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

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

April 2, 2015

Exemption No. 11274
Regulatory Docket No. FAA−2014−0796

Mr. Michael Burns
Assistant Vice President
USAA
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San Antonio, TX 78288

Mr. Greg Cirillo
Counsel for USAA
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Dear Mr. Burns and Mr. Cirillo:

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 2, 2014[1], you petitioned the Federal Aviation Administration (FAA) on behalf of United Services Automobile Association (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.

[1] By letter dated December 19, 2014, and posted to the public docket, USAA responded to the FAA's request for information.

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 October 28, 2014, (79 FR 64241). Three comments were received. The Small UAV Coalition (Coalition) commented in support of the petition. The Air Line Pilots Association, International (ALPA) and the National Agricultural Aviation Association (NAAA) opposed it.

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

The Coalition noted the FAA is to consider the seven factors[2] in Section 333 as a minimum. The Coalition stated the petition shows the FAA should consider factors other than those specified in Section 333, such as location, altitude of its UAS, restricted operating areas, and the Certificates of Authorization the HawkEye UAV has received from the FAA. The Coalition maintained that the petitioner's proposed operations satisfy the seven factors in Section 333 and include several additional mitigating factors to ensure the safety and security of the proposed UAS operations. The Coalition emphasized the FAA must evaluate each factor within the context of the petitioner's proposed UAS operations.

The Coalition also commented that the FAA should grant relief from the requirement to hold an airman certificate. The Coalition further stated that if an airman certificate is required then, at a minimum the, FAA should provide an exception from the training and testing requirements in part 61 in favor of requirements pertinent to the aircraft and operation proposed. The Coalition also asserted that in section 333 Congress intended for the FAA to consider national security with respect to the operation as opposed to addressing it through pilot certification.

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[2] Section 333(b) of P.L. 112−95 states, in part: "In making the determination under subsection (a), the Secretary shall determine, at a minimum-- (1) which types of unmanned aircraft systems, if any, as a result of their size, weight, speed, operational capability, proximity to airports and populated areas, and operation within visual line of sight do not create a hazard to users of the national airspace system or the public or pose a threat to national security; …"

The FAA notes that, as discussed in the grant of exemption to Trimble Navigation Ltd. (Exemption No. 11110), neither section 333, nor the FAA's exemption authority[3] allows the FAA to exempt pilots from the statutory requirement to hold an airman certificate as prescribed in 49 USC § 44711.

The Coalition commented that a visual observer (VO) should not be required for all small UAS operations. The Coalition further asserted that the presence of one or more VOs may allow the UAS to be operated beyond visual line of sight (VLOS) of the pilot in command (PIC) and that the petitioner's proposal to operate the unmanned aircraft (UA) within VLOS of the PIC *and/or* VO should be permitted.

The FAA notes that one of the determinations for operations under section 333 is operation within visual line of sight. The PIC must maintain VLOS while operating the UA. The FAA finds that a VO complements the PIC's capability to see and avoid other aircraft, including when the PIC may be momentarily attending to other flying tasks. The VO provides an additional level of operational safety.

ALPA expressed concern regarding several aspects of the petition. ALPA stated "there must be means both to ensure that the sUAS remains within the defined airspace and to ensure that the hazard of other aircraft intruding on the operation is mitigated."

The FAA believes the limitations under which the petitioner will operate (i.e. VLOS and at or below 400 feet above ground level (AGL)) are sufficient mitigations to this risk so that the operations will not adversely affect safety.

ALPA noted the petition does not detail how the pilot and observer will be able to communicate. ALPA stated the pilot and observer should be able to maintain a visual observation of the aircraft and area of operation when using voice communication. NAAA stated UAS observers must be present and able to communicate with the operator from the most minimal distance possible. The FAA has inserted a condition regarding PIC and visual observer communications.

ALPA asserted the UAS's lithium polymer batteries have numerous associated fire and explosion hazards as outlined in DOT/FAA/AR−09/55, "Flammability Assessment of Lithium-Ion and Lithium-Ion Polymer Battery Cell Designed for Aircraft Power Usage (January 2010)," and that the safe carriage of the batteries and the mitigations in place for known risks should be addressed. The referenced study was primarily conducted to determine how certain battery cells react in a fire situation aboard manned airplanes. Given the size of the battery and the operating conditions of the UAS, the FAA concludes that the use of a lithium polymer battery will not pose an undue safety risk for the proposed operations.

[3] 49 USC § 44701(f)

ALPA commented that command and control (C2) link failures are one of the most common failures on a UAS, and that lost link mitigations should require safe modes to prevent fly-aways or other scenarios. The FAA has inserted conditions and limitations in this exemption to mitigate the risk associated with such failures.

Regarding the petitioner's request for exemption from part 21, § 91.7, and § 91.203, ALPA stated the UAS should be certified and operate to the same level of safety as other commercially operated aircraft in the National Airspace System (NAS). ALPA also stated they oppose the attempt to avoid certifying the airworthiness of the sUAS.

ALPA also noted that the petitioner's proposed operations are for "compensation or hire," and therefore contends the pilot must hold at least a current FAA commercial pilot certificate with an appropriate category and class rating for the type of aircraft being flown, as well as specific and adequate training on the UAS make and model intended to be used. Similarly, ALPA asserted a current second-class airman medical certificate should be required. NAAA also commented on pilot qualification, stating—

> Just as manned aircraft pilots are required to undergo a rigorous training curriculum and show that they are fit to operate a commercial aircraft, so too must UAS operators. Holding a commercial certificate holds UAS operators to similar high standards as commercial aircraft operators and ensures they are aware of their responsibilities as commercial operators within the NAS. Medical requirements ensure they have the necessary visual and mental acuity to operate a commercial aircraft repeatedly over a sustained period of time.

The FAA has reviewed the knowledge and training requirements of sport, recreational, private and commercial certificates and concluded that a UAS PIC holding a minimum of a sport pilot certificate, and operating under this exemption, would not adversely affect operations in the NAS or present a hazard to persons or property on the ground. Additional discussion of the FAA's review is found in the FAA's Analysis section of this exemption.

Although the petitioner did not request an exemption from § 91.113, ALPA noted the petitioner must specify a means to meet see and avoid requirements in § 91.113 given the absence of an onboard pilot. The FAA notes that all flights must be operated within VLOS of the PIC and VO.

ALPA mentioned the aircraft will not have a barometric altimeter as required by 14 CFR § 91.121. ALPA stated that processes or mitigations must be in place to ensure the UA can accurately maintain altitude including engineering processes, software development and control, electronic hardware development and control, configuration management, and design assurance to ensure the aircraft and its control system(s) operate to the same level of safety as other aircraft operated commercially in the National Airspace System (NAS).

Regarding the fuel requirements of § 91.151, ALPA argued that using batteries as the only source of an aircraft's power is a substantial shift from traditional methods of propulsion, and requires further research to determine best safety practices. This comment is addressed in detail below.

ALPA stated that the petitioner did not specify requirements for flight instructors. A certificated flight instructor is authorized to provide the instruction required for the certificates or ratings or currency listed in 14 CFR § 61.193. A person instructing on how to operate the UAS under the petitioner's training program would not need to be a certificated flight instructor because the instruction is not being provided for a certificate or rating listed in § 61.193. We note that none of the UAS operations proposed by the petitioner require such flight instruction because § 61.31(*l*) allows for operation of the UAS by an airman who is current per 14 CFR § 61.56 without a category and class rating. Instruction provided toward obtaining the pilot certificate required by this exemption would need to be provided by a certificated flight instructor.

Regarding the minimum safe altitude requirements of § 91.119, ALPA stated all aircraft in the NAS must operate to the same high level of safety. ALPA argued this includes the maintenance of a safe altitude for both airplanes and helicopters.

Regarding §§ 91.405(a), 91.407(a)(1), 91.409(a)(2), and 91.417(a) and (b), ALPA opposed the petitioner's attempt to avoid compliance with established aircraft maintenance and recordkeeping requirements. ALPA states the UAS should comply with the same level of safety as other aircraft operated commercially in the NAS. The FAA finds that adherence to the petitioner's operating documents, as required by the conditions and limitations below, is sufficient to ensure that safety is not adversely affected.

ALPA also expressed concern that the petitioner's waiver request is not for a single specific operation or location, but for all operations of the same general type. ALPA stated that this results in a considerable increase in the FAA's oversight tasks. The FAA notes ALPAs concern and in order to minimize potential impact to the NAS, the FAA requires each operator secure a Certificate of Authorization or COA which covers specific details of the petitioners operation. The FAA recognizes that UAS integration will generate new NAS access demand and will review and adjust accordingly.

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

The FAA recognizes these concerns and has incorporated associated conditions and limitations into this exemption, including: (a) a Notice to Airmen (NOTAM) issued for all

operations; (b) operations conducted within VLOS of the pilot in command (PIC) and the VO; and (c) the UAS PIC must always yield right-of-way to manned aircraft.

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

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

Airworthiness Certification

The UAS proposed by the petitioner is a PrecisionHawk Lancaster HawkEye.

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, United Services Automobile Association 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 grant of exemption, United Services Automobile Association 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 PrecisionHawk Lancaster HawkEye 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

Wiley Rein LLP

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USAA

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Michael P. Huerta, Administrator
Office of the Administrator
Federal Aviation Administration
800 Independence Avenue SW
Washington, D.C. 20591

October 2, 2014

Reference: USAA Petition for Section 333 Exemption: Re: Research & Development of Methods to Use Small Unmanned Aircraft Systems in Property and Casualty Insurance

Dear Administrator Huerta,

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), United Services Automobile Association (USAA) is petitioning for an exemption from the Federal Aviation Regulations and other rules/statutes pertaining to unmanned aircraft systems. Section 333 of the FMRA addresses special rules for certain unmanned aircraft systems and grants the FAA authority to allow for the safe operation of certain unmanned aircraft systems (UAS) within the national airspace.

Since 1922, United Services Automobile Association has served the military community and their families providing a full range of highly competitive financial products and services to our membership. We have world class employees that are personally committed to delivering excellent service and guidance regarding insurance, banking and investments. USAA focuses its innovation on developing products and new technology to assist its membership from policy inception to fulfilling our service commitment during a claims event. USAA has over ten million members that look to USAA to help them restore and rebuild after a wide range of natural and other disasters, and USAA is always seeking ways to improve the timing and quality of its responses to members' needs. Property and casualty insurers play a major role in funding the restoration of businesses and communities after major incidents, and the integration of unmanned aircraft into USAA's operations will have immediate, positive effects on the lives of Americans and the business community.

We have identified the unmanned aircraft system as a technology which can alleviate safety concerns associated with manned inspections in the air and on the ground, and provide enhanced service and experience to our membership in a safe and efficient environment. At USAA's Innovation Lab in San Antonio, Texas, since 2010, we have been thoroughly researching new small unmanned aircraft systems technology to improve our existing processes, invent new ones to benefit our membership, and improve efficiency and safety. Over the last four years, we have conducted significant research and developed business plans for utilization of unmanned aircraft systems within our organization, including, but not limited to:

- Identifying operational areas where unmanned aircraft systems will improve safety relative to manned operations;

- Research regarding privacy best practices and existing laws;

- Research and development of small unmanned aircraft systems in partnership with the manufacturers to develop excellent safety protocols and procedures; and

- Development of an internal research and development team at USAA with a wide expertise in aeronautics, flight instruction, mechanical and software engineering and business applications, along with external partnerships with public entities that further our knowledge in robotics, aerospace, and engineering.

USAA shares Congress's vision of integrating small unmanned aircraft systems for civil use into our national airspace and providing economic benefits and growth from this rapidly developing technology. Current law does not provide adequate authority to extend these research and development activities, and this application seeks interim authority from the FAA to allow USAA to continue the activities it began in 2010.

USAA has also partnered with other public entities, such as the FAA UAS Test Sites and selected universities, to further our research and development as well as seeking to obtain a Special Airworthiness Certification in the Experimental Category with the collaboration of the Test Sites and our UAS manufacturer. Obtaining a Section 333 exemption would allow USAA the authority to do further research and development in a safe and efficient manner without burdening the FAA with additional requests for each of our UAS platforms and operations. Currently, the FAA does not allow civil operations (meaning operations other than public aircraft operations or model aircraft / "hobbyist" activities which include research and development); therefore USAA has not been able to fully develop its UAS flight research.

Through this petition, USAA seeks an exemption to operate small unmanned aircraft systems to further develop its research and development of this emerging technology.

USAA's small unmanned aircraft systems are aircraft weighing significantly less than 55 lbs (details are provided within). They operate at slow speeds (under 45kts) and within line of sight within the areas described in this petition. Such operations will ensure that the small unmanned aircraft systems operated by USAA will not create a hazard to other aircraft operating in the national airspace, to the general public or pose a threat to national security as dictated by the Federal Aviation Regulations.

One of USAA's business partners and UAS platforms is PrecisionHawk, and its Lancaster HawkEye. PrecisionHawk is a leader in the small UAS community and through their impressive research and development have successfully obtained several FAA Certificates of Authorization for their platform through various FAA UAS test sites and public entities. This demonstrates the confidence in operation and safety that the FAA already has for this UAS manufacturer and its platform. PrecisionHawk continues its advancement in safety and UAS integration into the national airspace by researching and developing sense and avoid technology to benefit the UAS community, the FAA and other users of the national airspace.

14 CFR 11.81 (a) – Name and address of the Petitioner:

United Services Automobile Association
9800 Fredericksburg Road
San Antonio, Texas 78288

Phone: 703.905.2808
E-mail: gcirillo@wileyrein.com

14 CFR 11.81 (b) – Exemptions Requested:

The FAA considers unmanned aircraft as “aircraft” flown by a “pilot” regardless of the location of the pilot. All aircraft and pilots must comply with applicable sections of Title 14 of the Code of Federal Regulations (14 CFR) to operate within the National Airspace. Unmanned aircraft are unable to comply with certain sections of 14 CFR as the regulations were written prior to the consideration of small UAS operating within the national airspace. Therefore USAA is requesting an exemption from certain parts of 14 CFR cited below in addition to such further exemptions and relief as the FAA may determine is necessary to permit the operations described herein.

14 CFR Part 21.191 (a) – Experimental Certificates
14 CFR Part 45.23 (b) – Display of marks; general
14 CFR Part 61.113 (a) and (b) – Private pilot privileges and limitations: Pilot in command
14 CFR Part 91.7 – Civil Aircraft Airworthiness
14 CFR Part 91.9 (b) – Civil aircraft flight manual, marking and placard requirements
14 CFR Part 91.109 – Flight Instruction
14 CFR Part 91.119 – Minimum safe altitudes
14 CFR Part 91.121 – Altimeter settings
14 CFR Part 91.151 – Fuel requirements for flight in VFR conditions
14 CFR Part 91.203 (a) and (b) – Civil Aircraft; Certifications Required
14 CFR Part 91.405 – Maintenance required
14 CFR Part 91.407 – Operation after maintenance, preventive maintenance, rebuilding or alteration
14 CFR Part 91.409 – Inspections
14 CFR Part 91.417 – Maintenance Records

14 CFR Part 11.81 (c) – The extent of relief USAA seeks, and the reason USAA seeks the relief:

USAA seeks relief pursuant to this exemption from applicable parts of the Federal Aviation Regulations to the extent necessary to permit civil flight operations within the national airspace and USAA seeks authorization to conduct small UAS flight operations within the perimeters of this exemption request.

14 CFR Part 11.81 (d) – The reasons why granting USAA's request would be in the public interest; that is, how it would benefit the public as a whole:

Granting the exemption for USAA would allow the organization to safely and efficiently conduct small UAS flight operations to gain valuable information and experience with USAA's research and development in this technology. Gaining this information and experience would enable USAA, in the future, to utilize UAS technology to conduct safe and efficient operations both before and after claim events to assist its membership in preparing for natural disasters and post-disaster recovery and relief operations, and reduce the time it takes communities to rebuild after natural disasters. Without this exemption, USAA would be unable to conduct the proper research and development to build a successful small UAS operation which would assist its over ten million members and their communities. USAA believes such UAS research can lead to safer, quicker, and more economical and effective claims service for its policy holders and their communities.

14 CFR Part 11.81 (e) – 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 USAA seeks the exemption:

USAA requests that the exemption be granted with the following limitations and operational conditions. These limitations and conditions will provide an enhanced level of safety and will be the guiding principles when USAA is conducting R&D operations under this exemption:

A. The small unmanned aircraft systems maximum take-off weight will be less than 55 lbs. Detailed specifications are included in the attachments. USAA is willing to have its authorization restricted below the 55 lb. threshold to the operating weight of the unmanned aircraft identified. One of the fixed winged UAS platforms that USAA is seeking to utilize through this exemption is currently operating safely within the national airspace pursuant to several Certificates of Authorization (COA) granted by the FAA to Texas A&M College Station and other public entities. One of the COAs was for the PrecisionHawk Lancaster HawkEye to provide aerial imagery and mapping for authorities at the recent Washington state mudslides in Oso, WA. Other COAs have been approved for this particular platform through other public entities demonstrating the confidence that the FAA has for this manufacturer's operational and safety protocol. USAA has attached and will be operating in accordance with PrecisionHawk Lancaster's Flight Manual, Maintenance Schedule, and training documents for review within this exemption application. Although this platform is one that USAA is utilizing within its current research and development, USAA asks that the exemption be granted with respect to this aircraft and other aircraft of like size, weight and capabilities; however, we want to demonstrate our commitment to safety and the continuance of strong UAS partnerships.

B. All pilot in command (PIC) and ground observers (also known as the air crew) will receive FAA certified private pilot ground school and have taken and passed the FAA Private Pilot Written Exam. This ensures that all air crew members (PIC and ground

observers) have the knowledge regarding the Federal Aviation Regulations, Airspace, and other pertinent knowledge to conduct safe operations of small unmanned aircraft systems. A USAA employee with a FAA commercial pilot certificate and flight instructor certificate that has been trained on UAS operations will oversee all training and ensure all air crew receive proper training and abide by all pertinent regulations. All pilot in command and ground observers will be trained in detail to each of the unmanned aircraft system platform's operations, systems and emergency procedures. Every air crew member will obtain an FAA Class 2 medical certificate.

C. All flight operations will be operated at an altitude of no more than 400 ft above the ground (AGL) and within Class G (uncontrolled airspace) and some Class E (with prior approval). No flight operations will be operated within Class A, B, C, or D airspace or special use airspace. All flight operations are to be conducted during daylight hours, under 30 mph winds and within line of sight. Areas of operation will be on USAA's secured campus in San Antonio, Texas and other designated remote, unpopulated areas around the San Antonio, Texas area within Class G airspace. These areas are located a sufficient distance from any airport, heliport, military base/airspace or other location with aviation activity. All flights will be communicated to FAA Flight Service with posted NOTAMS prior to the flight(s).

D. All flight operations will be conducted within line of sight of the pilot in command and ground observer(s). Maximum total flight time for each flight will be 90 minutes or less in duration. All flight operations will be terminated when the aircraft has less than 20% battery life remaining.

E. Flight operations and safety briefings will be conducted prior to all planned small unmanned aircraft system flights and will be mandatory for all air crew. Briefings will include weather reviews, take off, landing and aircraft performance data for those real time conditions, and full pre- and post-flight inspections/checklists and briefings for each specific unmanned aircraft system being operated.

F. In the event of a communication lost link, the UAS will return to a specific predetermined location and once the UAS is safely recovered, all flight operations will cease until any communication/data link issues are properly resolved.

G. Regarding privacy concerns, USAA will have land use agreements in place for all areas of operations. The land utilized is USAA-owned or privately owned remote/unpopulated land with owner agreements in place for UAS operations.

14 CFR Part 11.81 (f) A summary the FAA can publish in the *Federal Register,* stating:

(1) The rule from which you seek the exemption

Petitioner: United Services Automobile Association
Sections of 14 CFR that USAA seeks an exemption:

14 CFR Part 21.191 (a)
14 CFR Part 45.23 (b)
14 CFR Part 61.113 (a) and (b)
14 CFR Part 91.7
14 CFR Part 91.9 (b)
14 CFR Part 91.109
14 CFR Part 91.119
14 CFR Part 91.121
14 CFR Part 91.151
14 CFR Part 91.203 (a) and (b)
14 CFR Part 91.405
14 CFR Part 91.407
14 CFR Part 91.409
14 CFR Part 91.417

(2) A brief description of the nature of the exemption you seek:

USAA seeks relief from the applicable parts of 14 CFR 21, 45, 61 and 91 as requested within this petition to allow USAA to safely and efficiently conduct commercial UAS flight operations on its secure campus and other remote private land within Class G and Class E (with prior approval) airspaces for R&D purposes.

14 CFR Part 11.81 (g) – Any additional information, views or arguments available to support USAA's request:

Allowing USAA this exemption would give USAA the ability to continue our UAS research and development beyond the limits imposed today. Additional testing would benefit not only USAA and its membership, but would serve as a partnership with the FAA and others within the UAS community to advance this new and emerging technology in a safe and controlled environment.

Recently, USAA employees in partnership with Texas A&M Roboticists Without Borders were invited to the Oso, Washington mudslide area to assist Snohomomish County and other public entities with aerial surveys and mapping. Under the approval of an FAA COA (Certificate of Authorization), USAA and Roboticists Without Borders were able to fly their platforms successfully and provided valuable data to government entities. This demonstrates the value of our request to continue our UAS research and development to help communities rebuild after disasters and maintain the safety of our employees, business partners and the general public.

14 CFR Part 11.81 (h) – Request to exercise the privileges of the exemption outside the United States, the reason why the petitioner needs to do so:

USAA does not seek to exercise the privileges of this exemption, should it be granted, outside the United States. Our request is strictly to be granted authority for civil UAS R&D operations at specified locations within the national airspace system.

Sincerely,

Greg Cirillo
Wiley Rein LLP
Counsel for USAA

Michael Burns

Michael Burns
Assistant Vice President
USAA

Attachments: PrecisionHawk Flight Manual, Maintenance Schedule and training documents.