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

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

August 26, 2015

Exemption No. 12621
Regulatory Docket No. FAA–2015–2209

Mr. Gregory Bergin
Colorado Aerial Imaging LLC
15720 East Buffalo Gap Lane
Parker, CO 80134

Dear Mr. Bergin:

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 May 21, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Colorado Aerial Imaging LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography, videography, and surveying for utility, fire, search and rescue, and law enforcement.

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 Flame Wheel F450, DJI Phantom 2 Vision+, and Quanum 680 UC Pro Hex-Copter.

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, Colorado Aerial Imaging 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)

[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.

and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

**Conditions and Limitations**

In this grant of exemption, Colorado Aerial Imaging 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 Flame Wheel F450, DJI Phantom 2 Vision+, and Quanum 680 UC Pro Hex-Copter 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

May 21st, 2015
U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, DC 20590
Re: Exemption Request Section 333 of the FAA Reform Act.

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act), Colorado Aerial Imaging LLC., Greg Bergin, Mike Robinson and Matt Talafuse (the co-applicants) and planned operators of Small Unmanned Aircraft Systems (sUASs) equipped to conduct aerial photography, videography and survey for various industries hereby applies for an exemption from Federal Aviation Regulations (FARs) to allow commercial operation of their sUASs, so long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333.

# Business Details

Colorado Aerial Imaging LLC.
Greg Bergin
15720 E. Buffalo Gap Lane
Parker CO, 80134
303-349-4685
greg@coaerialimaging.com

Colorado Aerial Imaging LLC. (CAI) is co-owned by Greg Bergin, Mike Robinson and Matt Talafuse. All are veterans and have served multiple tours to Iraq as UH60 Crew Chiefs. Greg and Matt are professional firefighters and Mike is a safety officer for United Power utility company. All owners understand safety is paramount as they deal with life safety issues day in and day out in their daily jobs. Not only is CAI looking to use sUASs to deliver a product to a customer, we are also looking to be a champion of the sUAS industry by building relationships throughout the community. Being approachable, answering questions and upfront will go far in educating the public to merit of sUASs and that the word "drone" does not need to be a negative thing.

# Previous exemptions granted to similar businesses

The following is list of recent exemptions granted to business with similar operations and equipment:

Exemption # 11458 5/5/2015 Christopher Gardner
Exemption # 11464 5/5/2015 Michaels Drone Photography
Exemption # 11455 5/5/2015 High Flight Photo

# Type of Aircraft Operated by CAI

#1- DJI F450
NAZA M V2 Flight Computer
Spektrum DX8 TX/ AR8000 RX
AUW- 4 lbs.

#2- DJI Phantom 2 Vision + V2
Stock setup with DJI TX
AUW 2.8 lbs.

#3- Quanum 680 UC Pro Hex-Copter
NAZA M V2 Flight Computer
Spektrum DX8 TX/ AR8000 RX
AUW – 7.9 lbs.

# .How will our request benefit the public as a whole?

CAI is looking to provide affordable, safe options for aerial photography and power line/ substation inspections as well as various uses by Fire and Law entities. Utilizing sUASs removes the need for full size aircraft, fuels and noise. Risk is mitigated by removing the required onboard crew from low and slow operating aircraft.

## Fire, Rescue and Law

Having knowledge of all aspects of fire rescue, CAI is hoping to nurture relationships with local Fire, Law and Rescue entities to provide much needed services. CAI envisions sUASs being utilized on all types of incidents.

At a structure fire, an incident commander's inability to visualize the roof under which firefighters are operating has proven to contribute to injuries and fire ground deaths. Roof conditions, locations of HVAC units and just an overall view of building layout will go far for increasing firefighter safety.

Located in the foothills of Colorado, local fire departments are routinely called to injured hikers, crashed mountain bikers and lost parties. Unfortunately, many of these parties are unfamiliar with the trail systems. Cell phone "pinging" will get the general vicinity of the call, but the use sUASs as an "eye in the sky" will greatly reduce the trial and error approach of determining which trail the victim is located on.

Law enforcement routinely contacts fire departments to provide a ladder truck for "aerial photographs" of accident or crime scenes. The downside to this operation is the fact that ladder truck is now out of service or out of position for emergency calls. The use of sUASs for law enforcement photography allows the fire trucks to remain available for other emergency calls.

These are just 3 examples of use of sUASs in coordination with Fire and Law. The more discussions that occur, the more benefits will be realized.

### Utility

Utility workers are regularly exposed to high voltage, electrical flash, Heights, and environmental dangers. Multicopter operations would potentially eliminate, or mitigate all of those risks to utility linemen. To ensure the reliability of our electrical system, power lines must be patrolled regularly through harsh and unforgiving terrain. When there is need for a closer inspection there is no choice but to have a lineman climb up for a closer look, exposing them to electrical flash, electrical contact and falling hazard. Multicopters will remove a person from those unnecessary exposures. It will also allow faster and more cost efficient inspections ensuring system reliability. When the use of thermal imaging is added to the process, it could find a potential problem before it causes system damage or more importantly injury to an employee or a member of the public. The use of Multicopters in these dangerous jobs will lower risk, increase system reliability, and most importantly protect lives. CAI working in conjunction with United Power Utility is hoping to create operating standards for the integration of sUASs within the utility industry. See attached letter.

### Photography

Utilizing sUASs as an aerial based photography platform provides opportunities for photographic shots not provided by other means. For the lay public or small business, full size aircraft for projects is just not feasible. CAI will bring aerial photography/videography to more businesses and artists.

## How will our request not adversely affect safety or provide a level of safety equal to an existing rule?

The Reform Act directs the Secretary of Transportation to consider whether operation of UAVs can occur in the national airspace system (NAS) before the completion of the rulemaking required under Section 332 of the Reform Act.
CAI and all involved parties believe it is possible to operate sUASs so to not create a hazard to the National Airspace System (NAS), the public or pose a threat to national security. CAI has demonstrated their willingness to act safely and responsibly by not engaging in commercial sUAS operations until the 333 exemption is granted. During our feasibility study, we determined that there are many operators offering their services to real estate agencies and parties in need of aerial photos. It is our feeling that these type of operations, while may offer a quick fix, contribute to the negative attitude of the UAV. CAI is hoping to increase the safety by being professional, trained, insured and FAA compliant.

CAI operators will operate under the following conditions, which provide for safety equivalent to, if not exceeding the level required for manned aircraft

- Safety will be the first and foremost consideration in any sUAS operation
- The sUASs planned to be operated are rotorcraft and fixed wing aircraft, each weighing far less than 55 pounds including payload
- They would operate, under normal conditions, at a speed of no more than 50 knots.
- All operations will be conducted below 400' AGL. Altitude will be monitored via on screen display or telemetry
- Operations will be conducted during the day under visual meteorological conditions
- Aircraft will remain within Visual Line of Sight of the PIC or VO (visual observer) at all times
- PIC and VO will remain in voice contact during the entire flight
- PIC shall complete a full pre-flight inspection
- CAI will utilize additional observers or signage when operations are conducted close to public activity
- Operations will only be conducted with permission from the appropriate land/property owner
- All required permits will be obtained from state and local government prior to operation
- The aircraft will not be operated over populated areas, large gatherings or heavily traveled roads.
- Flight planning will include flight completion with at least 25% battery power remaining as measured by the sUAS flight computer or appropriate timing
- All aircraft are equipped with and will utilize GPS navigation, failsafe, return-to-home (RTH) and/or flight abort safety features
- The aircraft will not be operated within 5 NM of a public airport or heliport
- A briefing will be conducted in regard to the planned sUAS operations prior to operation at each new location. All personnel who will be performing duties within the boundaries of the area of operation will be present for this briefing
- The sUAS pilot will be trained in advance for the safe operation of the sUAS to be operated. This will include operation of the sUAS both in normal and emergency modes of operation, and will include familiarization with the operation manual. Training will also include types of maneuvers to be performed and the safe operation in relation to persons, property and applicable airspace.

Routine maintenance and repairs are instrumental in safe operations. All maintenance/overhauls/repairs will be completed according to manufacturer instructions. Following all maintenance procedures, a test flight will be conducted in a remote area to assure all systems are operational prior to any operations for customers. Repairs and flight times will be documented to aid in tracking the life cycle of critical components (ie; batteries, motors and speed controls)

# The regulations from which the exemption is requested as well as how CAI intends to provide an equal to or greater level of safety are as follows:

**-14 CFR 45.23, 45.27 and 45.29 - Display of Marks, Location and Size**

Due to the size of the sUAS, the required markings will be difficult to meet the minimum size standards. Also, due to the fact there is no cockpit and no persons shall be transported on sUASs, displaying "experimental" at any location on the aircraft is not necessary. "Colorado Aerial Imaging" as well as contact information shall be displayed on all aircraft in an easy to locate location.

**-14 CFR Part 21 Subpart H, 91.7(a) and 91.203(a) and (b) - Civil Aircraft: Certifications Required**

Carrying of civil aircraft certifications "onboard" or "displayed at the cabin or cockpit entrance" is not feasible due to size and no cockpit in the sUAS. All applicable documentation shall be available on location where the pilot has immediate access to them.

**-14 CFR 61.113 and 14 CFR 61.133- Private Pilot Privileges and Limitations: Pilot In Command**

Private pilots may not act as pilot in command and may not carry passengers or property for compensation. The objective of CAI is to conduct flights for compensation, although an equivalent or higher level of safety is achieved due to the fact there will be no pilots or persons on board. All equipment carried shall be the property of CAI. While helpful, a commercial pilots' license will not ensure remote control piloting skills. The risks of operating a sUAS are far less than the risk levels inherent in the commercial activities.

An equal to or higher level of safety will be achieved through following methods:

- All CAI pilots have at least 12 years of RC experience and are current AMA members with no major accidents/injuries. This experience includes fixed wing, rotary and multirotor aircraft.
- CAI pilots have conducted numerous "practice flights" as a hobbyist to assist in determining the feasibility of starting a business. Each pilot has over 150 flights with their aircraft in various temperatures, winds and weather
- Utilization of computer based simulator to maintain proficiency and allow practice in all conditions as well as emergency procedures for simulated failures (Phoenix Flight Sim, Real Flight Simulator)

- Training through some of the many online/hands-on offerings from respected sUAS training facilities (Unmanned Aerial Experts, UAVSA)
- We are aware of the reference to the Unmanned Aircraft Operator Certificate with Small UAS Rating as well as the Initial Aeronautical Knowledge Test referenced in NPRM 14 CFR Part 107 and Vol. 80, No. 35 Federal Register dated February 23rd, 2015. CAI strongly agrees with this proposed course of action and will await a final ruling.

**-14 CFR 91.9 (b)(2): Civil Aircraft Flight Manual, Marking and Placard Requirements**

Carrying of a flight manual onboard is not applicable due to the size of the sUAS. An equal to or higher level of safety will be achieved by through familiarization of manufacturer limitations and procedures. All manuals will be easily accessible for reference at the location of the flight.

**-14 CFR 91.103- Preflight Action**

Prior to arriving at flight location, current and predicted weather, distances from airports as well as local hazards (power lines, towers, high occupancy areas) will be obtained. As stated above, a preflight briefing shall occur to include discussion regarding weather, emergency procedures, hazards and alternate landing locations.

**-14 CFR 91.109- Flight Instruction: Simulated Instrument Flight and Certain Flight Tests**

Dual controls for the purpose of flight instruction is not applicable in the sUAS operation. Should a need for instruction arise, several methods of training are available. During designated training flights, the utilization of a "buddy box" system with 2 transmitters will provide an equivalent to or higher level of safety. Additionally the use of computer based flight simulators provide the ability to conduct training with no safety concerns.

**-14 CFR 91.119- Minimum Safe Altitudes: General**

The sUAS shall be operated well below 400 AGL standard. As a PIC of the sUAS, being aware of the altitude minimums (with an emphasis on helicopters as they may be operated lower altitudes more often) is integral to safely operating sUASs.

**-14 CFR 91.121- Altimeter Settings**

All sUASs operated by CAI utilize GPS altitude and/or barometric altimeters (Spektrum) with data transmitted to the operator via telemetry and on screen displays.

**-14 CFR 91.151 (A): Fuel Requirements For Flight In VFR Conditions**

An equivalent or higher level of safety is achieved in the fact that sUASs do not carry fuel. As stated above, all flights shall be planned and conducted with a minimum of 25% remaining battery power.

**-14 CFR Subpart E (91.401-91.417) - Maintenance, Preventative Maintenance And Alterations**

These regulations apply to aircraft requiring an airworthiness certificate. Adhering to manufacturer recommended maintenance, full pre-flight and post flight inspections as well as documenting all maintenance performed will provide an equal to or greater than level of safety. After any maintenance has been completed, a test flight shall be conducted in a safe, non- populated area prior to any commercial flight.

# Summary

As the demand grows for aerial based photography applications, so will the temptation of individuals to utilize non-compliant operators. CAI can deliver a product, safely by abiding by all the rules and regulations. It is the applicant's belief that the size, speed, operating environment, limitations and level of applicant's experience outlined provides an "equivalent level of safety or better" when operating a sUAS for the public interest as outlined in Section 333 in the FAA Modernization and Reform Act of 2012. lt is requested that the FAA issue an exemption to permit safe, legal, commercial sUAS operation by the applicant as soon as possible.

# References-

Due to the size of the files, attaching them to this document did not seem prudent. The operator manuals can be accessed at utilizing the following links:

**DJI Naza M V2 Flight Control Module –**
http://download.dji-innovations.com/downloads/nazam-v2/en/NAZA-M_Quick_Start_Guide_v1.26_en.pdf
**DJI Phantom 2 Vision + -**
http://download.dji-innovations.com/downloads/phantom_2_vision_plus/en/Phantom_2_Vision_Plus_User_Manual_v1.8_en.pdf
**DJI F450 Flamewheel –**
http://download.dji-innovations.com/downloads/flamewheel/en/F450_User_Manual_v2.1_en.pdf
**Spektrum DX8 -**
http://www.horizonhobby.com/pdf/SPM8800-Manual_EN.pdf