyholders.

It is in this spirit that AIG PCGS seeks an exemption to use UASs to conduct Research and Development ("R&D") into new and innovative ways to efficiently serve its corporate affiliates' policyholders, both during and after natural disasters and casualty events. In addition, AIG PCGS will use UASs to support its corporate affiliates extensive system of risk assessment, risk management, loss control, and surety performance. These programs are an important part of the AIG member companies' philosophy of preventing accidents before they happen. UASs will provide a unique tool to assess and enhance safety in places that are inaccessible either for personal inspection or inspection by manned aircraft.

AIG PCGS has assembled a UAS team covering all of the skill sets necessary to offer safe and effective UAS services, including an array of experienced aviation system professionals. In addition, AIG member companies already have substantial experience underwriting special coverage for UAS owners and operators. As a result, AIG PCGS has developed a keen knowledge of the issues affecting the safe use of UAS and the importance of thorough planning for both normal operations and for contingencies that might affect the safety of flight.

The contact information for Petitioner is as follows:

Conrad J. Naas
Associate General Counsel
Global Claims, Operations & Systems
AIG Property Casualty
80 Pine Street – 30th Floor
New York, NY 10005

Tel +1 212 458 9153
Fax +1 201 748 5240
Email conrad.naas@aig.com

II. TYPES OF OPERATIONS

A. Request to Use UASs for R&D at Test Sites Owned or Controlled by AIG PCGS

AIG PCGS is requesting exemptions pursuant to Section 333 to conduct research and development at AIG PCGS's and corporate affiliates' own facilities or property. The testing

facilities are not open to the public and access will be restricted to AIG PCGS and corporate affiliates' employees or consultants engaged in R&D or R&D-related work. UAS testing will occur outside navigable airspace at altitudes of 400 feet AGL or less. The test sites will enable AIG PCGS to evaluate how the UASs will operate and capture images over various types of buildings and in various conditions.

AIG PCGS will use these tests to, among other things, develop new potential uses for UASs that support AIG PCGS corporate affiliates' core business, refine operational procedures and protocols, and test different payloads and sensors. The test areas will also be used for maintenance evaluation and pilot training purposes. AIG PCGS's R&D efforts are focused on meeting the needs of its corporate affiliates' policyholders and enhancing the AIG member companies' business processes. Specifically, AIG PCGS will evaluate how to utilize the employed UASs to assess and evaluate risks associated with or damage to customers' property.

B. Request to Use UASs for Survey and Inspection of Damage After Casualty Events

AIG PCGS also seeks exemption pursuant to Section 333 to conduct inspections of its corporate affiliates' policyholders' property that has suffered damage. Certain types of property damage are difficult and dangerous for a human to physically inspect, particularly where the structural integrity has been compromised. The alternative of using conventional aircraft or helicopters carries with it a large expense, operational difficulties, and added risks.

As one of the world's largest providers of property casualty insurance, AIG member companies face unique demands during and immediately following catastrophic events or natural disasters. By using UASs, AIG PCGS will be able to provide more expeditious responses and post-disaster claims adjusting, allowing its corporate affiliates' policyholders access to the resources necessary to begin the process of recovery and rebuilding.

As part of this effort, AIG PCGS is committed to partnering with appropriate federal, state and local governments and first responders to ensure full cooperation and coordination with their needs. This will include information sharing that can further assist first responders.

C. Request to Use UASs for Risk Assessment, Risk Management, Loss Control, and Surety Performance

AIG member companies are leaders in providing services to their customers aimed at ensuring that accidents never occur. It is AIG member companies' philosophy to manage risks proactively. As a world-leading insurance organization, AIG has a keen understanding of why losses happen. AIG member companies apply their experience to evaluate a client's unique loss potential and may recommend cost effective, professional and measurable methods to manage risks.

A range of loss control services can be customized to address liability management, employee safety, business continuity and crisis management business-wide. As part of that program, AIG PCGS believes that UASs will be an invaluable tool that will permit risks to be assessed and mitigated in places where it is impossible or unsafe for a human to conduct an assessment. In addition, UASs provide an opportunity for ongoing documentation and monitoring of risks and will permit new mitigation strategies to be applied as necessary.

As set forth in the attached Operations manual, these flights will be flown under a strict set of guidelines. They will be flown only over the insured's property or over property where permission has been obtained from the owner, and strict safety measures will be in place to ensure that there is no exposure to members of the public who are not involved in the operations.

III. RELEVANT STATUTORY AUTHORITY

This petition for exemption is submitted in accordance with Section 333(a) through (c) of the FAA Modernization and Reform Act of 2012. Congress has directed the FAA "to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system." Pursuant to Section 333 of the Reform Act, the FAA Administrator is to permit unmanned aircraft systems to operate in the National Airspace ("NAS") where it is safe to do so based on the following considerations:

- 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 the visual line of sight of the operator.[1]

Additionally, the FAA Administrator has general authority to grant exemptions from the agency's safety regulations and minimum standards when the Administrator decides a requested exemption is in the public interest. *See* 49 U.S.C. § 106(f) (defining the authority of the Administrator); 49 U.S.C. § 44701(f) (permitting exemptions from §§ 44701(a), (b) and §§ 44702 – 44716, *et seq.*). A party requesting an exemption must explain the reasons why the exemption: (1) would benefit the public as a whole, and (2) would not adversely affect safety (or how it would provide a level of safety at least equal to the existing rules). *See* 14 C.F.R. § 11.81 (petitions for exemption).

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[1] *Id.* at 333(b)(1).

IV. AIG PCGS'S PROPOSED OPERATIONS MEET THE REQUIREMENTS OF SECTION 333 OF THE REFORM ACT

The proposed operations in this Petition for Exemption qualify for expedited approval under Section 333 of the Reform Act. Each of the statutory criteria and other relevant factors are satisfied.

A. Approval is Warranted Based on the UASs Size, Weight and Operational Capability

AIG PCGS will employ the UASs identified in Section 2 of the accompanying Operations Manual. These UAS will be used for all of the operations as set forth in the Operations Manual. Each of these UASs have characteristics in common that warrant approval. All of the UASs will be limited to a maximum flight speed of 30 m.p.h., and vertical ascent speed will be limited to 15 m.p.h., and none of the devices have a weight in excess of 25 pounds. Each of the UASs have an integrated GPS system to calculate the UASs' position and height and to relay that information via secure connection to the operator. In addition, each contains a failsafe mode if its connection to the remote control is lost. The system permits the vehicle to return to a predetermined location and land to prevent injury or damage.

B. Approval is Warranted Based on the Operational Restrictions Set Forth in the Operations Manual

AIG PCGS's Operations Manual and the manufacturers' maintenance and flight manuals contain all of the procedures and limitations necessary to successfully perform R&D and inspections of AIG PCGS corporate affiliates' customers' property before, during and after catastrophes or other loss events. To assist the FAA in its safety assessment of AIG PCGS's operations, below is a summary of operational limitations and conditions which will ensure a level of safety equal to or exceeding the level of safety for operations conducted under current regulatory guidelines:

1. The UASs employed by AIG PCGS will weigh 25 pounds or less.

2. Flights will be operated within line of sight of a pilot and observer.

3. Maximum total flight time for each operational flight will be limited to the amount of time the UASs can be flown and still maintain a reserve battery power of no less than 25%.

4. Flights will be operated at an altitude of no more than 400 feet AGL and will not be conducted within navigable airspace.

5. Flights will be operated at a lateral distance of at least 100 feet from any persons or property not associated with the operation who have not given prior permission.

6. Flights will be limited to a speed of 30 m.p.h., and vertical ascent will be limited to 15 m.p.h.

7. Minimum crew for each operation will consist of the UAS Pilot, one or more Visual Observers as necessary to safely conduct the mission, and a Sensor Operator, if the sensor requires human direction or control.

8. The pilot will have a private pilot's license and will have sufficient experience and recurrent training to safely conduct the flight in accordance with the standards set forth in the Operations Manual.

9. The observer designated for any operation will be in constant voice contact with the pilot.

10. The UASs will operate in accordance with the safety and operational requirements of their respective Manuals.

11. Prior to the operation, a Mission Plan will be created setting forth the limitations for the flight as well as contact and hazard information.

12. A NOTAM will be issued not more than 72 hours in advance of flight, but not less than 48 hours before flight.

13. A Certificate of Authorization will be obtained prior to flight.

14. 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.

15. The operator will coordinate all flights with the appropriate Flight Standards District Office.

16. If the UASs lose communications or loses its GPS, they will have the capability to return to a pre-determined location within the operational area and land.

17. Contingency plans will be in place to safely terminate flight if there is a loss of communication between the pilot and the observer.

18. The UASs will have the capability to abort a flight in case of unpredicted obstacles or emergencies.

V. REGULATIONS FROM WHICH EXEMPTION IS REQUESTED

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, including UASs, from its safety regulations and minimum standards when the Administrator decides a requested exemption is in the public interest.[2]

Petitioner seeks an exemption from several interrelated provisions of 14 C.F.R. Parts 21, 45, 61 and 91 for purposes of conducting the requested operations using a UAS. Listed below are (1) the specific sections of 14 C.F.R. for which exemption is sought, and (2) the operating procedures and safeguards that Petitioner has established which will ensure a level of safety better than or equal to the rules from which exemption is sought.[3]

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

The FAA has stated that no exemption is needed from this section if a finding is made under the Reform Act that the UAS selected provides an equivalent level of safety when compared to aircraft normally used for the same application. These criteria are met, and therefore no exemption is needed. *See* Grant of Exemption to Astraeus Aerial, Docket No. FAA-2014-0352 at 13-14, 22. If, however, the FAA determines that there are some characteristics of the chosen UAS that fail to meet the requirements of the Reform Act, an exemption is requested.

Equivalent Level of Safety

The UASs identified in Section 2 of the Operations Manual are safe when taking into account their size, weight, speed, and operational capability. As set forth in Section II, *Supra*, all of the UASs weigh less than 25 pounds and will be flown at less than 30 miles per hour and completely outside controlled airspace. Additionally, the UASs carry neither pilots nor passengers, carry no explosive materials and or flammable liquid fuels, and operate exclusively within the parameters stated in the Operations Manual.

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[2] *See* 49 U.S.C. § 44701(f) (authorizing the grant of exemptions from requirements of regulations prescribed pursuant to Sections 44701(a) and (b) and Sections 44702 - 44716).

[3] *See* 14 C.F.R. § 11.81(e), which requires a petition for exemption to include:

> The reasons why granting the exemption would not adversely affect safety, or how the exemption would provide a level of safety at least equal to that provided by the rule from which you seek exemption.

Operations under this exemption will be closely controlled and monitored by the operator and will be conducted in compliance with local public safety requirements, to provide security for the area of operation. AIG PCGS will also provide the FAA with advance notice of all operations via NOTAMS and coordination with the local FSDO. In all cases, the UASs operated under the proposed conditions, will be at least as safe as, or safer than conventional rotorcraft operating with an airworthiness certificate without the restrictions and conditions of the proposed UAS operations.

The aircraft themselves do not need a means to communicate with other aircraft or ATC, because those capabilities will be possessed by the pilot and observer, who are not onboard. *See* Grant of Exemption, Docket FAA-2014-0352 at 13. In addition, no sense and avoid technology is necessary on the UAS because it will be operated at all times by visual line-of-sight. *Id.*

B. 14 C.F.R. Part 27 Airworthiness Standards: Normal Category Rotorcraft

14 C.F.R. Part 27 sets forth the procedural requirements for airworthiness certification of normal category rotorcraft. To the extent the Petitioner's UASs would otherwise require certification under Part 27, Petitioner seeks an exemption from Part 27's airworthiness standards for the same reasons identified in the request for exemption from 14 C.F.R. Part 21, Subpart H, *supra*.

C. 14 C.F.R. §§ 91.9(c), 45.23(b) and 45.27(a): Aircraft Marking and Identification Requirements

Petitioner seeks an exemption from the aircraft marking and identification requirements contained in 14 C.F.R. §§ 91.9(c), 45.23(b) and 45.27(a).

- 14 C.F.R. § 91.9(c), Civil Aircraft Flight Manual, Marking and Placard requirements, provides that:

  > No person may operate a U.S.-registered civil aircraft unless that aircraft is identified in accordance with Part 45 of this chapter.

- 14 C.F.R. § 45.23(b), Markings of the Aircraft, states:

  > 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.

- 14 C.F.R. § 45.27(a), Rotorcraft, states:

  Each operator of a rotorcraft must display on that rotorcraft horizontally on both surfaces of the cabin, fuselage, boom, or tail the marks required by § 45.23.

In a previous Grant of Exemption, the FAA determined that exemption from these requirements was warranted provided that the aircraft "have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C if the markings are as large as practicable." FAA Docket No. FAA-2014-0352.

Equivalent Level of Safety

AIG PCGS will mark all aircraft with their N-Number in a prominent spot on the fuselage with markings that are as large as practicable.

D. 14 C.F.R. § 91.9(b)(2): Civil Aircraft Flight Manual in the Aircraft and 14 C.F.R. § 91.203(a) and (b): Carrying Civil Aircraft Certification and Registration

Pursuant to 14 C.F.R. § 91.9(b)(2):

(b) No person may operate a U.S.-registered civil aircraft –

...

(2) For which an Airplane or Rotorcraft Flight Manual is 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.

Pursuant to 14 C.F.R. § 91.203(a) and (b):

(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.

AIG PCGS does not request an exemption from this section but instead notifies the FAA that, in accordance with FAA Office of Chief Counsel's Opinion dated August 8, 2014, the UAS flight manual, registration certificate and other documentation will be kept at the control station with the PIC during flight. The Chief Counsel's Office has held that for all UAS operations, this alternate method constitutes full compliance with the regulations.

E. 14 C.F.R. § 91.7(a): Civil Aircraft Airworthiness

Petitioner seeks an exemption from 14 C.F.R. § 91.7(a), which requires that a civil aircraft be in airworthy condition to be operated. The FAA has stated that no exemption is required to the extent that the requirements of Part 21 are waived or found inapplicable. Accordingly, Petitioner requests that the requirements for Section 91.7 be treated in accordance with Section V(A), *supra.*

F. 14 C.F.R. § 91.103: Preflight Action

Petitioner seeks an exemption from 14 C.F.R. § 91.103, which requires a PIC to become familiar with specific information before each flight, including information contained in the FAA-approved Flight Manual on board the aircraft. While the PIC will be familiar with all information necessary to safely conduct the flight, an exemption is requested to the extent that an FAA-approved Flight manual is required.

Equivalent Level of Safety

An equivalent level of safety will be provided by following the Aircraft Operations Manual and flight manual provided by the manufacturer. The PIC will take all required preflight actions - including performing all required checklists and reviewing weather, flight requirements, battery charge, landing and takeoff distance, aircraft performance data, and contingency landing areas - before initiation of flight. The Operations Manual and manufacturer's flight manual will be kept at the ground station with the operator at all times.

G. 14 C.F.R. § 91.109(a): Flight Instruction

Petitioner seeks an exemption from 14 C.F.R. § 91.109(a), which provides that "[n]o 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." UASs and remotely piloted aircraft, by their design, do not have functional dual controls. Instead, flight control is accomplished through the use of a device that communicates with the aircraft via radio communications.

Equivalent Level of Safety

Given the size and speed of the UASs employed by AIG PCGS, an equivalent level of safe training can still be performed without dual controls because no pilot or passengers are aboard the UASs, and all persons will be a safe distance away in the event that the UASs experiences any difficulties during flight instruction. In addition, Petitioner will conduct flight training at its Research and Development test sites, which are located on its own property. These training flights will be conducted in a sterile area and will otherwise comply with the provisions in the Operations Manual for flights at the R&D facility. Accordingly, AIG PCGS's proposed method of operation provides superior levels of safety.

H. 14 C.F.R. § 91.119: Minimum Safe Altitudes

Petitioner requests an exemption from the minimum safe altitude requirements of 14 C.F.R. § 91.119. Section 91.119 prescribes the minimum safe altitudes under which aircraft may not operate, including 500 feet above the surface and away from any person, vessel, vehicle, or structure in non-congested areas. *See* 14 C.F.R. § 91.119(c). Section 91.119(d) allows for a helicopter to operate at less than those minimum altitudes when it can be operated "without hazard to persons or property on the surface," provided that "each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA."

Equivalent Level of Safety

Compared to flight operations with rotorcraft weighing far more than the maximum weights proposed herein, and given the lack of flammable fuel, any risk associated with these operations is far less than those that presently exist with conventional aircraft. An equivalent level of safety will be achieved given the size, weight, and speed of the UASs, as well as the location where it is operated. In order to avoid any risk to aircraft, flight operations will be restricted to 400' AGL or below. As set forth in the Manuals, the UASs will be operated in a restricted area, away from persons or structures not involved in the operation.

I. 14 C.F.R. § 91.121: Altimeter Settings

This petition seeks an exemption from 14 C.F.R. § 91.121, which requires a person operating an aircraft to maintain cruising altitude or flight level by reference to an altimeter that is set to the elevation of the departure airport or barometric pressure. An exemption is required to the extent that the UASs do not have a barometric altimeter, but rather a GPS altitude read out.

Equivalent Level of Safety

The FAA has stated that an equivalent level of safety can be achieved if the UASs will be operated at 400' AGL or below and within visual line-of-sight in addition to GPS based altitude

information relayed in real time to the operator. *See* Grant of Exemption to Astraeus Aerial, Docket No. FAA-2014-0352. As the attached Operations Manual indicates, the chosen UASs meets these requirements, and a zero altitude initiation point will be obtained prior to flight.

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

Petitioner requests an exemption from 14 C.F.R. § 91.151(a)'s fuel requirements for flight in VFR conditions. Section 91.151 states:

> (a) No person may begin 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.

Here, the technological limitations on UAS battery power means that no meaningful flight operations can be conducted while still maintaining a 30 minute reserve. AIG PCGS proposes that all flights comply with this requirement by mandating that the aircraft be safely landed with no less than 25% of battery life remaining.

Equivalent Level of Safety

The FAA has stated that an equivalent level of safety is provided if the UAS flight is terminated with at least 25% reserve battery power still available. *See* Grant of Exemption to Astraeus Aerial, Docket No. FAA-2014-0352. The Operations Manual conforms to this limit, providing an equivalent level of safety.

K. 14 C.F.R. § 91.405(a), 91.407(a)(1), 91.409(a)(2); 91.417(a) and (b): Maintenance Inspections

Petitioner seeks an exemption from the maintenance inspection requirements contained in 14 C.F.R. § 91.405(a), 91.407(a)(1), 91.409(a)(2); 91.417(a) and (b). These regulations specify maintenance and inspection standards in reference to 14 C.F.R. Part 43. *See, e.g.,* 14 C.F.R. § 91.405(a) (stating that each owner or operator of an aircraft "[s]hall have the aircraft inspected as prescribed in subpart E of this part and shall between required inspections …have discrepancies repaired as prescribed in part 43 of this chapter"). An exemption from these regulations is needed because Part 43 and these sections only apply to aircraft with an airworthiness certificate, which the UAS will not have.

Equivalent Level of Safety

An equivalent level of safety will be achieved because maintenance and inspections will be performed in accordance with the UAS Manufacturer's Manual, as referenced in the Operations Manual. As provided in the Operations Manual, flights will not be conducted unless a flight operations checklist is performed that includes all of the aircraft's components. The Operations Manual also sets requirements for maintenance log books and record keeping as well as routine and post-flight maintenance. The Manual sets requirements for both annual maintenance and preventative maintenance based on hours of flight.

L. 14 C.F.R. § 61.113: Private Pilot Privileges And Limitations

Petitioner seeks exemption from 14 CFR § 61.113, which restricts private pilot certificate holders from flying aircraft for compensation or hire, and would also require a second class medical certificate. The purpose of Part 61 is to ensure that the skill and competency of any PIC matches the airspace in which the PIC will be operating, as well as requiring certifications if the private pilot is carrying passengers or cargo for hire. In this case, while the UASs will be operated as part of a commercial operation, it carries neither passengers nor cargo. In the Grant of Exemption in FAA Docket No. FAA-2014-0352, the FAA determined that the unique characteristics of UAS operation outside of controlled airspace did not warrant the addition cost and restrictions attendant with requiring a the PIC to have a commercial pilot certificate and class II medical certificate.

The restrictions AIG PCGS has placed on its UAS operations meet or exceed the restrictions similarly imposed on Astraeus Aerial in FAA Docket No. FAA-2014-0352. AIG PCGS will operate in a sterile area way from persons and property not involved in the operation. It will be flown based on VLOS at 400' AGL or below. A NOTAM will be issued between 48 and 72 hours before the flight is to occur, and the flight will be coordinated with the applicable FSDO.

Equivalent Level of Safety

In addition to these flight restrictions, AIG PCGS will further ensure safe operation by requiring that any PIC be thoroughly versed not only in airspace and communication issues pertaining to all aircraft operators but also in the unique aspects of UAS flight. Pilots will also be required to conduct training flights at AIG PCGS's Research and Development facilities to obtain flight experience with UAS generally and with the specific models used for commercial operations in particular. Petitioner believes that this system will provide a higher level of competency and proficiency for its pilots.

VI. DRUG AND ALCOHOL PROGRAM

AIG PCGS has policies in place to ensure that no person may act as a PIC, observer, or sensor operator if they are under the influence of alcohol or any drug.

VII. PUBLIC INTEREST

Granting AIG PCGS's exemption request furthers the public interest. National policy set by Congress favors early integration of UAS into the NAS in controlled, safe working environments such as those proposed in this petition. In addition, the public also has an interest in reducing the hazards and emissions associated with alternate use of helicopters to conduct similar inspection operations. The UASs in question are very light and do not carry any flammable fuel, further reducing the risk from any potential accident.

Additionally, AIG PCGS's intended uses for the UASs have real-world benefits for AIG member companies' policyholders and the public at large. AIG PCGS will be able to inspect and survey its corporate affiliates' policyholder's property after a casualty event safely, thoroughly, and efficiently. This will allow AIG to adjust claims more quickly after a loss and ensure that its policyholders can receive the funds necessary for them to start the process of recovery and rebuilding. The UAS work will also aid in AIG member companies' risk assessment, risk management, loss control, and surety performance programs. These programs prevent accidents and injuries, and there is a strong public interest in making these programs more effective through the use of UASs.

Finally, by coordinating and teaming with federal, state and local governments after a disaster, AIG PCGS can provide valuable information to first responders and government that can help coordinate the response.

VIII. PRIVACY

All flights will be conducted in accordance with any federal, state or local laws regarding privacy.

IX. FEDERAL REGISTER SUMMARY

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register, should it be determined that publication is needed:

AIG PCGS seeks an exemption from the following rules:

14 CFR Part 21, Subpart H; 14 CFR Part 27; 14 CFR 45.23(b); 14 CFR § 61.113; 14 CFR 91.7(a); 14 CFR 91.9(b)(2); 14 CFR 91.103; 14 CFR 91.109(a); 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 91.407(a)(1); 14 CFR 91.409(a)(2); 14 CFR 91.417 (a) & (b).

The exemption will enhance safety by reducing risk to the general public and property owners from the substantial hazards associated with performing equivalent work with conventional aircraft and rotorcraft.

X. CONCLUSION

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, operation within visual line of sight, and national security—provides more than adequate justification for the grant of the requested exemptions to permit AIG PCGS to operate the selected UASs and provide R&D and inspections during and after casualty events.

Granting the requested exemption will benefit the public interest as a whole in many ways, including (1) significantly improving safety and reducing risk by alleviating human exposure to danger, and (2) improving the quality of services and decreasing operating costs compared with conventional flight operations.

If you have any questions or require any additional information, please do not hesitate to call.

MCKENNA LONG & ALDRIDGE LLP

Mark E. McKinnon, Esq.
Mark A. Dombroff, Esq.

Attachments: AIG PCGS Operations Manual (submitted as a Confidential Document under 14 C.F.R. § 11.35(b) and exempt from disclosure under the Freedom of Information Act, 5 U.S.C. § 552 *et seq.*, and any other requirements established by the FAA pursuant to Section 333 of the Reform Act); Aircraft Flight and Maintenance Manuals as incorporated into the AIG PCGS Operations Manual (submitted as a Confidential Document under 14 C.F.R. § 11.35(b) and exempt from disclosure under the Freedom of Information Act, 5 U.S.C. § 552 *et seq.*, and any other requirements established by the FAA pursuant to Section 333 of the Reform Act).