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

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

October 1, 2015

Exemption No. 13057
Regulatory Docket No. FAA−2015−2881

Mr. Jeff Taylor
VP of Property InSight
Xactware Solutions, Inc.
1100 West Traverse Parkway
Lehi, UT 84043

Dear Mr. Taylor:

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 June 9, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Xactware Solutions, Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct imagery and analytics in underwriting, catastrophe response, roof inspection, and claim resolution.

See the docket, at www.regulations.gov, 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 are the Aerialtronics Altura Zenith ATX8, DJI Phantom 2, Parrot Bebop.

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 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] or/and closed set motion picture and filming. 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, Xactware Solutions, 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.

[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.

Conditions and Limitations

In this grant of exemption, Xactware Solutions, 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 Aerialtronics Altura Zenith ATX8, DJI Phantom 2, Parrot Bebop 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 5 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 enclosed 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 October 31, 2017, unless sooner superseded or rescinded.

Sincerely,

John S. Duncan
Director, Flight Standards Service

Enclosure

McCARTER &ENGLISH
ATTORNEYS AT LAW

June 9, 2015

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

Re: Exemption Request Pursuant to Section 333 of the FMRA and Part 11 of the Federal Aviation Regulations, Seeking Exemption from 14 C.F.R. § 61.113(a); 14 C.F.R. § 91.7(a); 14 C.F.R. § 91.119(c); 14 C.F.R. § 91.121; 14 C.F.R. § 91.151(a); 14 C.F.R. § 91.405(a); 14 C.F.R. § 91.407(a)(1); 14 C.F.R. § 91.409(a)(1) & (2); 14 C.F.R. § 91.417(a) & (b)

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Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 ("FMRA") and 14 C.F.R. Part 11, Xactware Solutions, Inc. ("Petitioner" or "Xactware") hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") and any others necessary to allow operation of its small Unmanned Aircraft Systems ("UAS") for both research and development ("R&D") and commercial use, so long as such operations are conducted within and under the conditions outlined herein. Xactware requests such authorization to conduct outdoor flight operations for its use of UAS for insurance functions, including using imagery and analytics in underwriting, catastrophe response, roof inspection, and claim resolution settings. These operations will help define the role of UAS technology in Xactware's business operations and will guide the company in the most appropriate implementation of such technology. Ultimately, incorporating UAS into Xactware's business processes will improve worker safety and expedite response and claim resolution for Xactware's customers.

Xactware was founded in 1986 and provides computer software solutions for professionals involved in estimating all phases of construction and reconstruction of a building, including routine and emergency repairs. Xactware's flagship product is Xactimate®, its premier estimating system. Xactimate® assists contractors and insurance adjusters in estimating repairs much faster and more accurately than previously could be accomplished. Over time, Xactimate® has evolved into a high-powered software package complete with a patented plan-sketching program, and Xactware has become much more than just a provider of Xactimate®. Today 22 of the top 25 property insurance companies in the United States and all of the top ten Canadian insurers use Xactware property insurance claims tools.

Xactware features software solutions for every phase of a building's life: from remodeling to totally replacing a building, and from determining the cost of rebuilding a structure to preserving and repairing a home. Xactware users can work on a desktop, laptop, tablet, smartphone, or "on the cloud" using browser-based solutions. Estimating products are connected to a comprehensive set of tools that includes an assignment network, analytical reports, cost research, project management, and third-party products. The online training center provides users with high-quality training on Xactware solutions and the construction industry.

Xactware invests heavily in research and development as well as in the quality of people who develop its products.

Xactware requests this exemption for three purposes. First, Xactware seeks an exemption to permit the operation of small UAS for R&D at Xactware's own facilities. These operations will be done under controlled conditions in airspace that is (1) limited, (2) predetermined, and (3) controlled as to access. Such operations will give Xactware valuable information about how best to safely and efficiently deploy UAS to serve our customers.

Second, Xactware seeks an exemption to permit the commercial operation of its UAS in real world situations within the tightly-controlled and limited airspace over the property boundaries of individual real estate parcels with permission of the owners of said parcels. These operations will enable Xactware to gather vital information related to using UAS for exterior structure inspection and analysis.

Third, Xactware also requests an exemption to permit the commercial operation of its UAS in real world situations during and immediately following an actual catastrophe such as a tornado, hurricane, flood, mudslide, hail storm, wild fire, or other, similar event. In this scenario, Xactware's UAS operations would be coordinated with the FAA, local air traffic control ("ATC"), and the officials in charge of onsite emergency response.

As detailed below, Xactware's proposed use of UAS will occur under conditions that limit the likelihood of operations over members of the general public and ensure complete coordination with any manned aircraft operations. Furthermore, the FAA has issued a grant of exemption in circumstances similar in all material respects to those presented herein in Grant of Exemption Nos. 11188 and 11309. Accordingly, the reasons stated by the FAA for granting the enclosed Grant of Exemption Nos. 11188 and 11309 also apply to this request for exemption which is in the public interest.

I. REQUEST FOR EXEMPTION TO USE UAS AT XACTWARE SITES

A. Overview of Request to Use UAS at Sites Owned or Controlled by Xactware.

Xactware requests an exemption to allow the use of UAS at Xactware's own facilities or on property that it either owns or leases. All such locations will be a minimum of 5 miles from any airport. During flight operations, the facility will not be open to the public and access will be restricted to Xactware employees or consultants directly engaged in related flight operations. UAS operations will occur in Class G airspace at altitudes of 400 feet or less. There may be uninhabited buildings on property which will enable Xactware to test how UAS will operate and capture images over various types of structures.

The purpose of these flight operations will be for research, development and training to provide UAS pilots and ground crew experience in inhabited areas. The flights also will be conducted to determine how best to integrate UAS into the Xactware's existing aerial capture and remote sensing programs. Xactware will consider whether UAS may be used to capture imagery and other data to determine damage to roofs and structures, having contracted manned aircraft in the past for similar purposes. Such experience will permit Xactware to determine preferences for UAS deployment for any number of real world scenarios, including not only homeowners who have suffered losses, but also areas hit by catastrophes.

Xactware's request for exemption to perform UAS flight operations at its own facilities also carries with it a number of benefits. Because none of the six FAA-selected UAS test sites are located in Utah, it would be impractical for Xactware to use these locations at this time for R&D. The test sites are too distant and would cause Xactware to incur unnecessary expense. Additionally, Xactware's need for UAS is centered on residential and commercial roof inspections, and must occur by operating over residential and commercial type structures. Performing these flight operations at Xactware's facilities solves these issues and allows safe and economical R&D and training.

The petitioner thus requests authorization to perform UAS operations at its own facilities or at sites that it controls.

B. Public Interest Benefits of Permitting Use of UAS at Sites Owned or Controlled by Xactware.

Xactware's request to operate UAS at its own facilities is in the public interest. Granting this petition advances Congress's goal of integrating civil UAS into the United States airspace safely. It also will allow flight operations to begin relatively quickly which is another of Congress's stated goals. Indeed, the UAS operations will allow Xactware to develop best practices for safety and flight operations using UAS systems currently available to consumers.

In addition, flight operations at Xactware's facilities will not create a hazard to aviation or to the public. As previously stated, flight operations will be conducted under 400 feet above ground level and will be suspended immediately in the event that manned aircraft are near the airspace of the facility. Safety precautions will be taken such as geofencing the UAS within the boundaries of Xactware's facilities. The site will not be open to the public during flight operations, and Xactware's UAS will not fly over populated areas. Likewise, the flight operations do not create a threat to safety or security of the public due to the location and small size, minimal speed and load-carrying abilities of UAS.

II. REQUEST FOR EXEMPTION TO USE UAS OVER INDIVIDUAL REAL ESTATE PARCELS

A. Overview of Request to Use UAS over Individual Real Estate Parcels.

The second component of Xactware's exemption request involves UAS flight operations over private real estate parcels with permission of the owner of said parcels. The flight operations would again be in tightly-controlled and limited airspace within the property boundaries. These flight operations will enable Xactware to gather vital information related to using UAS for exterior structure inspection and analysis. All such locations will be a minimum of 5 miles from any airport. During flight windows, no one with the exception of the pilot in command ("PIC"), the visual observer ("VO") and those directly involved in the UAS operations will be allowed to be in or around the outside of the building. UAS flight operations will occur in Class G airspace at altitudes of 400 feet or less.

The purpose of these flights will be to capitalize upon the results of the R&D flights in real world scenarios and to gather imagery and other sensor data for use in Xactware's workflows. These operations will allow Xactware to gather data from different structure and building types in a normal business environment. Xactware has contracted manned aircraft in the past for similar purposes. Such experience will

permit Xactware to determine preferences for UAS deployment for highly diverse real world scenarios, which will be particularly instructive for UAS operations during catastrophes.

Accordingly, Xactware requests authorization to perform flight operations using UAS on private real estate parcels with permission from the owner or controller of the parcels.

B. Public Interest Benefits of Permitting Use of UAS over Individual Real Estate Parcels

Xactware's request to operate UAS at over private real estate parcels with permission of the owners is in the public interest. Granting this petition advances Congress's goal of integrating civil UAS into the United States airspace safely. It also will allow flight operations to begin relatively quickly which is another of Congress's stated goals. Indeed, the UAS operations will allow Xactware to develop best practices for safety and flight operations using UAS systems currently available to consumers.

In addition, flight operations will not create a hazard to aviation or to the public. As previously stated, flight operations will be conducted under 400 feet above ground level and will be suspended immediately in the event that manned aircraft are near the airspace of the property. Safety precautions will be taken such as geofencing the UAS within the boundaries of the real estate parcel being examined. Likewise, the flight operations do not create a threat to safety or security of the public due to the location and small size, minimal speed and load-carrying abilities of UAS.

III. REQUEST FOR EXEMPTION TO USE UAS DURING AND AFTER ACTUAL CATASTROPHES

A. Overview of Request to Use UAS During and After Catastrophes.

Xactware requests exemption for the use of UAS both during and after real world catastrophes. The location and dates that catastrophes will occur cannot be predicted, and no test site or scheduled homeowner fly over can provide the scale, variability, complexity and unpredictability likely to occur during and after an actual catastrophe. Aerial imagery capture during and in the wake of a natural disaster is critical for processing insurance claims arising from such a disaster, and such imagery capture with an UAS as opposed to a manned aircraft is not only more efficient, but also more cost effective. Because Xactware services 22 of the top 25 property insurance companies in the United States, its ability to capture aerial images

during and after a catastrophe also will facilitate the timely and comprehensive resolution of insurance claims.

As outlined in the operating procedures below, in the event of a catastrophe, Xactware will coordinate with local ATC, the FAA, officials in change of on-scene emergency response, and all first responders to ensure that the use of its UAS can occur safely and without impeding public safety efforts. Xactware will cease its UAS operations immediately at the direction of the applicable officials. Furthermore, Xactware's UAS operations will be conducted with notice to manned aircraft and will at all times defer to the operations of such aircraft.

B. Public Interest Benefits of Permitting Use of UAS During and After Catastrophes.

Granting this exemption as requested by Xactware will facilitate real-world flight operations under unpredictable circumstances, thereby allowing Xactware to gain valuable experience in flight planning, flight operations and coordination with first responders and emergency personnel. Such experience, coupled with the cost savings of using a UAS as opposed to a manned aircraft, will translate into quicker, less costly, and more effective service to insureds adversely affected by catastrophes.

Xactware's UAS operations in actual disaster conditions also may speed overall post-disaster relief assessments to the extent that the data gained from UAS flights is shared with first responders, thus relieving manned ground and aviation assets of that obligation so that they can focus on other vital tasks. Indeed, video footage obtained by Xactware from UAS operations could materially assist first responders secure valuable knowledge of the aftermath of a catastrophe, potentially saving lives.

Operations will not create hazards for the public or for emergency response personnel because Xactware will coordinate with such personnel before, during and after flight operations. Nor will Xactware's UAS flights serve as an obstacle to manned flights since Xactware will always defer to the operation of manned aircraft in the relevant airspace. Furthermore, in order to properly alert other users of the airspace about Xactware's UAS operation, Xactware will request a Notice to Airman ("NOTAM") as early as practicable prior to operations.

IV. THE FAA HAS LEGAL AUTHORITY TO GRANT THIS EXEMPTION REQUEST

Xactware believes that granting this request will aid the FAA in fulfilling Congress' goal in passing Section 333 of the FMRA. Section 333 directs the Secretary of Transportation to consider whether certain UAS may operate safely in the national airspace system ("NAS") before completion of the rulemaking required under Section 332 of the FMRA. The Secretary is required to determine which types of UAS do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the UAS's size, weight, speed, and operational capability and whether operation will occur near airports or populated areas and within the visual line of sight of the operator. The FMRA illustrates Congress's intent to have the FAA issue exemptions and allow civil UAS, as long as they operate within the necessary safety parameters.

In addition, 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, which includes UAS, from the requirement that all civil aircraft must have a current airworthiness certificate. The Administrator may grant an exemption from a requirement of a regulation prescribed under §§ 44701(a) or (b) or in §§ 44702-44716 of the Act if the Administrator finds the exemption to be in the public interest.

V. APPLICATION INFORMATION

The names and addresses of the applicant are:

Xactware Solutions, Inc.

Jeff Taylor
VP of Property InSight
Xactware Solutions, Inc.
1100 West Traverse Parkway
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Regulations from which the exemption is requested:

14 C.F.R. § 61.113(a);
14 C.F.R. § 91.7(a);

14 C.F.R. § 91.119(c);
14 C.F.R. § 91.121;
14 C.F.R. § 91.151(a);
14 C.F.R. § 91.405(a);
14 C.F.R. § 91.407(a)(l);
14 C.F.R. § 91.409(a)(1) and (2); and
14 C.F.R. § 91.417(a) and (b).

VI. THE AIRCRAFT

Xactware specifically proposes to conduct operations with the following UAS:

A. Aerialtronics Altura Zenith ATX8 – the Altura Zenith ATX8 is a multirotor aircraft with a carbon fiber airframe. It can carry a maximum payload of 2.9 kg and has a 5.6 kg take-off weight. The 16.600 mAh battery allows up to 45 minutes of flight time with payloads of up to 2.9 kg. The maximum speed for the Zenith is 20 m/s and it features auto-takeoff and landing, auto return home and landing, GPS waypoint navigation and direction lock. The length and width of this aircraft is 23.6" x 23.6," and it stands up to 21.6" tall.

B. DJI Phantom 2 – the DJI Phantom 2 is a multirotor aircraft with a plastic airframe. It can carry a maximum payload of 300 g and has a 1.2kg take-off weight. The 5.200 mAh battery allows up to 25 minutes of flight time. The maximum speed for the Phantom is 15 m/s and it features no fly zones and auto-return to home and landing. The dimensions of this aircraft are 29 x 29 x 18 cm.

C. Parrot Bebop – the Parrot Bebop is a multirotor aircraft with a plastic airframe. It is fully self-contained at 400 g and has no additional payload capacity. The 1.200 mAh battery allows up to 22 minutes of flight time. The maximum speed for the Bebop is 13 m/s and it features auto-return to home. The dimensions of this aircraft are 28 x 32 x 3.6 cm.

VII. OPERATING PARAMETERS FOR UAS USE

Xactware proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to the already safe operations conducted with

conventional aircraft. Further details about the aircraft and operating procedures are available in the Operations Manuals and Training Syllabus.

The limitations and conditions to which Xactware agrees to be bound for UAS operations when conducting R&D at an Xactware site or for real-world commercial operations under an FAA issued exemption include:

1. UAS operations will be conducted by a PIC holding, at a minimum, a private pilot certificate and a current third-class medical certificate. The PIC will also meet flight review requirements specified in 14 C.F.R § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

2. UAS must be operated within the visual line of sight ("VLOS") of the PIC at all times.

3. UAS operations must utilize a VO. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability.

4. The PIC and VO must be able to communicate verbally at all times. Electronic messaging or texting is not permitted during flight operations.

5. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight, with the exception of medical emergencies affecting his or her ability to safely complete the flight.

6. The PIC must 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.

7. The VO will 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 PIC will not be allowed to operate the UAS unless the PIC has demonstrated through the operator's training and currency requirements that the PIC is able 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. During training, the PIC must have accumulated and logged, in a manner consistent with 14 C.F.R § 61.51(b),

the minimum hours prescribed in the operating documents as UAS pilot operating the same make and model of the UAS to be utilized for operations under this exemption. Training, proficiency and experience-building flights can be conducted under this grant of exemption to quality the operator's PIC(s), VO(s), and other essential personnel as defined in the operating documents. Training operations can only be accomplished during dedicated training sessions and must be done at appropriate distances in accordance with 14 C.F.R § 91.119.

9. Operations requested under this exemption are limited to the aircraft described herein. Proposed operations of any other aircraft will require a new petition or a petition to amend this grant.

10. The UAS may not be flown at an indicated airspeed exceeding 50 knots.

11. The UAS must be operated at an altitude of no more than 400 feet above ground level ("AGL"). All altitudes reported to ATC must be in feet AGL.

12. Prior to each flight the PIC will inspect the UAS to ensure it is in safe condition for 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 in a condition that is safe for flight. The ground control station must also be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

13. If the UAS has undergone maintenance or alterations that affect the UAS operation of flight characteristics, such as the replacement of a critical flight component, the UAS must undergo a functional test flight in accordance with the operating documents. The PIC who conducts the test flight must make an entry in the UAS aircraft records for the flight. Operating documents must include requirements and procedures for functional test flights and the record entries.

14. Preflight inspection must account for all discrepancies including inoperable components, items or equipment not covered in the relevant preflight inspection sections of the operating documents.

15. Xactware will follow the manufacturer's UAS aircraft and component maintenance overhaul, replacement, inspections, and life-limit requirements,

with particular attention to critical flight components that may not be addressed in the manufacturer's manuals.

16. Xactware will carry out maintenance, inspections, and record keeping requirements in accordance with the grant and its own operating documents. Maintenance, inspection and alterations must be noted in the aircraft logbook including the total flight hours, description of work accomplished, and the signature of the authorized UAS technician returning the UAS to service.

17. Xactware will comply with safety bulletins issued by the manufacturers of the listed UAS.

18. UAS operations will only be conducted during daylight hours as defined in 14 C.F.R § 1.1. Operations will also be conducted under visual meteorological conditions ("VMC").

19. Xactware will not operate UAS within 5 nautical miles of the airport reference point of an airport as denoted on a current FAA-published aeronautical chart.

20. If the UAS loses communications or loses its GPS signal, it will return to a pre-determined location within the private or controlled-access property and land or be recovered in accordance with the operating documents.

21. In the event of unpredicted emergencies or obstacles, the PIC must abort the flight.

22. Xactware will not begin UAS flight operations unless there is greater than 30% battery power remaining.

23. Xactware will obtain an Air Traffic Organization ("ATO") issued Waiver or Authorization ("COA") prior to conducting any operations under this grant of exemption. Under the COA, Xactware will request a NOTAM no more than 72 hours in advance, but no less than 48 hours prior to the operation, except where shorter time periods are required for emergency response situations. Flight operations will be conducted in accordance with the airspace requirements in the ATO issued COA, including the class of airspace, altitude level and potential transponder requirements.

24. Xactware will coordinate emergency response operations with state or local government agencies having appropriate jurisdictional authority.

25. Aircraft operated under this exemption will be identified by serial number and registered in accordance with 14 C.F.R part 47, and have identification markings in accordance with 14 C.F.R part 45, Subpart C. The markings will be as large as practicable on the body of the aircraft.

26. Only radio frequencies that comply with UA and FCC requirements will be utilized.

27. Xactware will have available for the PIC documents required under 14 C.F.R §§ 91.9 and 91.203 anytime the aircraft is operating. Xactware also will make these documents available to the FAA or to any law enforcement official upon request.

28. The UAS will remain clear and yield the right of way to all other manned aviation operations and activities at all times.

29. The PIC will not operate the UAS from any moving device or vehicle.

30. Flight operations must be conducted at least 500 feet from all non-participating persons unless structures or barriers are present that sufficiently protect nonparticipating persons from debris in the event of an accident. Xactware will ensure that nonparticipating persons remain under such protection. If a situation arises where non-participating persons leave such protection and are within 500 feet of the UAS, flight operations must cease immediately.

31. Xactware will operate the UAS over private or controller-access property only with permission from the property owner/controller or authorized representative.

VIII. SPECIFIC SECTIONS OF 14 C.F.R. FROM WHICH PETITIONER SEEKS AN EXEMPTION

Xactware requests exemption from the following FARS to the extent necessary to enable the requested UAS operations for the reasons detailed below. These exemptions mirror the grants that the FAA has awarded in Grant of Exemption Nos. 11188 and 11309 among others.

A. 14 C.F.R. § 61.113(a): No person who holds a private pilot certificate may act as a pilot in command of an aircraft that is carrying passengers or

property for compensation or hire; nor may that person, for compensation or hire, act as pilot in command of an aircraft.

Because Xactware proposes to operate its UAS with a pilot holding, at a minimum, a private pilot certificate and at least a current third-class medical certificate, Xactware seeks an exemption.

B. 14 C.F.R. § 91.7(a): No person may operate a civil aircraft unless it is in an airworthy condition.

As stated, Xactware will perform pre- and post-flight inspections to ensure the airworthiness of the UAS. It will follow manufacturer safety bulletins, perform maintenance and respect life-time limits as specified by the manufacturer. When critical flight components are replaced, repaired or modified, Xactware will perform test flights to verify these components are in working condition.

C. 14 C.F.R. § 91.119(c): No person may operate an aircraft below . . . [a]n 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.

Because Xactware proposes to operate the UAS at no more than 400 feet AGL, the aircraft specified in this exemption will weigh 20 pounds or less, and nonparticipating persons will be adequately protected, Xactware seeks an exemption.

D. 14 C.F.R. § 91.121: Altimeter settings.

Because the UAS will not have a typical barometric altimeters and, instead, rely upon GPS generated elevations, Xactware seeks an exemption. Xactware intends to operate the UAS within VLOS and at or below 400 feet AGL, as well as convert any GPS-related elevation data that needs to be delivered to FAA to the approximate barometric altimeter equivalent.

E. 14 C.F.R. § 91.151(a): No person may begin a flight in an airplane under VFR conditions unless (considering win and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed . . . [d]uring the day, to fly after that for at least 30 minutes.

The UAS specified in this exemption request are battery-powered and can only fly for short periods of time, *i.e.*, not more than 45 minutes. For all practical purposes, however, most flight times will be shorter than the minimum 30 minutes specified in 14 C.F.R. § 91.151(a). Xactware seeks an exemption with the understanding that it will not be allowed to begin a flight unless flight batteries on the craft have at least 30% power remaining.

F. 14 C.F.R. § 91.405(a): Each owner or operator of an aircraft . . . [s]hall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter.

G. 14 C.F.R. § 91.407(a)(l): No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless. . . [i]t has been approved for return to service by a person authorized under § 43.7 of this chapter.

H. 14 C.F.R. § 91.409(a)(l) and (2): Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had (1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by § 43.7 of this chapter; or (2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

I. 14 C.F.R. § 91.417: Maintenance records. (a) Except for work performed in accordance with §§ 91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section: (1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include – (i) A description (or reference to data acceptable to the Administrator) of the work performed; and (ii) The date of completion of the work performed; and (iii) The signature, and certificate number of the person approving the aircraft for return to service. (2) Records containing the following information: (i) The total time in service of the airframe, each engine, each propeller, and each rotor; (ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance; (iii) The time since last overhaul of all items installed on the aircraft which are required to be overhauled on a specified time basis; (iv) The current inspection status of the aircraft, including the time since the last inspection required by the

inspection program under which the aircraft and its appliances are maintained; (v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required; (vi) Copies of the forms prescribed by § 43.9(d) of this chapter for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances. (b) The owner or operator shall retain the following records for the periods prescribed: (1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed; (2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold; (3) A list of defects furnished to a registered owner or operator under § 43.11 of this chapter shall be retained until the defects are repaired and the aircraft is approved for return to service.

In consideration of 14 C.F.R. §§ 91.405(a), 91.407(a)(1), 91.409(a)(l) and (2), and 91.417 (a) and (b), Xactware will perform the detailed pre-flight checks, as well as routine maintenance, preventive maintenance, and replacement and overhaul of component parts of the UAS as required by the UAS operating documents. In addition, Xactware will perform test flight operations after such maintenance to ensure safety. Maintenance and inspections will be logged in the aircraft's log book which will be available for inspection at the FAA's request. Under these conditions, Xactware seeks an exemption.

J. Such other relief as the FAA deems appropriate to enable the requested operations.

Xactware also requests exemption from such other FARS as the FAA deems appropriate to enable the requested operations. If, during the effective dates of any Grant of Exemption issued pursuant to this Petition, the FAA issues interim or final rules for small UAS, Xactware requests that it be relieved of the requirements of any conditions and limitations of said exemption and allowed to comply with any less burdensome applicable regulations that may have become effective.

IX. SUMMARY TO BE PUBLISHED IN FEDERAL REGISTER

Petitioner: Xactware Solutions, Inc.

Sections of 14 C.F.R. *Affected*: § 61.113(a); § 91.7(a); § 91.119(c); § 91.121; § 91.151(a); § 91.405(a); § 91.407(a)(l); §91.409(a)(l) and (2); § 91.417(a) and (b).

Description of Relief Sought: Petitioner seeks relief from the requirements of 14 C.F.R. § 61.113(a); 14 C.F.R. § 91.7(a); 14 C.F.R. § 91.119(c); 14 C.F.R. § 91.121; 14 C.F.R. § 91.151(a); 14 C.F.R. § 91.405(a); 14 C.F.R. § 91.407(a)(l); 14 C.F.R. § 1.409(a)(l) and (2); and 14 C.F.R. § 91.417(a) and (b) to conduct small unmanned aircraft systems (UAS) operations at its own facilities, over individual private real estate parcels, and in limited areas following catastrophes subject to operating procedures that meet or exceed those that the FAA requires for similar operations.

X. CONCLUSION

Satisfaction of the criteria provided in Section 333 of the FMRA regarding size, weight, speed, operating capabilities, proximity to airports and populated areas, operation within visual line of sight, and national security, provide more than adequate justification for the grant of the requested exemption allowing operation of Petitioner's UAS operations related to the insurance industry pursuant to the Operations Manuals. The requested three exemptions-one for UAS operations at Xactware owned or controlled sites, and the second and third for real world UAS operations over individual private properties and in catastrophe situations -- can be granted separately or in the same Grant. Please do not hesitate to contact Petitioner's outside counsel, Scott S. Christie at (973) 848-5388 or schristie@mccarter.com with any questions about this filing.

Very truly yours,

Scott S. Christie

Attachment: Confidential Operations Manuals and Training Syllabus