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

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

September 25, 2015

Exemption No. 13023
Regulatory Docket No. FAA−2015−2882

Mr. Thomas E. Dolan
Founder & Operations Officer
Above It All – UAS Services, LLC
30 Industrial Drive, Suite 1B
Louisa, VA 23093

Dear Mr. Dolan:

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 Above It All – UAS Services, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct precision aerial surveys that consist of still, video images and corresponding data taken by onboard cameras and/or sensors.

See Appendix A 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 DJI Phantom, DJI Phantom 2 Vision +, and the DJI S-1000.

The petitioner requested relief from 14 CFR part 21, *Certification 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, *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]. 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, Above It All – UAS Services, LLC 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

[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.

aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, Above It All – UAS Services, LLC 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 DJI Phantom, DJI Phantom 2 Vision +, and the DJI S-1000 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 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 October 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

United States Department of Transportation
Docket Management System
West Building Ground Floor Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

REGARDING THE PETITION FROM:

Above It All – UAS Services, LLC,

FOR AN EXEMPTION SEEKING RELIEF FROM THE REQUIREMENTS OF TITLE 14 OF THE CODE OF FEDERAL REGULATIONS (14 CFR) PART 21 SECTIONS 45.23(b), 91.7(a), 91.9(b)(2), 91.103(b), 91.109, 91.119, 91.121, 91.151(a), 91.203(a) and (b), 91.405(a), 91.407(a)(1), 91.409(a)(2), and 91.417(a) and (b).

CONCERNING OPERATION OF SMALL UNMANNED AIRCRAFT SYSTEMS (SUAS)

PURSUANT TO SECTION 333 OF THE

FAA MODERNIZATION AND REFORM ACT OF 2012

Regulatory Docket Number _____

Submitted Electronically
June 9, 2015

Above It All – UAS Services, LLC

Thomas E. Dolan

Founder & Operations Officer

30 Industrial Drive, Suite 1B
Louisa, Virginia 23093

June 9, 2015

United States Department of Transportation
Docket Management System
West Building Ground Floor Room W12-140
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Exemption Request under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14 CFR Part 11, Above It All – UAS Services, LLC the Applicant of the DJI Phantom (PHANTOM), DJI Phantom 2 Vision + (PHANTOM 2) and DJI S-1000 ("S-1000") Small Unmanned Aircraft Systems ("SUAS") , seeks an exemption from the Federal Aviation Regulations ("FARs") discussed later in this petition.

The requested exemption would allow commercial operation of Applicants PHANTOM, PHANTOM 2 and S-1000 SUAS' of which all weigh under 25 lbs. (based on variable installed sensors) to perform precision aerial surveys that consist of still, video images and corresponding data taken by onboard cameras and/or sensors. The PHANTOM, PHANTOM 2 and S-1000 SUAS' takes a series of high quality, still digital images, video images and or other data that are used to provide inspection data for evaluation by a client. Applications for these SUAS devices and associated data processing functions include inspection of; agriculture; building; travel & power utility infrastructure; professional surveying; real estate; law enforcement; Electronic News Gathering (ENG); television; movie filming; radiological & consequence management and scientific research & development.

Use of the PHANTOM, PHANTOM 2 and S-1000 SUAS' for the aerial missions aforementioned reduces the need to operate conventional airplanes or helicopters for the same purpose thus reducing risk to personnel and property on the ground. High quality imagery/data can be provided at a fraction of the cost of using conventional manned aircraft. The benefits from these savings will be enhanced efficiency, productivity for the affected activities, as well as reduction in harmful environmental emissions and safety risks. Operations under the exemption will be subject to strict operating requirements and conditions to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft and under conditions as may be modified by the FAA as required by Section 333.

The PHANTOM, PHANTOM 2 and S-1000 SUAS' will be operated under controlled conditions at low altitude in airspace that is limited in scope, as described more fully herein; it will have automated control features, as described below. The PHANTOM, PHANTOM 2 and S-1000 SUAS' also will be operated and observed by a individuals who posses an FAA commercial or private pilots license that already understand the rigorous requirements of flying manned airplanes and/or rotorcrafts in the National Airspace System (NAS). Any required manufacturer's training, certification and/or exam programs for the SUAS if any will also be obtained by the applicant's SUAS team members.

Finally, the airspace in which the SUAS' will operate will be below 400 feet above ground level, over privately owned, owner authorized land. Applicant respectfully submits that because these small, unmanned aerial vehicles, the PHANTOM, PHANTOM 2 and S-1000 SUAS', will be used in lieu of comparatively hazardous operations now conducted with fixed wing, and rotary conventional aircraft, the FAA can have confidence that the operations will achieve at least an equivalent level or greater level of safety. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities under Section 333(c) of the Reform Act to establish requirements for the safe operation of such aircraft systems in the NAS.

Thomas E. Dolan

Founder & Operations Officer
Above It All – UAS Services, LLC

30 Industrial Drive, Suite 1B
Louisa, Virginia 23093

Cell Phone: 631-495-2947
Office: 434-374-1866

Email: Tom.Dolan@aboveitall-uas-services.com or
thomasedolan@gmail.com

TABLE OF CONTENTS Page

I GLOSSARY OF ABBREVIATIONS & TERMS

AGL	Above Ground Level
CFR	Code of Federal Regulation
COA	Certificate of Authorization
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulation
GCS	Ground Control Station
NAS	National Airspace System
NOT	AM Notice to Airman
PIC	Pilot in Command
PO	Pilot Observer
Reform Act	FAA Modernization and Reform Act of 2012
SUAS	Small Unmanned Aircraft Systems
UA	Unmanned Aircraft
UAS	Unmanned Aircraft System
VLOS	Visual Line of Sight
VFR	Visual Flight Rules
Class E Airspace	Controlled airspace around some airports from surface that extends to 700 or 1,200 feet AGL
Class G Airspace	Class G is completely uncontrolled airspace from surface to below 60,000 feet

II LIST OF ATTACHMENTS

The following attachments are referenced in the request for exemption which follows. These documents provide additional evidence in support of Petitioner's petition to the FAA.

Attachment A	PHANTOM Operations Procedures Manual
Attachment B	PHANTOM 2 VISION + Operations Procedures Manual
Attachment C	PHANTOM Pilot Training Manual
Attachment D	S 1000 Operations Procedures Manual
Attachment E	PILOT OPERATION & SAFETY GUIDELINES

III PETITIONERS CONTACT INFORMATION

Petitioner:	Above It All – UAS Services, LLC
Phone:	631-495-2947
Email:	Tom.Dolan@aboveitall-uas-services.com or Thomasedolan@gmail.com
Address:	30 Industrial Drive, Suite 1B Louisa, Virginia 23093

IV REGULATIONS FROM WHICH EXEMTION IS REQUESTED

14 CFR Part 21, Subpart H Airworthiness Certificates & 14 CFR §
14 CFR Part 27: Airworthiness Standards: Normal Category Rotorcraft.
14 CFR **§** 91.9(c), 45.23(b) and 45.27(a): Aircraft Marking and Identification Requirements
14 CFR § 91.9(b) (2): Civil Aircraft Flight Manual in the Aircraft.
14 CFR § 91.7(a): Civil Aircraft Airworthiness.
14 CFR § 91.103(b): Preflight Action.
14 CFR § 91.109(a): Flight Instruction.
14 CFR § 91.119: Minimum Safe Altitudes.
14 CFR § 91.121: Altimeter Settings.
14 CFR § 91.151(a): Fuel Requirements for Flight in VFR Conditions.
14 CFR § 91.203 (a) & (b): Carrying Civil Aircraft Certification & Registration
14 CFR § 91.405(a);
14 CFR § 91.407(a) (1);
14 CFR § 91.409(a) (2);
14 CFR § 91.417 (a) & (b): Maintenance Inspections

V THE APPLICABLE LEGAL STANDARD UNDER SECTION 333

Developer submits that grant of this exemption application for use of the PHANTOM, PHANTOM 2 VISION + and S-1000 SUAS' in a wide-range of various low level aerial missions & applications that will advance the Congressional mandate in Section 333 of the Reform Act to accelerate the introduction of UAS's into the NAS if it can be accomplished safely. This law directs the Secretary of Transportation to consider whether certain UAS's may operate safely in the NAS before completion of the rulemaking required under Section 332 of the Reform Act. In making this determination, the Secretary is required to determine which types of UAS's do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

- The UAS's size, weight, speed, and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within visual line of sight of the operator.

Reform Act § 333(a) (1) If the Secretary determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." Id. §333(c)

Petitioner submits that this provision places a duty on the Administrator to not only process applications for exemptions under Section 333, but for the Administrator, if he deems the conditions proposed herein require modification in order to allow approval, to supply conditions for the safe operation of the UAS. Developer welcomes the opportunity to consult with FAA staff in order to address any issues or concerns that this proposal may raise that they believe may require modification.

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, from the requirement that all civil aircraft must have a current airworthiness certificate and those regulations requiring commercial pilots to operate aircraft in commercial service:

> The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any of sections 4-44702-44716 of this title if the Administrator finds the exemption is in the public interest.

49 U.S.C. §44701(f) See also 49 USC §44711(a); 49 USC §44704; 14 CFR §91.203(a) (1)

The grant of the requested exemption is in the public interest based on the clear direction in Section 333 of the Reform Act; the additional authority in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations; and the significant public benefit, including enhanced safety and cost savings associated with transitioning to UAS's for aerial applications and use of its associated data processing functions to include inspection of; agriculture; building; travel & power utility infrastructure, professional surveying, real estate, law enforcement, Electronic News Gathering (ENG), television, movie filming, radiological & consequence management and scientific research & development. Accordingly, the Petitioner respectfully requests that the FAA grant the requested exemption upon review of request.

VI DESCRIPTION OF PROPOSED OPERATIONS & SUAS'

The current PHANTOM, PHANTOM 2 VISION + and S-1000 SUAS' Manual describes, in detail, the policies and procedures for Petitioners proposed SUAS operations. To assist the FAA in its safety assessment of Petitioners proposed SUAS operations, below is a summary of operational limitations and conditions which will ensure an equivalent or higher level of safety to operations conducted under current regulatory guidelines:

1. The SUAS' will weigh less than 25 lbs. depending on sensor requirements.

2. Flights will be operated within line-of-sight of the trained PIC and PO.
3. Flights will be terminated at 25% power reserve.

4. Flights will be operated at an altitude of no more than 400 feet AGL.

5. Minimum crew for each operation will consist of the SUAS PIC and PO.

6. The SUAS PIC and PO will both be FAA licensed commercial or private pilot.

7. The SUAS pilot will be PIC. The PIC and PO, both being FAA pilot certificate holders have the ability to and may take over each others role for safety or any other reason due to both having the same and necessary PIC/PO qualifications & training, which adds to the overall safety of flight operations.

8. The SUAS will only operate within a limited pre-determined area.

9. The SUAS onboard computer stabilization controller provides the PIC the ability to hover the SUAS and move in vertical and horizontal planes independently and simultaneously that affords the PIC to alter predetermined flight path if any safety issue in flight path arises.

10. The SUAS onboard telemetry affords the PIC to monitor in real time all pertinent SUAS airborne altitude, battery life, GPS system health data and parameters on laptop or tablet.

11. If the SUAS loses communications or GPS signal the SUAS will automatically return to its pre-determined safe launching/landing site through its advanced onboard safety feature.

12. A mandatory preflight safety briefing for all SUAS team personnel will be conducted prior to each day's planned SUAS flight missions.

13. PIC and PO will have the most current training in the SUAS to be operated along with any pertinent information from the manufacturer, as required in the Manual.

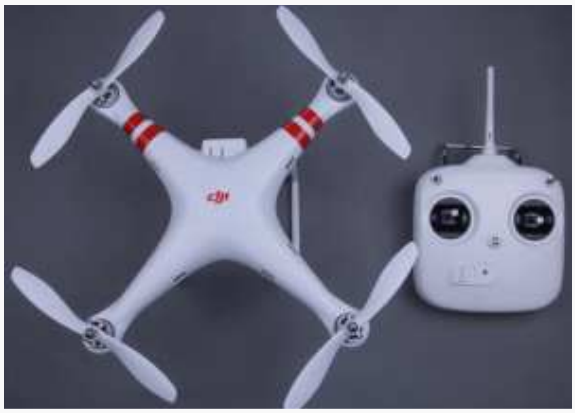
14. PO and PIC will at all times be able to communicate by voice, visual signal, audible signal and/or text.

15. Permission, Written or oral, will be obtained from the necessary property owners or managers prior to any aerial activity.

16. Any and all required permissions and/or permits will be obtained from the appropriate state, county, city or jurisdiction agencies prior to any aerial activity.

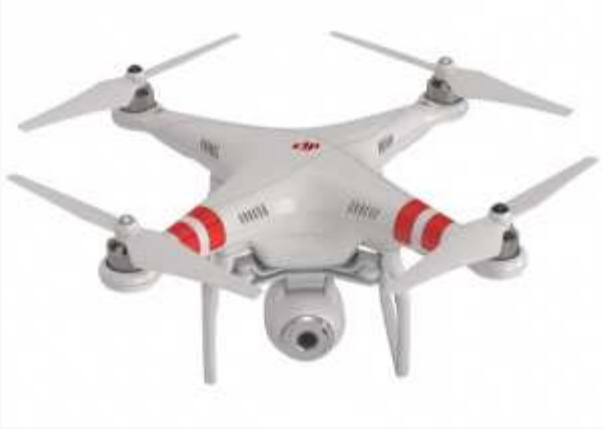
17. Petitioner will submit a Certificate of Authorization (COA) application for each SUAS as part of the exemption sought by this Petition

Below is an overview of the Petitioners PHANTOM specifications. Additional operational information is available in the PHANTOM Operations Procedures Manual (Attachment A).

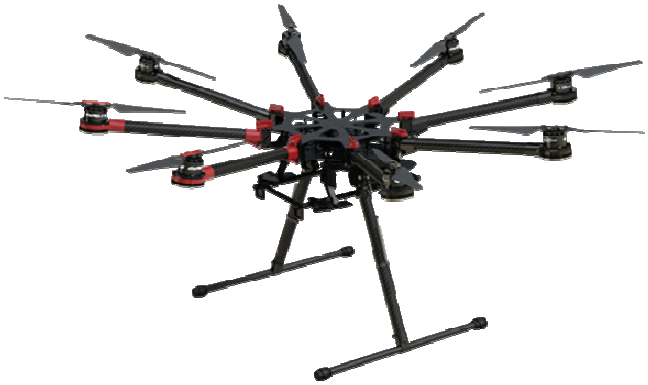


Operating Temperature	-10°C ~ 50°C
Take-off Weight	<1000g
Hovering Accuracy	Vertical：± 0.8m ； Horizontal：± 2.5m
Max Yaw Angular Velocity	200°/s
Max Tilt Angle	45°
Max Ascent / Descent Speed	±6m/s
Max Flight Velocity	10m/s
Diagonal distance (motor center to center)	350mm
Working Current /Voltage	52 mA@6V

Below is an overview of the Petitioners PHANTOM 2 VISION + specifications. Additional operational information is available in the PHANTOM 2 VISION + Operations Procedures Manual (Attachment B).

PHANTOM 2 Vision + +	
	
Battery	5200mAh LiPo
PHANTOM 2 VISION + + Weight	1160g
Hover Accuracy (Ready to Fly)	Vertical:± 0.8m;Horizontal:± 2.5m
Max Yaw Angular Velocity	200°/s
Max Tilt Angle	35°
Max Ascent / Descent Speed	6m/s
Max Flight Speed	15m/s(Not Recommended)
Diagonal Length	350mm
Tilting Range of Gimbal	0°-60°

Below is an overview of the Petitioners S-1000 SUAS specifications. Additional operational information is available in the S-1000 Operations Procedures Manual (Attachment D).



Frame	**Diagonal Wheelbase: 1045mm** **Frame Arm Length: 386mm** **Frame Arm Weight: (Including Motor, ESC, Propeller) 325g** **Center Frame Diameter: 337.5mm** **Center Frame Weight (With Landing Gear Mounting Base, Servos) 1330g** Landing Gear Size: 460mm (Length) ×511mm (Width) ×305mm (Height), (Top width: 155 mm)
Motor	**Stator Size: 41×14mm** **KV:** 400rpm/V **Max Power: 400W** Weight (With Cooling Fan): 158g
ESC	**Working Current: 40A** **Working Voltage: 6S LiPo** **Signal Frequency: 30Hz ~ 450Hz** **Drive PWM Frequency: 8KHz** Weight (With Radiators): 35g
Foldable Propeller (1552/1552R)	**Material:** High strength performance engineered plastics **Size:** 15×5.2inch Weight: 13g
Flight Parameters	**Takeoff Weight: 6.0Kg ~ 11.0Kg** **Total Weight: 4.2Kg** **Power Battery:** LiPo (6S、10000mAh~20000mAh、15C (Min)) **Max Power Consumption: 4000W** **Hover Power Consumption**: 1400W (@9.5Kg Takeoff Weight) **Hover Time:** 15min (@14000mAh & 9.5Kg Takeoff Weight) Working Environment Temperature: -10 °C ~ +40 °C

VII REGULATIONS FROM WHICH EXEMPTION IS REQUESTED

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. By its terms, this statutory authority includes exempting civil aircraft, as the term is defined under §40101 of the Act, including SUASs, from its safety regulations and minimum standards when the Administrator decides a requested exemption is in the public interest.

Petitioner seeks an exemption from several interrelated provisions of 14 CFR Parts 21, 45 and 91 for purposes of conducting wide-range of various low level aerial missions & applications with associated data processing functions to include inspection of; agriculture; building; travel & power utility infrastructure; professional surveying; real estate; law enforcement; Electronic News Gathering (ENG); television; movie filming; radiological & consequence management and scientific research & development using SUAS which are listed below are:

> (1) the specific sections of 14 CFR for which exemption is sought; and
> (2) the operating procedures and safeguards that Petitioner has established which will ensure a level of safety equal to or better than the rules from which exemption is sought.

A. 14 CFR Part 21, Subpart H Airworthiness Certificates & 14 CFR § 91.203(a) (1).

This petition seeks an exemption from 14 CFR Part 21, Subpart H, which establishes the procedural requirements for the issuance of airworthiness certificates as required by 14 CFR §91.203(a)(1). Given the size and limited operating area associated with the SUAS to be utilized by the Petitioner, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act.

The Federal Aviation Act (49 U.S.C. § 44701(f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular UAS.

In all cases, an analysis of these criteria demonstrates that the SUAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least as safe, or safer, than a conventional rotorcraft operating with an airworthiness certificate without the restrictions and conditions of the proposed SUAS operations.

Equivalent Level of Safety

The SUAS to be operated hereunder is less than 25 lbs. fully loaded, carries no pilot, No passenger, no explosive materials, and operates exclusively within a secured pre-determined area. Unlike other civil aircraft, the proposed operations in this petition for exemption will be controlled and monitored by the Petitioner with advance notice to the FAA of all operations that will be conducted under this exemption.

These safety enhancements, which already apply to civil aircraft operated in connection with existing inspection operations, provide a greater degree of safety to the public and property owners than conventional operations conducted with airworthiness certificates issued under 14 CFR Part 21, Subpart H. Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the SUAS, due to its size, speed of operation, location of operation, lack of explosive materials, and inability to carry a substantial external load.

B. 14 CFR Part 27: Airworthiness Standards: Normal Category Rotorcraft.

14 CFR Part 27 sets forth the procedural requirements for airworthiness certification of normal category rotorcraft. To the extent the Petitioner's SUASs would otherwise require certification under Part 27, as a rotorcraft, Petitioner requests an exemption from Part 27's airworthiness standards for the same reasons identified in the exemption request from 14 CFR Part 21, Subpart H.

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

This petition seeks an exemption from the aircraft marking and identification requirements of 14 CFR §§ 91.9(c), 45.23(b) and 45.27(a).

14 CFR § 91.9(c), Civil aircraft flight manual, marking, and placard requirements, provides that:

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

14 CFR § 45.23(b), Markings of the Aircraft, states:

When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable

14 CFR § 45.27(a), Rotorcraft, states:

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

Exemption from § 45.23(b) is warranted because the SUAS has no entrance to the cabin,

cockpit or pilot station, on which the word "Experimental" can be placed. Moreover, given the size of the SUAS, two-inch lettering would be impossible. The word "Experimental" will be placed on the fuselage in compliance with § 45.29(f).

Given the nature of the specific relief sought by this exemption request, Petitioner requires relief from the associated marking and identification requirements of § 45.27(a) and § 91.9(c), which would require compliance with § 45.23(b).

Equivalent Level of Safety

An equivalent level of safety for exemptions to the aircraft marking and identification requirements of §§ 91.9(c), 45.23(b) and 45.27(a), will be provided by having the SUAS marked on its fuselage as required by §45.29(f) where the PIC, PO, and others working with the SUAS will see the identification of the UAS as "Experimental." Additionally, Petitioner will ensure compliance with any requests of SUAS marking by the FAA.

The FAA has issued the following exemptions to the aircraft marking requirements of § 45.23(b): Exemptions Nos. 10700, 8738, 10167 and 10167A.

D. 14 CFR § 91.9(b) (2): Civil Aircraft Flight Manual in the Aircraft.

This petition seeks an exemption from the flight manual requirements of 14 CFR § 91.9(b) (2), which states:

> (b) No person may operate a U.S.-registered civil aircraft
>
> (2) 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.

Given its size, configuration, and load capacity, the SUAS has no ability to carry such a manual on the craft. There is no need to carry this item on the SUAS, since there is no pilot on board, no room, no capacity or need.

Equivalent Level of Safety

The safety related purpose of this manual requirement can be equally satisfied by having the SUAS flight manual at the ground control point where the pilot flying the SUAS will have immediate access to it. Accordingly, Petitioner requests an exemption from § 91.9(b) (2)'s flight manual requirements, on the condition that the SUAS flight manual be available at the control point during each operation.

The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700

E. 14 CFR § 91.7(a): Civil Aircraft Airworthiness.

This petition seeks an exemption from 14 CFR § 91.7(a), which requires that a civil aircraft be in an airworthy condition to be operated. Since there is currently no airworthiness certificate issued for the SUAS, no FAA regulatory standard will exist for determining airworthiness.

Equivalent Level of Safety

Petitioner PICs have hundreds flight hours in SUAS flying operations with an excellent safety record. Furthermore, given the size of the SUAS and the requirements contained in the Manual for maintenance and use of safety checklists prior to each flight, an equivalent level of safety will be provided.

The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700

F. 14 CFR § 91.103(b): Preflight Action

This petition seeks an exemption from m § 91.103, which requires a PIC to become familiar with specific information before each flight, including information contained in the FAA approved Flight Manual on board the aircraft. Inasmuch as an FAA approved flight manual will not be provided for the SUAS, an exemption will be needed.

Equivalent Level of Safety

An equivalent level of safety will be provided by following the SUAS Operations Manual comprehensive preflight checklist. The PIC will attain all information and actions, including reviewing weather, flight battery requirements, landing and takeoff distances, and aircraft performance data, a briefing to the PO along with all others involved in the aerial activities before beginning any flight operation.

G. 14 CFR § 91.109(a): Flight Instruction.

This petition seeks an exemption from 14 CFR § 91.109(a), which provides that “no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.” SUAS’ and remotely piloted aircraft, by their design do not have fully functional dual pilot controls. Instead, flight control is accomplished through the use of a control box or ground station that communicates with the SUAS via radio frequency communications.

Equivalent Level of Safety

Given the size and speed of the SUAS, an equivalent level of safe training can still be performed without dual controls because no pilot or passengers are aboard the SUAS, and all persons will be a safe distance away should the SUAS experience any difficulties during flight instruction.

The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos. 5778K & 9862A.

H. 14 CFR § 91.119: Minimum Safe Altitudes.

This petition seeks an exemption from the minimum safe altitude requirements of 14 CFR § 91.119. Section 91.119 prescribes the minimum safe altitudes under which aircraft may not operate, including 400 feet above the surface and away from any person, vessel, vehicle, or structure in non-congested areas. See 14 CFR § 91.119(c). Section § 91.119(d) (1) allows for a helicopter to operate at less than those minimum altitudes when it can be operated "without hazard to persons or property on the surface," provided that "each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA

To provide the intended inspections, the SUAS will normally need to be operated within a range of approximately 100 feet from the structure or item to be inspected. Accordingly, due to the nature of the proposed operations, the PIC and the PO may at times be less than 400 feet away from structures during the operation, and an exemption is therefore required.

Equivalent Level of Safety

An equivalent level of safety will be achieved given the size, weight, speed of the UAS as well as the location where it is operated. Operations with rotorcraft weighting far more than the maximum 25 lbs. proposed SUAS, along with the lack of flammable fuel, any risk associated with these operations are far less than those of conventional aircraft. As set forth in the Manual, the SUAS will be operated in a positively controlled area, where buildings and people will not be exposed to operations without their authorized consent. No flight will be taken without the permission of the property owner or manager and/or local officials. Because of the advance notice to the property owner and participants, all affected individuals will be aware of the planned flight operations as set forth in the Manual. Furthermore, by operating at such lower altitudes, the SUAS will not interfere with other aircraft that are subject to the minimum safe altitude regulations.

I. 14 CFR § 91.121 Altimeter Settings

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

Equivalent Level of Safety

An equivalent level of safety will be achieved by following the procedures set forth in the PHANTOM, PHANTOM 2 VISION + and S-1000 SUAS' Manual. As prescribed in the Manual, the operator will confirm the altitude of the launch site shown on the GPS altitude indicator before flight. Moreover, the PIC will use the GPS altitude indicator to constantly monitor the SUAS's height, thus ensuring operation at safe altitudes.

J. 14 CFR § 91.151(a): Fuel Requirements for Flight in V FR Conditions

This petition seeks an exemption from 14 CFR § 91.151(a)'s fuel requirements for flight in VFR conditions. Section 91.151 states:

> (a) No person may begin a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed:
>
> (1) During the day, to fly after that for at least 30 minutes; or
>
> (2) At night, to fly after that for at least 45 minutes.

The battery supplying electric powering source for the SUAS provides approximately 20 to 30 minutes of powered flight. An exemption from the 30 minute reserve requirement in 14 CFR §91.151 is therefore required.

Equivalent Level of Safety

An equivalent level of safety can be achieved by limiting flights to 25% of battery power, whichever happens first. This restriction would be more than adequate to return the SUAS to its planned landing zone from anywhere within its limited operating area. Operation of the SUAS with less than 30 minutes of reserve fuel does not engender the type of risks that Section 91.151(a) was intended to alleviate given the size and speed of the small UAS. Additionally, we are not planning or proposing to fly SUAS at night.

Operation of SUAS will be limited to predetermined and controlled areas where only people and property owners, or official representatives who have signed waivers will be allowed.

This request for exemption falls within the scope of prior exemptions. See e.g. Exemption 10673 (allowing Lockheed Martin Corporation to operate without compliance with § 91.151 (a)); see also Exemptions 2689F, 5745, 10673, and 10808.

K. 14 CFR § 91.203 (a) & (b): Carrying Civil Aircraft Certification and Registration

This petition seeks an exemption from civil aircraft certification and registration requirements of 14 CFR § 91.203 (a) and (b). The regulation provides in pertinent part:

> (a) Except as provided in §91.715, no person may operate a civil aircraft unless it has within it the following:
>
> (1) An appropriate and current airworthiness certificate
>
> (b) No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under §91.715 is displayed at the cabin or cockpit entrance so that it is legible to the passengers or crew.

Petitioner is seeking an exemption from the airworthiness certificate requirements, an exemption to this regulation is necessary because:

1 No such certificate is available to be issued for airworthiness of a SUAS:

2 SUAS load capacity and size does not allow it to carry certification and registration documents and it is impractical to display such documentation on the SUAS;

3 SUAS does not have a cabin or cockpit entrance at which the documents could be displayed; and

4 There are no passengers or crew for whom the certificates need be displayed.

Equivalent Level of Safety

To the extent these regulations are applicable to the proposed SUAS operations, an equivalent level of safety will be achieved by keeping these documents at the ground control point or station where the pilot flying the SUAS will have immediate access to them.

The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions which includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797A, 9816A, and 10700

L. 14 CFR §§ 91.405(a); 91.407(a) (1); 91.409(a) (2); 91.417 (a) & (b): Maintenance Inspections

Petitioner seeks an exemption from the maintenance inspection requirements of 14 CFR §§ 91.405(a); 91.407(a) (1); 91.409(a) (2); 91.417 (a) & (b). These regulations specify maintenance and inspection standards in reference to 14 CFR Part 43. See, e.g., 14 CFR § 91.405(a) (stating that each owner or operator of an aircraft "shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections . . . have discrepancies repaired as prescribed in part 43 of this chapter"). An exemption of these regulations is needed because Part 43 and these sections apply only to aircraft with an airworthiness certificate, as such the SUAS does not have or is required to have at this time.

Equivalent Level of Safety

An equivalent level of safety will be achieved since maintenance and inspections will be performed in accordance with the PHANTOM, PHANTOM 2 VISION + and S-1000 SUAS' Manuals. As provided in the Manual, the PIC will ensure that the SUAS is in proper working order prior to initiating flight, perform routine or required maintenance, and maintain a log of any maintenance performed. The PIC is the most familiar with the craft and best suited to maintain the SUAS in an airworthy condition to provide the equivalent level of safety.

If mechanical issues arise, the SUAS can land immediately no higher than 400 feet AGL at the most. The SUAS' small size, carrying capacity, and the fact that flight operations will only take place in restricted areas for periods of time not to exceed 25 minutes or until 25% battery power remains, create less risk than the same factors associated with conventional fixed-wing airplane and rotorcraft performing the same operation.

VIII PUBLIC INTEREST

Consistent with the requirements of 14 CFR §11.81(d), Petitioner offers the following reasons why granting this petition for exemption is in the public interest, i.e., how granting it would benefit the public as a whole.

Approval of exemptions allowing commercial operations of small and lightweight SUAS' in aerial services industry benefits the public as a whole in the following ways:

- It helps fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act, namely, the FAA Administrator's assessment of whether certain UAS may operate safely in the National Airspace System before completion of the rulemaking required under Section 332 of the Reform Act.
- The operation significantly improves safety and reduces risk by alleviating human exposure to danger associated with current aerial mission methods, namely, full size helicopters. Manned helicopters performing various low level inspections and

patrols have experienced an exceedingly high number of accidents and fatalities. The public's interest is furthered by reducing human exposure to death or serious injury associated with manned aircraft performing various low level inspections and patrols.

- Petitioner's SUAS' are battery powered and create no emissions and are quite quiet. If Petitioner's SUAS crashes, there is no fuel to ignite and explode. Any impact of Petitioner's lightweight SUAS' is obviously, far less than a full size helicopter. The public's interest is furthered by minimizing human exposure to death or serious injury from an accident and ecological impact of by reducing to potentially harmful emissions and noise pollution associated with manned aircraft.

- Problems with safety, cost, statistical integrity, and logistics continue to impede low level aerial missions conducted from conventional manned aircraft. The uses of SUAS' address these problems, thus proving to be a powerful tool for performing a wide-range of various low level aerial missions & applications with associated data processing functions to include inspection of; agriculture; building; travel & power utility infrastructure; professional surveying; real estate; law enforcement; Electronic News Gathering (ENG); television; movie filming; radiological & consequence management and scientific research & development are valuable and safe tools for these low level missions. The public as a whole will benefit from the safer and more cost-effective utility aerial services that SUAS operations provide.

- There is also a financial benefit to the public. Current methods of capturing aerial imagery are expensive, which proves to be cost-prohibitive for many individuals and organizations. Granting exemptions such as the one proposed by Petitioner will make such services affordable to a wider group of prospective customers.

IX PRIVACY

All flights will occur over Petitioner's property or the Utility Customer's property with the customer's prior consent and knowledge.

X FEDERAL REGISTAR SUMMARY

Pursuant to 14 CFR Part 11, the following summary is provided for publication in the FEDERAL REGISTER, should it be determined that publication is needed:

Petitioner seeks an exemption from the following rules:

14 CFR Part 21, Subpart H;
14 CFR Part 27;
14 CFR 45.23(b);
14 CFR 91.7(a);
14 CFR 91.9(b) (2);
14 CFR 91.103;
14 CFR 91.109(a);
14 CFR 91.119;
14 CFR 91.121;
14 CFR 91.151(a);
14 CFR 91.203 (a) & (b);
14 CFR 91.405(a);
14 CFR 91.407(a) (1);
14 CFR 91.409(a) (2);
14 CFR 91.417 (a) & (b)

Approval of exemptions will allow commercial operations of small and lightweight SUAS in the wide-range of various low level aerial missions & applications industry will enhance safety by reducing risk. Conventional operations in this industry using manned operations, rotorcraft or fixed-wing aircraft present the risks associated with vehicles that weigh in the neighborhood of several thousand pounds and carrying large amounts of fuel. Such aircraft must fly to and from the location and operate at low altitudes.

In contrast, a SUAS weighing fewer than 25 lbs. and powered by batteries eliminates virtually all of that risk, given the reduced mass and lack of combustible fuel carried on board. The SUAS is transported, not flown, to the designated area and set up. The SUAS carries no passengers or crew and, therefore, does not expose them to the risks associated with manned aircraft flights.

The operation of small SUAS' weighting less than 25 lbs. provides an equivalent level of safety and thus supports the grant of the exemptions requested herein, including exempting the Petitioner from the requirements of Part 21 and allowing commercial operations. These lightweight SUAS' operate at slow speeds, close to the ground, and in a sterile environment. As a result, they are far safer than conventional aerial mission operations conducted with fixed-wing aircraft or helicopters.

Biographical Background of the Above It All - UAS Team

Above It All - UAS Services, LLC (AIA-UAS) a small veteran & minority-owned company incorporated in the State of Virginia. The company's mission is to provide innovative myriad of aerial mission solutions that inspire and advance the efforts of its clients and affiliates.

Mr. Dolan - Founder & Operations Officer, Charles Ciuzio – Chief Executive & Flight Officer and Steve Curtis – Chief Technical Officer, have assembled a team of experienced aviation, business and scientific professionals deeply rooted in aviation industry committed to positively advancing the UAS industry on multiple platforms to meet emerging market needs.

We have and continue to strive with our expertise in cutting edge aviation and science to integrate UAS use across our country and the world in compliance with all government laws and regulations, thus assuring the highest standards of safety and quality. The team will be collaborating with the Mid-Atlantic Aviation Partnership at Blacksburg, Virginia, and the University of Las Vegas FAA UAS Test Sites to best meet these goals.

Team Members Bios:

Tom Dolan – Founder & Operations, Mr. Dolan is a commercial instrument rated pilot in helicopters, single and multi-engine airplanes with 2,000 hours of flight, a Safety Officer for a local flying club and flying service. He was a pilot for a scheduled helicopter airline around Manhattan New York after graduating from Embry-Riddle Aeronautical University in 1982.

In 1988 he began his career as a Police Officer for the Nassau County Police Department (NCPD) on Long Island, New York being assigned to the Marine-Aviation Bureau where he either piloted Bell Jet Ranger helicopters or police boats on patrol missions, on, over or around Nassau County its waterways, the gateway to the port of New York. During police career he was assigned to rescue operations at Ground Zero on 9-11-2001 World Trade Center Terrorist Attack, the downing of TWA's 747 Flight 800 disaster in March 1997, and the downing of the Avianca B-707 Flight 052 Disaster in January 1991. He received the 5th Precincts "Top Cop Award" also the "Department of Transportations 9-11 Medal".

While still working as a Police Officer soon after the World Trade Center and Pentagon Terrorist attacks, Mr. Dolan realized there was a large void in maritime security, so he assembled a team to solve this dilemma, founding Homeland Security Aviation & Maritime Services, Inc. (HSA), a technical support company dedicated to providing expert system support solutions to measure radiation signatures to government customers in the area of aerial & vessel-borne radiation detection systems and field operations.

HAS' team was compromised of members from the Pentagon, Nuclear Emergency Search Team (NEST), Nuclear Physicists and a variety of scientist and technical experts,

that had a vast understanding of both the Federal and local levels of emergency response, devised solutions to the response community of how best to detect and measure radiation sources, along with on how to best shield and protect financial markets, utilities and computer systems from effects of Electro Magnetic Pulse Weapons.

Mr. Dolan's HSA gained support and assistance for collaborative purposes from Brookhaven National Laboratory, Domestic Nuclear Detection Office, New York State Foundation for Science & Technology (NYSTAR) and Homeland Security Chairman Congressman – Peter King. The program was being picked up by the National Nuclear Security Agency (NNSA) Administrator - Thomas Dagastino to perform a study with Department of Homeland Security (DHS) and Department of Energy (DoE) only to come to an abrupt halt when new administration cut funding for all new NNSA projects.

With over 26 years with NCPD Mr. Dolan retired in 2012 and moved with his family to central Virginia where he has worked closely with several law enforcement agencies on the use of UAS's. Invited by Chief Sellers of Albemarle County Police Department (ACPD), Tom demonstrated the usefulness of UAS' before citizen members of the County's Crime Prevention Council. Sellers was instrumental in developing Virginia's "Model Policy" on the use of UAS in law enforcement agencies for the Legislature, Department of Criminal Justice Services & the Office of the Attorney General it the state of Virginia. Those leery of the technology soon accepted the technology finding pros outweighed the cons as long as the "Model" guidelines" were adhered to.

October 2nd 2013, Mr. Dolan successfully orchestrated the use of a high technology UAS from Virginia Tech's Mid-Atlantic Aviation Partnership (MAAP) in assisting in the close to month long exhaustive search effort, led by Chief Sellers, for a missing University of Virginia student, Hannah Graham. The use of this technology was welcomed by the Charlottesville community which marked the first time in Virginia history that a UAS was used by law enforcement, with the Federal Aviation Administrations approval.

Tom is a member of the Airborne Law Enforcement Association's Manned/Unmanned Aircraft Integration Safety Committee, Safety Officer for both VDW Flight Services and the Monticello Flying Club.

Charles Cuzio – Chief Flight & Operations Officer

Charles Ciuzio has extensive military and civilian manned and unmanned aviation experience. He is a 21 year retired U.S. Air Force Lieutenant Colonel with over 6400 flight hours in transport category aircraft including the C-141, C-17 and C-21 aircraft.

Chuck served as Instructor and Evaluator pilot in the C-17 performing worldwide missions in support of national objectives. He also held positions in squadron training and standardization departments and as Squadron Operations officer.

He is a graduate of the U.S. Air Force, Air Command and Staff College; U.S. Army, Command and General Staff College and the U.S. Air Force, Air War College.

After retiring from the Air Force he spent 5 years working with the ScanEagle UAS system built by Insitu, Inc. (A Boeing Company). The ScanEagle is a 45lb. small UAS with line of sight range of 60 miles and endurance of 18-24 hours. The ScanEagle has the ability to carry different payloads including a variety of cameras and sensors. Chuck's ScanEagle experience includes 3 years deployed to Iraq and Afghanistan as an operator, maintainer and site lead in support of DoD customers.

Chuck has an extensive educational background. He is a 1987 graduate of the U.S. Air Force Academy and holds a master's degree in Aviation Science and Technology from Embry-Riddle Aeronautical University. He is currently enrolled in an MBA program at Washington State University. Chuck is also a certified Program Management Professional and has taken all of the coursework for a Villanova University Six Sigma Black Belt. Chuck is currently a pilot for Netjets Aviation, Inc where he is a First Officer on the Dassault Falcon 2000.

Steven Curtis – Chief Technical Officer/UAS Systems Integration - Steven Curtis worked on NEST and radiation consequence management missions for DOE/NNSA for 13 years. He has held every field position within the National radiological emergency response arena. One of the premier assets of the DOE/NNSA's Remote Sensing Laboratory is the Aerial Measuring System (AMS). This is the nation's primary response tool for initial assessment of a radiation deposition on United States soil. He was the program manager for this asset for two years and his focus has been radiation detectors in the field-deployed systems.

Mr. Curtis held Battalion staff and Company Commander Positions as an officer in the Army and Nevada National Guard. For the last two years, he had been a consultant, mostly working with National Security Technologies, LLC, in support for the Nevada Test Site. He has worked with SAIC on several DHS DNDO architecture projects.

Mr. Curtis was the proposal manager for the successful Screening Information Request proposal that secured the UAS FAA Test Site for the State of Nevada. He has been involved with technical integration for UAS with the Nevada System of Higher Education for the last three years.

Steven Curtis has more than 30 years of experience in emergency response team leadership, program management, and academic collaboration for the Department of Energy (DoE), Federal Emergency Management Administration (FEMA) Environmental Protection Agency (EPA), University of Las Vegas (UNLV), and the Desert Research Institute. He holds a masters degree in Health Physics and a BSEE, both from UNLV.

Alan Saville – UAS Pilot/Air Traffic Control Liaison - Mr. Saville served in U.S. Army. Upon separation he became an FAA Air Traffic Control Specialist. He has over 14 years experience in Control Towers, Ground Controlled Approach, Approach Control and Air Route Traffic Control Center in 6 facilities across the nation and the US Virgin

Islands. Alan is also a Commercial and Air Transport Pilot with Flight Instructor, Multi-engine and Instrument ratings.

Alan has been involved and has extensive expertise in remote controlled platforms predominately with gliders, powered & float aircraft for over 25 years and multi-rotor UAS's in the last 5 years.

Scott Leiffer – Survey Officer - Sensor, Payload & Mapping - Scott Leiffer has been working in the Land Surveying field since 1994. His first surveying job was the Boundary Re-trace and Line Marking of several miles of U.S. Forest Service Boundary in Alleghany County, Virginia. Scott began work at Bell Surveys, Inc. in 2000, where he worked his way up from Party Chief of a field crew to Project Manager to Licensed Land Surveyor in 2007. Scott left Bell Surveys, Inc. in 2010 due to Bell Surveys, Inc. financial difficulties. After working other jobs to get back in the black personally, Scott started Alpha Land Surveys LLC in 2011. In the summer of 2013, Scott purchased the assets of Gregory D. Hosaflook, P.C. when Mr. Hosaflook retired after 30 years in business. In April of 2014, Scott purchased the assets of Bell Surveys, Inc. when his previous employers decided to retire. In July of 2014, Scott purchased the assets of Louisa Aerial Surveys from James H. Bell, Jr., the original owner of Bell Surveys, Inc. Mr. Bell at 84 years of age is can still be seen at the office as a mentor.

With the conglomeration of companies, Scott changed the company name to Bell Land Surveys LLC in honor of the founder, James H. Bell, Jr., who started his journey in 1963. Bell Land Surveys LLC is a privately owned company with over 50 years of surveying experience. We are able to provide clients a wide range of specialty services including but not limited to: Land Planning and Design, Site Surveys, Construction Staking, Aerial Mapping, Topographic Maps, Orthophotos, Volumetric Calculations and Project Management. Mr. Leiffer has since partnered with Above It All – UAS Services, LLC to bring the company into the 21st Century by utilizing cost effective Unmanned Aerial Systems to pass along the cost savings of these UAS' to his clients.

Our clientele range from private land owners to corporate developers to Engineers & Landscape Architects. We provide services for clients involved in state, county and federal projects as well as development companies, investment groups, and non-profit organizations. Bell Land Surveys is currently working on a Siteplan for Virginia Vermiculite, a mine based in Louisa, to open a new pit. We have also mapped the Nestle/Purina Cat Litter Plant in Ashland, VA 3 times per year for many years. We also map several landfills in Virginia for Santek Environmental 2-3 times per year.

Dr. Jens Hovgaard – Radiological Detection UAS Payloads - Dr. Jens Hovgaard - Nuclear Physicist- President of Radiation Solutions, Inc. has over 25 years experience with nuclear detection techniques, including radiation monitoring from airborne platforms and aerial sensors. Jens was one of the lead specialists in the aerial mapping & Tracking radiation fallout from the Chernobyl Reactor disaster. Jens was lead scientist at

SAIC Exploranium in developing and producing radiation sensors for airborne applications. One of his sensor systems at Exploranium was used by the military in a Blackhawk helicopter searching for Weapons of Mass Destruction in Iraq.

Dr. Jens Hovgaard founded Radiation Solutions Inc. (RSI) in 1999. Upon inception, RSI's primary function was to act as a consulting company to the nuclear industry. While working with his customers and their supplied radiation detection systems, Dr. Hovgaard identified there was a need for a new supplier of these systems that many on the market did not actually deliver the state-of-the-art technology they promised. In 2006, accompanied by a world-renowned nucleus of specialists, he began to design and manufacture a "new generation" of radiation detection systems. The RSI team have a vast amount of experience not only in the design of field-use radiation detection systems but also in their applications. A vast majority of his sensors can be used on airborne applications. He continues to decrease the detectors size and is collaborating with Mr. Dolan to use UAS platforms to carry his detector/sensor payloads.

Dr. Hovgaard's focus is the design and manufacture of state-of-the art radiation detection systems using advanced DSP (Digital Signal Processing) technology. This technology provides a level of radiation detection previously only attainable in laboratory equipment. He holds a Ph.D. from Technical University of Denmark specializing in airborne gamma ray surveying.

Dr. Michael Holroyd – UAS 3D Modeling/ Search & Rescue (SAR) Projects Manager - Dr. Holroyd is a researcher in computer security, computer vision, and computer graphics as well as an instrument rated private pilot in single-engine aircraft. He received his Ph.D. in Computer Science from the University of Virginia in 2011. Dr. Holroyd has multiple publications and patents in the areas of 3D scanning and computational photography, and is the founder of Arqball (http://arqball.com), a small research and product development startup in Charlottesville VA, where he has been Principal Investigator for over $1.1 million in research funded by the NSF (National Science Foundation).

Dr. Holroyd has also served multiple roles in the Blue Ridge Mountain Rescue Group and Appalachian SAR Conference, and currently holds certifications as a Field Team Leader and Field Team Signcutter through VDEM (Virginia Department of Emergency Management), and Technical Rescue 3 through the VAVRS (Virginia Association of Volunteer Rescue Squads).

Dr. Holroyd will consult with Mr. Dolan and his Above It All Team on technology, photography and SAR issues, as well as assist with web-based technologies for making UAS aerial imaging more accessible and useful for potential customers. He has significant experience with image-based interactive media, including creating Arqspin (http://arqspin.com), a platform for interactive 360 product photography with direct applications to UAV-based aerial imaging in the real-estate and security markets.

Luke Macfarlan – UAS EMS Analysis/Operations & Ag/Vineyard Lead
Mr. Macfarlan has 12 years of military operations experience as an officer in the Virginia National Guard. This experience includes two deployments for security operations in support of the war on terror. Operations were primarily focused on fixed site security of the major Seaport of Debarkation (SPOD) in Kuwait, and fourteen Special Forces facilities throughout Iraq. After a decade of service in the Infantry, Mr. Macfarlan transitioned to the Army's new Cyber Electromagnetic Activities branch where he has excelled. He recently planned a major training operating, and was directly responsible for the planning and integration of aviation operations and airspace management for three Army rotary wing units, fourteen UAS systems (Shadow and RAVEN), one Army artillery Battalion, and mortar sections from four maneuver Battalions.

Mr. Macfarlan's civilian experience spans a series of research and development (R&D) activities related to security and military operations at the Departments of Homeland Security and Defense. These activities included an evaluation of technologies to counter shoulder-fired missiles directed at civilian airliners, development of an RFID tag capable of detecting security breaches in ISO90 shipping containers, and various evaluations directed at mitigating roadside bombs in Iraq using jammers, electro-apical detection systems, and big data analytics.

Mr. Macfarlan is currently the co-founder of an Electronic Warfare consulting firm and of a small wine marketing firm, both of which are located in Central Virginia. He is also completing an Executive MBA at one of the nation's top academic institutions - the University of Washington in Seattle. Mr. Macfarlan will support Above It All's team in providing EMS (Electromagnetic Spectrum) analysis for safe operation of UAS systems in our operations and assist in consulting work with other agencies or companies along with vineyard related marketing or agricultural UAS use. Luke holds an FAA Private Pilot Certificate with multi-engine and instrument ratings. He also has over 100 hours of logged flight operating time with a DJI PHANTOM 2 Vision + UAS.

Kurt Frisz – Airborne Law Enforcement UAS Liaison – Captain Kurt Frisz has been with the St. Louis County Missouri Police Department for 29 years. He served over 17 years assigned to the departments Tactical Operations Unit, 7 years as the units' commander. During this time, he has commanded over 100 hostage/barricade situations, numerous dignitary protection events as well as coordinated response to numerous civil disorder events. In addition to his duties with the Tactical Unit, Capt. Frisz also serves as one of the departments' pilots, possessing both rotorcraft and fixed wing ratings, as well as being a Certified Flight Instructor in helicopters.

Captain Frisz is currently the President of the Airborne Law Enforcement Association (ALEA) and has served on the board of directors since 2008. Kurt has worked with groups, including the FAA and IACP advance the integration of UAS into law enforcement, and has participated in discussion panels relative to UAS and the future use for first responders along with being a member of the ALEA's sUAS Committee.

Captain Frisz is currently assigned as the Commander of the Bureau of Drug Enforcement. During the civil unrest in Ferguson, he served as the commander of special operations, overseeing the tactical response and the aviation assets.

Brady Genz – UAS GEO Spatial & UAS Cybersecurity Team Lead - Mr. Genz has over 13 years of all-source military intelligence experience at the strategic level of Army operations, 19 years of enlisted & commissioned Army Reserve experience focusing on military intelligence and Army communications systems with extensive training and certification in cybersecurity vulnerabilities of SCADA, industrial control systems, and IT networks, also strategic experience in production of all-source and geospatial intelligence supporting conventional and special operations forces.

Mr. Genz is knowledgeable in Intelligence Community organization, disciplines, and missions with active Top Secret / SCI security clearance. Brady is a volunteer with the Civil Air Patrol in the Monticello Composite squadron in Charlottesville, VA, he holds a FAA Certificated Flight Instructor - Instrument rating also FAA Airframe & Powerplant Mechanic certificate and served as an instructor and check pilot for the Virginia Wing participating in ground and air search & rescue missions and training activities. He served as squadron finance officer and deputy commander for cadet activities, volunteering as coach with squadron team to participate in the national 2010, 2011, and 2012 high school Cyber Patriot competition.

Mr. Genz is currently attending classes part-time toward PhD in Systems Engineering at the University of Virginia and has a Master of Science in General Engineering, Bachelor of Science in Computer Science & Mathematics and Professional Pilot/Aviation Maintenance Program all from University of Illinois at Urbana-Champaign.

Bio Summary:

The Petitioner’s team is committed to positively advancing the UAS industry on multiple platforms and ones emerging in the future. We are experienced business and scientific professionals deeply rooted in aviation looking to meet an emerging market needs. We have and continue to strive with our expertise in cutting edge aviation and science to integrate UAS use across our country in compliance with all government laws and regulations, thus assuring the highest standards of safety and quality.

XII CONCLUSION

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012 - size, weight, speed, operating capabilities, proximity to airports and populated areas, use of FAA Certified Pilots for both PIC & PO along with operation within visual line of sight and national security provides more than adequate justification for the grant of the requested exemptions allowing commercial operation of Petitioner SUAS in the utility-power transmission inspection and patrol industry in accordance with the available Manual

If additional information is required, or if you have any questions regarding this Petition for Exemption, please contact the undersigned at:

Sincerely,

Thomas E. Dolan –

Founder & COO - Above It All – UAS Services, LLC

30 Industrial Drive, Suite 1B
Louisa, Virginia 23093

Office: 434-374-1866
Cell Phone: 631-495-2947

Email: Tom.Dolan@aboveitall-uas-services.com or

thomasedolan@gmail.com