

# Vision Services Group LLC

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## **Publishable Summary:**

Vision Services Group, LLC (VSG-Unmanned) hereby petitions to be exempt from specific regulations of Title 14 of the Code of Federal Regulations pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 regarding Unmanned Aircraft Systems (UAS). Currently there are no regulations in place for commercial unmanned aircraft operations. This places an extreme burden on the technological progress of the agriculture and forestry industry. With several years of researching the potential conjoining of agriculture and aerospace, VSG-Unmanned is positioned to refine and advance the technologies available to the agriculture industry and optimize their capabilities if granted these exemptions. VSG-Unmanned has formed a highly qualified flight crew to ensure the safety of the National Airspace System (NAS) and provide valuable intelligence to the FAA for the UAS integration rulemaking process.

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## Petition:

Date: 4 August 2014

U.S. Department of Transportation, Docket Operations  
Federal Aviation Administration  
West Building Ground Floor, Room w12-140  
1200 New Jersey Avenue, SE., Washington DC 20590

Subject: Petition for exemption of certain requirements of the Title 14, Code of Federal Regulations (14 CFR) for VSG-Unmanned's small Unmanned Aircraft System (sUAS)

To Whom It May Concern:

Vision Services Group, LLC (VSG-Unmanned) wishes to petition for exemption from specific regulations of Title 14 of the Code of Federal Regulations. These exemptions are pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (Report 112-381).

Current FAA regulations recommend that model aircraft hobbyists follow the guidelines set forth by the Academy of Model Aeronautics (AMA). This prevents individuals from flying above 400 feet AGL, limits them to line-of-sight operations, and limits them to a certain type of model aircraft.

With the permission of the FAA, operating unmanned aircraft for commercial purposes at or below 2,000 feet AGL in designated, unpopulated areas will allow VSG-Unmanned to collect high quality, actionable data in an efficient manner. This data is in high demand from agronomists, crop consultants, and forestry professionals who are aware of its potential to decrease input and increase yields, contributing to the economic and environmental health of the industry and community.

In order to maintain a safe operating environment for the NAS and the general public, VSG-Unmanned will under no circumstances enter any Class B, Class C, or Class D airspace. VSG-Unmanned will also maintain awareness of, and separation from any TFR's, restricted/prohibited areas, as well as compliance with any applicable NOTAMs. VSG-Unmanned will maintain a three nautical mile clearance of any active airports or airfields. We will operate solely in rural, unpopulated areas and file NOTAMs at least 24 hours prior to operating. VSG-Unmanned will make a concerted effort to contact local aerial application operators to inform them of the unmanned aircraft operations and respective NOTAM pursuant to a verbal agreement between VSG-Unmanned and the Georgia Agricultural Aviation Association.

VSG-Unmanned will operate small unmanned aircraft weighing less than 20 pounds and possess visual characteristics so as to be highly visible and easily recognizable in the unlikely event of an encroaching general aviation manned aircraft. All operating aircraft will possess programmable failsafe features such as lost communications and lost link procedures as well as instantaneous manual override. All operations will be conducted within line-of-sight and will not cause hazard to the users of the national airspace system or the public, or pose a threat to national security. UAS operators will maintain 2-way



communication with all crewmembers and observers as well as local CTAF or other necessary operational frequencies during flight.

With this petition and aforementioned description of operating guidelines, VSG-Unmanned is requesting an assessment of its UAS by the FAA to be exempt from certain parts of Title 14 of the Code of Federal Regulations.

**Request for Exemption From:**

**§21.1(a)(1)(iii):** This part prescribes procedural requirements for issuing and changing airworthiness certificates.

*Reason for Exemption*

VSG-Unmanned requests approval to produce documentation verified and signed by a licensed A&P which states that the aircraft in use will adhere to the **MIL-HDBK-516B** Airworthiness Certification Criteria in lieu of any conventional aircraft airworthiness processes until such time as the administration establishes a standard for national regulation for commercial unmanned aircraft operations pursuant to Report 112-381.

**§61.113(a):** Except as provided in paragraphs (b) through (h) of this section, no person who holds a private pilot certificate may act as 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.

*Reason for Exemption*

VSG-Unmanned will not pilot any aircraft carrying passengers or property, however it requests approval to operate in a commercial capacity for compensation or hire for the purposes of collecting aerial photography of agriculture and forestry until such time as the administration establishes a standard for national regulation for commercial unmanned aircraft operations pursuant to Report 112-381. VSG-Unmanned employs a private pilot single engine land; rotorcraft – helicopter certificate holder who can competently act as pilot in command over the unmanned aircraft.

**§91.203(a)(1):** Except as provided in §91.715, no person may operate a civil aircraft unless it has within it the following: An appropriate and current airworthiness certificate. Each U.S. airworthiness certificate used to comply with this subparagraph...

*Reason for Exemption*

VSG-Unmanned requests approval to produce documentation verified and signed by a licensed A&P which states that the particular aircraft in use will adhere to the **MIL-HDBK-516B** Airworthiness Certification Criteria in lieu of any conventional aircraft airworthiness processes required by Part 91.203(a)(1) until such time as the administration establishes a standard for national regulation for commercial unmanned aircraft operations pursuant to Report 112-381. The airworthiness documentation based on **MIL-HDBK-516B** will be accessible by the ground based flight crew during all operations.

**§91.203(a)(2):** Except as provided in §91.715, no person may operate a civil aircraft unless it has within it the following: An effective U.S. registration certificate issued to its owner or, for operation within the United States, the second copy of the Aircraft registration Application as provided for in §47.31(c), or a registration certification issued under the laws of a foreign country.

*Reason for Exemption*

VSG-Unmanned request exemption from producing registration for its aircraft. This request couples with the request for exemption for airworthiness under §21.1(a)(1)(iii) in this petition. This request acknowledges Order 8130.20 regarding registration requirements for United States civil aircraft seeking



airworthiness and requests relief until such time as the administration establishes a standard for national regulation for commercial unmanned aircraft operations pursuant to Report 112-381.

**§91.203(b):** Except as provided in §91.715, no person may operate a civil aircraft unless it has within it the following: No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

*Reason for Exemption*

Given the unmanned nature of the aircraft, VSG-Unmanned requests that it be approved to have an airworthiness documentation based on MIL-HDBK-516B accessible to the ground based flight crew at all times.

**§91.9(b)(2):** No person may operate a U.S.-registered civil aircraft For which an Airplane or Rotorcraft Flight Manual is not required by §21.5 of this chapter, unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

*Reason for Exemption*

VSG-Unmanned will be operating small, unmanned aircraft that do not possess a type certificate, relieving it of the requirements for §21.5. Given the nature of the unmanned aircraft, VSG-Unmanned wishes to require an aircraft manual present with the flight crew at ground level in lieu of making the aircraft manual available in the aircraft.

AUVSI's Economic Impact of Unmanned Aircraft Systems Integration in the United States reports UAS in Agriculture to be a major economic boost. VSG-Unmanned is preparing for the commercialization of this industry to provide services that support the fulfillment of this growth. This exemption will help us provide better solutions to those in the industry dedicated to advancing farming practices to meet the staggering estimated world food production demand by 2050, as many in the agricultural community concern themselves with. This exemption also encourages a qualified flight crew to execute safe operations exploring potential recommendations towards the rulemaking of the integration of unmanned aircraft systems into the national airspace system.

VSG-Unmanned has a flight crew capable of maintaining currency on the UAS under AMA guidelines by performing at least three launch and recovery operations to include maneuvering within the preceding 90 days. If the aforementioned 90 days elapses, the pilot will gain currency by logging the three launch and recovery operations with a qualified operator. The following is a list of crewmembers and respective qualifications.



### *Pilots*

All pilots will maintain currency on the UAS by performing at least three launch and recovery operations to include maneuvering within the preceding 90 days. If the aforementioned 90 days elapses, the pilot will gain currency by logging the three launch and recovery operations with a qualified operator.

Name: Benjamin Worley (Major, FLANG)  
Qualifications: Air Force Predator Mission Commander Certification  
Insitu ScanEagle Operator Certification  
C-Astral Bramor gEO UAS Operator Certification  
15 hours Raven Operator qualified with the U.S. Air Force  
3,480 hours ScanEagle Operator and Mission Commander  
18 hours Predator Mission Commander with the U.S. Air Force

Name: William Macke (Technical Sergeant, FLANG)  
Qualifications: 15 months Imagery Collection Manager - Afghanistan  
6 years ISR Collection Manager with the U.S. Air Force  
Tasked multi-disciplined ISR platforms from tactical sUAS to strategic manned aircraft  
C-Astral Bramor gEO UAS Operator Certification

Name: Michael Mendez  
Qualifications: Airplane Single Engine Land; Rotorcraft - Helicopter Certification  
C-Astral Bramor gEO UAS Operator Certification  
FAA CoA Specialist  
200 hours manned aircraft  
50 hours sUAS on multiple platforms with responsibilities including PIC, GCSO, and  
Safety Officer on active FAA COAs with Middle Georgia State College

### *Observers*

All observers will maintain relevant currency according to FAR Part 61 and be briefed on current UAS protocol. In addition, any observer will meet the following requirements:

- FAR Part 91 training
- Familiarity with the capabilities of the unmanned aircraft in operation
- Crew resource management training
- Participation in preflight briefing prior to each UAS operation
- Capacity to visually and audibly detect aircraft intrusions exceeding one nautical mile



VSG-Unmanned's highest consideration, with regards to the commercialization of unmanned systems is the safety and integrity of the United States National Airspace System. To ensure the continual adherence to this objective, a Safety Management System (SMS) is followed and continually reviewed for necessary amendments (See the attachment "VSG-Unmanned\_SMS" for details).

On behalf of all UAS advocates in the private and public sector who are rigorously working toward a safe integration of UAS into the NAS, we thank you for your consideration of this petition for exemption and look forward to your comments and feedback so that we may continue to work towards our common objective.

Sincerely,

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