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

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

June 15, 2015

Exemption No. 11846
Regulatory Docket No. FAA–2015–0505

Mr. William R. Turpin
Holder Construction Group, LLC
3333 Riverwood Parkway, Suite 400
Atlanta, GA 30339

Dear Mr. Turpin:

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 letters dated February 20 and May 29, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Holder Construction Group, LLC (hereinafter petitioner or operator) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct aerial imaging and monitoring of construction jobsites.

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 is a DJI Phantom 3.

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 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. 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, Holder Construction Group, 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 aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, Holder Construction Group, 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 3 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 5 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 June 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Project Officer: _____

WILLIAM R TURPIN
HOLDER CONSTRUCTION GROUP LLC
3333 RIVERWOOD PKWY STE 400
ATLANTA GA 30339

February 20, 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 and Part 11 of the Federal Aviation Regulations from 14 C.F.R. 61.113 (a) & (b); 91.103(b); 91.119; 91.121; 91.151(a); 91.405 (a); 91.407(a) (1); 91.409 (a) (2); 91.417 (a) & (b).

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, Holder Construction Group, LLC ("Holder") hereby applies for an exemption from the Federal Aviation Regulations ("FARs") listed in Section I below to allow commercial operation of its Small Unmanned Aircraft Systems ("sUASs") for aerial imaging and safety and monitoring of Construction Jobsites 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 of the Reform Act. As detailed in this document and the attached Addendum, the requested exemption would permit the operation of sUAS under controlled conditions in airspace that is 1) limited, 2) predetermined, 3) controlled as to access, and 4) would enhance quality, reduce environmental impacts, and provide safety enhancements to the already best practices safety protocols followed by Holder at each of its Construction Jobsites. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system." Section 333(c) of the Reform Act.

The name and address of the applicant is:

Holder Construction Group, LLC (Including Interest In Joint Ventures)

William R. Turpin

PH: 770-988-3248

Email: bturpin@holder.com

Address: 3333 Riverwood Parkway, Suite 400, Atlanta, GA 30339

I. REGULATIONS FROM WHICH THE EXEMPTION IS REQUESTED

- 14 C.F.R. 61.113 (a) & (b)
- 14 C.F.R. 91.103
- 14 C.F.R. 91.119
- 14 C.F.R. 91.121
- 14 C.F.R. 91.151 (a)
- 14 C.F.R. 91.405 (a)
- 14 C.F.R. 91.407 (a) (1)
- 14 C.F.R. 91.409 (a) (2)
- 14 C.F.R. 91.417 (a) & (b)

II. STATUATORY AUTHORITY FOR EXEMPTIONS

The Federal Aviation Act expressly grants the FAA authority to issue exemptions. This statutory authority includes exempting civil aircraft, as the term is defined under §40101 of the Act, including sUASs, from the requirement that all civil aircraft must have a current airworthiness certificate.

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702-44716 of this Title if the Administrator finds the exemption in the public interest.3 Section 333(b) of the Reform Act assists the Secretary in determining whether sUASs may operate in the National Airspace System ("NAS") without creating a hazard to the user, the public, or a threat to national security. In making this determination, the Secretary must consider:

- The sUAS's size, weight, speed, and operational capability
- Whether the sUAS operates within the visual line of sight of the operator
- Whether the sUAS operates outside of highly populated areas and away from close proximity to airports

If the Secretary determines that a sUAS "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.

Holder's proposed sUASs are multi-rotor vehicles, weighing 15 or fewer lbs. including payload. They will operate under normal conditions at a speed of no more than 50 mph and have the capability to hover, and move in the vertical and horizontal plane simultaneously. They will operate only in line of

sight and will operate only within the sterile area described in the attached Exemption Request Addendum (hereinafter "the Addendum"). Such operations will ensure that the sUASs will "not create a hazard to users of the national airspace system or the public.

Given the small size of the sUASs involved and the area within which they will operate, Holder's application falls squarely within the zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of sUASs to commence. Also due to the small size of the sUASs and the low altitudes and limited areas in which Holder's sUASs will operate, approval of the application presents no national security issue.

Given the clear direction in Section 333 of the Reform Act, the authority contained 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 reduced environment impacts, the grant of the requested exemptions is in the public interest. Accordingly, Holder respectfully requests that the FAA grant the requested exemption without delay so an sUAS can be leveraged on several projects that are already in construction.

III. PUBLIC INTEREST

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the NAS before completion of the rulemaking required under Section 332 of the Reform Act. By granting an exemption the FAA will fulfill Congress's intent of allowing sUASs to operate with significant safety precautions in low risk environments.

The use of sUASs can significantly promote safe and effective Construction Jobsite inspection and tracking. For example, the use of sUASs can reduce the risk to workers while inspecting, surveying, or monitoring installation of work that requires ladders, scaffolds or other potentially hazardous means of elevated access. sUASs can inspect, photograph, video and collect data on inaccessible areas that otherwise would require worker inspection, in addition to providing facility security and emergency response reconnaissance. sUASs can also provide high resolution aerial imagery, elevation measurement, mapping, and thermal imagery data. Reducing manned flight and human inspection of such sites through sUAS use for site imaging will reduce risk to workers and ground personnel and create an improved safety operating environment. Manned aircraft are at risk of fuel spillage and fire in the event of an incident or accident. The sUAS Holder will be using carries no fuel, and therefore the risk of fire following an incident or accident due to fuel spillage is eliminated.

Additionally, sUASs could reduce the use of fixed-wing aircraft to monitor sites. The sUASs Holder proposes to fly in this application weigh less than ten pounds, and carry no combustible material on board, as opposed to much larger conventionally powered aircraft that Holder currently uses to monitor its facilities. The limited weight significantly reduces the potential for harm to participating and nonparticipating individuals or property in the event of an incident or accident. The risk to an onboard pilot and crew during an incident or accident is eliminated with the use of a sUAS on Construction Jobsites. Reducing the use of manned aircraft, or supplementing such flights through sUAS operations, presents the potential for a safety increase for Holder's workers and the public. Lastly, sUASs reduce the environmental impact by dramatically decreasing the energy used for aerial imaging and data collection

over a Construction Jobsite. Operation of lightweight sUASs powered by rechargeable lithium ion batteries offers improved efficiencies as compared to the operation of other aircraft and vehicles that consume gasoline and present a significantly louder noise signature. The reduction of fixed-wing aircraft to monitor Construction Jobsites also reduces the risk associated with human involvement and potential injury in aerial flyovers.

IV. EQUIVALENT LEVEL OF SAFETY

Holder proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to the already safe protocols followed at our Construction Jobsites and imaging and surveying operations conducted with other conventional aircraft. Holder will be bound by the following limitations when conducting its sUAS operations under this FAA issued exemption:

1. The sUAS will weigh less than 15 pounds.
2. Flights will be operated within visual line of sight of a pilot and/or observer.
3. The sUAS will operate during daylight-only times (official sunrise to official sunset, local time.
4. The sUAS will yield right-of-way to other aircraft at all times.
5. The sUAS will be registered with the FAA and will include appropriate markings and labels on the body of the sUAS.
6. Maximum total flight time for each operational flight will be 30 minutes. The UAS calculates battery reserve in real time, and will return to its ground station with at least 20% battery power reserve should that occur prior to the 30 minute limit.
7. Flights will be operated at an altitude of no more than 400 feet AGL.
8. Minimum crew for each operation will consist of the trained sUAS Pilot who will keep the sUAS within his visual line of sight (VLOS) at all times and one visual observer (VO). The VO and PIC will be able to communicate verbally at all times.
9. The sUAS Pilot will be trained in flight, operations, and safety procedures as detailed in the The Addendum.
10. sUAS Pilot will be Pilot in Command (PIC).
11. The sUAS will only operate within a confined "Sterile Area" as defined in The Addendum to limit the ability of the sUAS to leave the Construction Jobsite.
12. Notification of flight operations to personnel at the facility will be made through posted signs and onsite Job Safety meetings.
13. Notification of flight operations to the operator of Holder's manned aerial patrol flights prior to flight commencement.
14. The sUAS will not be operated at a distance from clouds less than 500' below or 2000' horizontal, or when visibility is less than 3 statute miles.
15. Holder will notify the FAA’s Air Traffic Organization (ATO) or local regulating authority of proposed flight plans. If necessary, the operator will obtain a Certificate of Waiver or Authorization (COA) from the FAA's Air Traffic Organization (ATO) prior to conducting any operations.

16. Holder will follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements.
17. Pilot will have been trained in operation of the sUAS and receive up-to-date information on the particular sUAS to be operated should updates become available.
18. Operations will be limited to Holder Construction Jobsites (Including Joint Venture Projects) at which third party access is controlled. A 'Sterile Area' will be provided as described in the Addendum.
19. Operations will be limited to Holder Construction Jobsites (Including Joint Venture Projects) at which full Owner approval and authorization to leverage the sUAS has been granted.
20. If the sUAS loses communications or loses its GPS signal, it will have the capability to automatically and safely return to a prec-coordinated, pre-determined location within the Security Perimeter and land with a predictable, automated flight maneuver.
21. The sUAS will have the capability to abort a flight in case of unpredicted obstacles or emergencies. The sUAS can host an on-board parachute that will be deployed in the event of motor loss or emergency.
22. The radio frequency spectrum used for operation and control of the UAS will comply with the rules and regulations of the Federal Communications Commission (FCC).

V. DESCRIPTION OF SPECIFIC REGULATIONS

A. 14 C.F.R. §61.113 (a) & (b): Private pilot privileges and limitations: Pilot in command

Sections 61.113 (a) & (b) limit private pilots to non-commercial operations. Holder proposes that its sUAS PIC will have completed a minimum 2-Day Training Program and at least 25-Hours of flight time in a safe and controlled environment prior to operating the sUAS on a Construction Jobsite as outlined in The Addendum. The airmanship skills necessary to operate the sUAS do not correlate significantly to the airmanship skills necessary for piloting manned aircraft and, thus, exemption from the need for the PIC to hold a commercial pilot certificate is also requested. Unlike a conventional aircraft that carries the pilot and passengers, the sUAS is remotely controlled with no living thing on board. The areas of operation will be restricted to Holder Construction Jobsites (Including Joint Venture Projects) at which third party access is controlled, and all flights are planned and coordinated in advance as set forth in The Addendum. The level of safety provided by the requirements included in The Addendum exceeds that provided by a single individual holding a commercial pilot's certificate operating a conventional aircraft. The risks associated with the operation of the sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS as requested with a private pilot as the PIC exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b). In addition, the PIC will undergo all necessary security screenings by the Department of Homeland Security that certificated airmen undergo.

B. 14 C.F.R. §91.103: Preflight action

This regulation requires each pilot in command take certain actions before flight to insure the safety of flight. An exemption is needed from this requirement as the PIC will take separate preflight actions, including checking for weather conditions, checking flight battery requirements, checking takeoff and landing distances, etc. They are outlined in The Addendum. These actions will provide an equivalent level of safety.

C. 14 C.F.R. §91.119: Minimum safe altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. This exemption is for a multi-rotor craft that flies similarly to a helicopter, with vertical take-off and vertical landing, which will operate at altitudes up to 400' AGL, so an exemption may be needed to allow such operations. As described in the Manual, the sUAS will never operate at altitude higher than 400' AGL and will be limited to the area with the security perimeter, where buildings and people will not be exposed to operations without their notification as described herein. The equivalent level of safety will be achieved given the size, weight, speed of the sUAS as well as the location where it is operated. Flights will be over Holder properties at which third party access is controlled and Owner authorization is approved. Because of the advance notice to onsite personnel as outlined in The Addendum, all affected individuals will be aware of the planned flight operations. Compared to flight operations with aircraft or rotorcraft weighing far more than the maximum 15 lbs. proposed herein and flammable fuel, any risk associated with Holder's operations is far less than those presently presented with conventional aircraft. In addition, the low-altitude operations of the sUAS will ensure separation between these sUAS operations and the operations of conventional aircraft that must comply with Section 91.119. Notification of flight operations will be provided to the operator of Holder's manned aerial patrol flights, which have a low altitude waiver allowing for flight below 500' AGL.

D. 14 C.F.R. §91.121: Altimeter settings

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "...to the elevation of the departure airport or an appropriate altimeter setting available before departure." As the sUAS may not have a barometric altimeter, but instead a GPS altitude read out, an exemption may be needed. An equivalent level of safety will be achieved by the operator, pursuant to The Addendum and Safety Check list, confirming the altitude of the launch site shown on the GPS altitude indicator before flight.

E. 14 C.F.R. §91.151 (a): Fuel requirements for flight in VFR conditions

Section 91.151 (a) outlines fuel requirements for beginning a flight in VFR conditions. Holder's sUAS is limited to operations in sterile and controlled environments as outlined in The Addendum, and has a limited range and flight time which require an exemption from 14 C.F.R. 91.151(a).

The battery powering the sUAS provides approximately 35 minutes of powered flight. To meet the 30 minute reserve requirement in 14 C.F.R. §91.151, sUAS flights would be limited to approximately 5 minutes in length. Given the limitations on the sUAS's proposed flight area and the location of its proposed operations within a predetermined area, a longer time frame for flight in daylight or night VFR conditions is reasonable.

Holder believes that an exemption from 14 C.F.R. §91.151(a) falls within the scope of prior exemptions. Operating the sUAS, in a controlled area 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 sUAS. Additionally, limiting sUAS flights to 5 minutes would greatly reduce the utility for which the exemption will be granted.

An equivalent level of safety can be achieved by limiting flights to 30 minutes, or enough battery reserve to ensure that the sUAS lands at the ground station with at least 20% of battery power (as determined by the onboard monitoring system and PIC), whichever happens first. Because of the limited operating area under which sUAS flights will be conducted, this restriction will be more than adequate to ensure return of the sUAS to its planned landing zone.

Similar exemptions have been granted to other operations, including Exemptions 2689F, 5745, 10673, and 10808.

F. 14 C.F.R. §91.405 (a); 407 (a)(1); 409 (a)(2); 417 (a) & (b): Maintenance inspections

These regulations require that an aircraft operator or owner "shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter...," and others shall inspect or maintain the aircraft in compliance with Part 43.

Given that these section and Part 43 apply only to aircraft with an Airworthiness Certificate, these sections will not apply to Holder. Maintenance will be accomplished by the operator pursuant to the flight manual and operating handbook as referenced in The Addendum. An equivalent level of safety will be achieved because these sUASs are very limited in size and will carry a small payload and operate only in authorized areas for limited periods of time. If mechanical issues arise the sUAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in The Addendum, the operator will ensure that the sUAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance performed. Moreover, the operator is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

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Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register, should it be determined that publication is needed:

Applicant seeks an exemption from the following rules: 14 C.F.R. §§ 61.113(a) & (b); 91.103(b); 91.119; 91.121; 91.151(a); 91.405 (a); 91.407 (a) (1); 91.409 (a) (2); 91.409 ; (a) (2) and 91.417 (a) & (b) to operate commercially a small unmanned vehicle (15 lbs. or less) for aerial imaging and monitoring of Construction Jobsites.

Approval of exemptions allowing commercial operations of sUASs to monitor, inspect and improve quality on Construction Jobsites will enhance safety by reducing risk. Conventional aerial monitoring by aircraft impacts the environment. In contrast, a sUAS weighing fewer than 15 lbs. and powered by batteries eliminates virtually all of that risk and environmental impact given the reduced mass and lack of combustible fuel carried on board. The sUAS will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights. Although Holder does not foresee completely replacing its manned flight operations with sUASs at this time, Holder hopes, that overtime, sUASs may reduce or supplement such manned programs.

The operation of sUASs, weighing less than 15 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein, including exempting the applicant from the requirements of Part 21 and allowing commercial operations. These lightweight aircraft operate at slow speeds, close to the ground, and in a sterile environment and, as a result, are safer than conventional operations conducted with fixed-wing aircraft operating in close proximity to the ground and people.

Privacy
All flights will occur over Holder Construction Jobsites (Including Joint Venture Projects) at which third party access is controlled, Owner notification and approval is granted, and signs will be posted notifying onsite personnel of the sUAS flyover.

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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 and operation within visual line of sight and national security - provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicant's sUASs on Construction Jobsites pursuant to The Addendum appended hereto.

Sincerely,

William R. Turpin
Holder Construction Group, LLC