

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

DEPARTMENT OF
TRANSPORTATION
FEDERAL AVIATION
ADMINISTRATION
700 MI - 9 A 0 12

JACKSON FAMILY VINEYARDS,

Petitioner.

Docket No. FAA-2014-_____

**PETITION OF JACKSON FAMILY VINEYARDS
FOR AN EXEMPTION FROM TITLE 14 OF THE CODE OF FEDERAL REGULATIONS
TO PERMIT UNMANNED AIRCRAFT SYSTEMS (UAS) OPERATIONS**

Tim B. Adelman
Leclair Ryan, P.C.
180 Admiral Cochrane Drive, Suite 370
Annapolis, MD 21401
Phone: 410-224-3000
Fax: 410-224-0098
tim.adelman@leclairryan.com

Submitted on December 31, 2014

TABLE OF CONTENTS

- I. Petition for Exemption Summary
 - II. Interests of Petitioner
 - III. Proposed Conditions and Limitations for Petitioner's Exemption
 - IV. Information Required to Support a Petition for Exemption
 - A. Contact Information of Counsel
 - B. Specific Sections of 14 CFR to be Exempt
 - C. The Extent of Relief Sought, and the Reason for Such Relief
 - D. Reasons Why an Exemption Would Further the Public Interest
 - E. Reasons Why an Exemption Would Not Adversely Affect Safety
 - F. Federal Register Summary
 - 1. Exemptions Requested
 - 2. Brief description of the nature of the exemption
 - G. Additional Information Supporting an Exemption
 - V. Conclusion
- Exhibit A – “Area of Operations”
- Exhibit B – “Proposed Conditions and Limitations”
- Exhibit C – “Maintenance Manual”
- Exhibit D – “Training Materials”

I. Petition for Exemption Summary

Jackson Family Vineyards (“Jackson”) seeks exemption from the requirements of 14 C.F.R. §§ 61.56 (flight review), 61.113(a) and (b) (private pilot limitations), 91.7(a) (airworthiness), 91.119 (minimum safe altitudes), 91.121 (altimeter settings), 91.151 (VFR fuel requirements), 91.405(a) (maintenance inspections), 91.407(a)(1) (return to service after maintenance), 91.409(a)(1) and (2) (annual inspection), and 91.417(a) and (b) (maintenance records). Jackson seeks these exemptions to permit it to conduct Unmanned Aircraft System (“UAS”) operations over its private property in California and Washington.

II. Interests of Petitioner

Jackson owns and operates over 35,000 acres on which it grows and harvests grapes and conducts its large scale wine production business. For the purposes of this Petition, Jackson is focused on its properties in California and Washington, as depicted in Exhibit A “Area of Operations.” The vineyards are large areas of farm land that is vulnerable to trespass and illegal activities. Currently, to protect the integrity of these properties, Jackson contracts with private security companies using human ground surveillance teams with local sheriff’s department’s canine units integrated into the surveillance teams. When the surveilling security guard discovers signs of trespassory use of Jackson property—often in the form of using Jackson irrigation and water systems for marijuana plant harvesting—the security guard contacts local law enforcement to request dispatch to these sites of suspected criminal activity.

The UAS operation will compliment Jackson’s current surveillance efforts. It will minimize the need to utilize potentially dangerous surveillance methods where security guards and canine partners directly confront trespassers and their illegal activities. When a canine team alerts on potential illicit activity, highly trained UAS pilots will fly UAS equipped with still and

video photography over the Jackson properties to provide reliable birds-eye-view footage of what is occurring on the ground. This ability to see the properties for a few hundred feet in the air will allow Jackson to significantly enhance the effectiveness of its surveillance both in quality and quantity. When the photography detects suspicious activity, the images will be available to local law enforcement for further investigation.

Jackson's UAS operation will be conditioned and limited as described, in Section III of this Petition. It will not adversely affect safety; rather, it will minimize potential confrontations between Jackson's private security guards, their canine partners, and trespassers using Jackson's property for illicit operations. In furtherance of the goals of 14 C.F.R. § 11.81, the UAS operation utilizing still and video photography to report to local law enforcement will be in the public interest and will provide a level of increased safety by minimizing the potential dangerous situations for the Jackson agents and contractors currently providing direct human surveillance. Moreover, Jackson will be more effective at preventing the illegal marijuana grows and property theft.

III. Proposed Conditions and Limitations for Petitioner's Exemption

Jackson proposes that its UAS operation be conducted pursuant to the Conditions and Operating Limitations set forth in Exhibit B – "Proposed Conditions and Limitations." Each of the conditions and limitations set forth in Exhibit B is consistent with previously granted small UAS Section 333 exemptions and FAA guidance.¹

IV. Information Required to Support a Petition for Exemption

A. Contact Information of Counsel

Jackson Family Vineyards submits this Exemption Petition through counsel:

¹ See Exemption No. 11110 (December 10, 2014; Docket FAA-2014-0367) ("Trimble Exemption"); Exemption No. 11109 (December 10, 2014; Docket FAA-2014-0507) ("Clayco Exemption"); Exemption No. 11062 (September 25, 2014; Docket FAA-2014-0352) ("Astraeus Exemption").

Timothy B. Adelman
LeclairRyan, P.C.
180 Admiral Cochrane Drive, Suite 370
Annapolis, MD 21401
Phone: 410-224-3000
Fax: 410-224-0098
tim.adelman@leclairryan.com

B. Specific Sections of 14 CFR to be Exempt

14 C.F.R. § 61.56 — Flight Review

Id. at § 61.113 — Private Pilot Privileges and Limitations: Pilot in Command

Id. at § 91.7(a) — Civil Aircraft Airworthiness

Id. at § 91.119 — Minimum Safe Altitudes: General.

Id. at § 91.121 — Altimeter Settings

Id. at § 91.151 — Fuel Requirements for Flight in VFR Conditions

Id. at § 91.405(a) — Maintenance Required

Id. at § 91.407(a)(1) — Operation After Maintenance, Preventive maintenance,
Rebuilding, and Inspections

Id. at § 91.409(a)(1), (2) — Inspections

Id. at § 91.417(a), (b) — Maintenance Records

C. The Extent of Relief Sought, and the Reason for Such Relief

- i) When Jackson agents or contractors rely on UAS operations to conduct surveillance of Jackson's private property, Jackson will promote the safety, security, and well-being of all people and property involved by strictly abiding by the Proposed Conditions and Limitations set forth in Exhibit B. In order to conduct its proposed UAS operations with the AirCover QR-425s, Jackson requests exemptions from

certain Federal Aviation Regulations that were intended to promote the safety of manned aircraft.

To conduct its UAS operations, Jackson petitions the FAA for an exemption from the following federal regulations for the reasons noted:

14 C.F.R. § 61.56 — Flight Review

Jackson requests an exemption from this regulation to the extent necessary to permit Jackson to conduct UAS operations over its private property with aircraft controlled by PICs who have completed AirCover's training regimen and successfully passed the FAA's Private Pilot Knowledge Exam. We respectfully submit this request in good faith after considering the numerous conditions and limitations proposed by this petition and the extensive nature of the AirCover's training program. A copy of AirCover's proprietary training materials is provided for FAA review in Exhibit D – "Training Materials." However, recognizing the FAA has denied a similar request for an exemption to the FAA pilot certificate requirement, Jackson alternatively will agree to utilize airmen with at least a private pilot certificate for the pilots of its UAS operation.

14 C.F.R. § 61.113 — Private Pilot Privileges and Limitations: Pilot in Command

If the FAA determines that a private pilot certificate is necessary for UAS PICs, Jackson requests an exemption from § 61.113 to the extent necessary to permit Jackson to conduct UAS operations with PICs holding FAA private pilot certificates. In most instances, the FAA would require a pilot to hold a commercial pilot certificate where there is compensation either to the pilot or for the operation. Jackson seeks waiver from this requirement, consistent with previously granted Section 333 exemptions, because requiring the Jackson pilots operating the AirCover QR-425s to adhere to the commercial pilot certification requirements will not improve

the safety of operations. Requiring airman “aeronautical knowledge,” “aeronautical experience,” and “flight proficiency” at the commercial certificate level for those individuals operating a remote-controlled, battery-powered UAS aircraft weighing less than 7 pounds and operated in accordance with the conditions and limitations set forth in Exhibit B would not bring the corresponding safety benefits contemplated in the manned commercial aircraft setting.

Therefore, consistent with the certificate requirements imposed on the UAS pilots in recently granted Section 333 exemptions (see *Astraeus Exemption*, *Trimble Exemption*, and *Clayco Exemption*), Jackson requests the FAA grant an exemption from 14 C.F.R. § 61.113 and allow Jackson’s UAS pilots who hold a FAA private pilot certificate or future FAA certification to serve as pilots for Jackson’s UAS operations.

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

Jackson requests an exemption from the airworthiness certificate requirement because the aircraft flown in Jackson’s UAS operations will not have an airworthiness certificate pursuant to 14 C.F.R. Part 21, Subpart H. Jackson understands that without an airworthiness certificate, it must inspect each aircraft before each flight to determine that it is compliant with Jackson’s UAS Operations Manual which is provided in Exhibit C “Maintenance Manual.” The AirCover Maintenance Manual was reviewed by the FAA in conjunction with an experimental airworthiness application submitted by AirCover. The Maintenance Manual was approved by Brook B. Stewart (SAC FSDO) on April 3, 2014. Jackson bases this particular exemption request on the rationale that “[C]ompliance with [Jackson’s] Manuals [is a] sufficient means for determining an airworthy condition.” *Trimble Exemption*, at 16.

14 C.F.R. § 91.119 — Minimum Safe Altitudes: General.

Jackson requests an exemption from this regulation so that its UAS operations may fly at low altitudes to better capture reliable video and still photography of its private property. In fact, only subpart (c) is relevant to Jackson's UAS operations because Jackson only intends to conduct UAS operations over its private vineyards which are not located near any populated areas and easily classified as "sparsely populated areas" contemplated by subpart (c).

Specifically with respect to subpart (c), Jackson requests an exemption from the restriction that "aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure." An exemption from subpart (c) will allow Jackson UAS operations' aircraft to optimally assess the conditions of its property and any suspected illicit activity occurring thereon. The lower the aircraft can fly for purposes of capturing video and still photography, the more it alleviates the danger to human and canine surveillance teams. As the reliance on human and canine surveillance teams diminishes, the potential for dangerous confrontations with trespassers also diminishes. Specifically, an exemption would allow Jackson to operate within 500 feet of vehicles and structures on its property as part of its surveillance. However, Jackson will not operate within 500 feet of persons, vessels, vehicles or structures not located within its private property.

14 C.F.R. § 91.121 — Altimeter Settings

Jackson requests an exemption from this regulation. While the AirCover UAS does not use a barometric altimeter, it determines altitude with a GPS signal. Jackson's UAS operations pilots will check the aircraft's altitude reading prior to each takeoff, and will effectively zero the aircraft's altitude at the point of takeoff, to ensure that measurements of the aircraft's altitude are accurate relative to the local elevation. Jackson will also be conducting flights within visual line

of sight. If this approach is deemed to not satisfy 14 C.F.R. § 91.121, Jackson requests an exemption so that Jackson UAS operations can utilize this GPS signal methodology.

14 C.F.R. § 91.151 — Fuel Requirements for Flight in VFR Conditions

Jackson requests an exemption from this regulation to permit Jackson UAS pilots to plan for only 10 (ten) minutes of operating reserve time to be available at the end of each UAS operation. Jackson's UAS operations will all occur within the boundaries of its private property. The takeoff and landing will occur within view of the pilot and at all times during the flight, the UAS aircraft will be less than 1 (one) mile from its takeoff and landing sight and on Jackson's private property.

Jackson understands that the policy behind this regulation is to account for unexpected weather conditions and logistical delays occurring during a flight or when an aircraft seeks to land at its first planned destination. Jackson requests an exemption from this regulation because these considerations are not applicable here where Jackson's UAS operations will be hyper-localized and will not realistically face the considerations undergirding the regulation's policy. Moreover, a shorter reserve will be an additional safety mechanism by limiting the ability of the UA to fly far from its initial launch location.

14 C.F.R. § 91.405(a) — Maintenance Required

Jackson requests an exemption from this regulation's obligation to perform inspections and discrepancy repairs by FAA authorized mechanics. Jackson proposes Conditions and Limitations in Exhibit B, that will require a level of maintenance consistent with the FAA's standards communicated in the Astraeus Exemption and the Trimble Exemption. Moreover, AirCover's maintenance and operations manual have been reviewed by the FAA AIR-230 in connection with its application for experimental airworthiness and approved by Brook B. Stewart

(SAC FSDO) on April 4, 2014. A copy of AirCover's proprietary Maintenance and Operations manual are provided for FAA review in Exhibit C – "Maintenance Manual."

Jackson's exemption request regarding this regulation is limited to subpart (a) because it will make appropriate logbook entries in aircraft maintenance records in compliance with subpart (b), appropriately mark any inoperative instrument or item of equipment for which maintenance has been properly deferred in compliance with subpart (c), and appropriately placard listed discrepancies that include inoperative instruments or equipment in compliance with subpart (d).

14 C.F.R. § 91.407(a)(1) — Operation After Maintenance, Preventive maintenance, Rebuilding, and Inspections

Jackson requests an exemption from this regulation to permit Jackson to conduct its UAS operations without having to have the UAS approved for return to service by a person authorized under 14 C.F.R. § 43.7. AirCover has developed a comprehensive maintenance manual that has been reviewed by AIR-230 and approved by Brook B. Stewart (SAC FSDO) on April 3, 2014, in conjunction with its application for experimental airworthiness certificate. Maintaining the UAS consistent with the maintenance manual will provide an adequate level of safety and will not adversely affect safety with regard to the regulatory maintenance and alteration requirements.

Jackson has accounted for the requisite conditions and limitations described in the Trimble Exemption and the Astraeus Exemption in crafting Jackson's own Conditions and Limitations. Jackson proposes that its UAS operations be subject to scrutiny under its Conditions and Limitations in lieu of the requirement that it satisfy 14 C.F.R. § 91.407(a)(1). Related to this regulation, Jackson UAS operations will comply with subpart (a)(2) because Jackson UAS operations will require completion of maintenance record entries.

14 C.F.R. § 91.409(a)(1) and (2) — Inspections

Jackson requests an exemption from this regulation so that Jackson will not be required to obtain annual inspections and airworthiness certificate inspections required by this regulation. Instead, Jackson will maintain the UAS in accordance with the approved AirCover maintenance manual. Moreover, Jackson will adhere to the proposed Conditions and Limitations, which will provide a level of safety at least equivalent to that provided by this regulation and the requisite conditions and limitations described in the Trimble Exemption and the Astraeus Exemption.

14 C.F.R. § 91.417(a), (b) — Maintenance Records

Jackson requests an exemption from this regulation so that Jackson will not be required to keep the maintenance records described by this regulation. Instead, Jackson will maintain the UAS in accordance with the approved AirCover maintenance manual. Moreover, Jackson will adhere to the proposed Conditions and Limitations, which will provide a level of safety at least equivalent to that provided by this regulation and the requisite conditions and limitations described in the Trimble Exemption and the Astraeus Exemption.

D. Reasons Why an Exemption Would Further the Public Interest

With the FAA grant of Jackson's exemption petition, Jackson will be better able to safely monitor its private property. Using small UAS operations as an integrated part of the human and canine teams will reduce the potential for hostile confrontations between these teams and trespassers using Jackson's property. By providing the video and still photography captured by the UAS operations to local law enforcement, Jackson UAS operations will effectuate a smarter, more informed, and better prepared response to any illicit activities taking place on Jackson's property. Providing additional security to its properties, reducing the threat of theft and preventing illegal marijuana grows. Jackson's UAS operations will protect the public interest by reducing crime and reducing the burden on local law enforcement.

E. Reasons Why an Exemption Would Not Adversely Affect Safety

Jackson's UAS operations will be conducted over its private property, allowing Jackson to maintain a sterile operating environment. As such, Jackson will be able to conduct its operations without adversely affecting safety. Every flight will be restricted to Class G airspace above its own private property. Further, if the exception to 14 C.F.R. § 91.119 (the minimum safe altitudes provision) is granted, the UAS will be authorized to fly at low altitudes with little to no air traffic. Conducting its UAS operations at relatively low altitudes over its private property that is only frequented by (a) authorized Jackson agents or (b) unauthorized trespassers using Jackson's private property for illicit purposes, will allow Jackson to minimize safety risks created by the UAS aircraft. Concurrently, the UAS will eliminate the risk to the safety of the surveillance teams and local law enforcement that would otherwise be protecting the integrity of Jackson's property.

F. Federal Register Summary

1. Exemptions Requested

Jackson Family Vineyards seeks exemption from the requirements of 14 C.F.R. §§ 61.56, 61.113(a) and (b), 91.7(a), 91.119, 91.121, 91.151, 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b).

2. Brief description of the nature of the exemption

The FAA exemption will permit Jackson Family Vineyards to operate an Unmanned Aircraft System ("UAS") over its private property located in the States of California and Washington as a means of surveilling its property with video and still photography equipment mounted on UAS aircraft being flown immediately above its property by pilots trained pursuant

to Jackson's Safety Conditions and Limitations provided to the FAA with Jackson's Exemption Petition.

G. Additional Information Supporting an Exemption

Jackson will readily provide additional information that the FAA might find helpful, or to answer questions in response to any FAA requests. A confidential copy of each of the Manuals will be submitted to the FAA Assistant Chief Counsel for International Law, Legislation, and Regulations as supporting documentation for this petition. The Manuals contain proprietary information of Jackson and AirCover. Therefore, Jackson requests that the FAA treat the Manuals as confidential and not disclose them to the public.

V. Conclusion

As set forth above, Jackson seeks an exemption pursuant to 14 C.F.R. § 11.61 and Section 333 of the FAA Modernization and Reform Act of 2012. The exemption will permit safe operation of the AirCover UAS for the special purpose of conducting aerial surveillance of Jackson uninhabited, private, agrarian property in the States of California and Washington. By granting this petition, the FAA Administrator satisfies the Congressional mandate of the FAA Modernization and Reform Act of 2012, while also advancing the public interest by allowing Jackson to conduct UAS operations over its private property.

Respectfully Submitted,



Tim B. Adelman
Leclair Ryan, P.C.
COUNSEL FOR JACKSON FAMILY VINEYARDS