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

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

June 5, 2015

Exemption No. 11743
Regulatory Docket No. FAA–2015–0887

Mr. Gary Powell
Assistant Project Manager
SpawGlass Contractors, Inc.
4909 East Grimes, Suite 116
Harlingen, TX 78550

Dear Mr. Powell:

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 March 30, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of SpawGlass Contractors, Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) for construction imaging, inspections and data collection operations.

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 Inspire 1.

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[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, SpawGlass Contractors, Inc. 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.

[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.

Conditions and Limitations

In this grant of exemption, SpawGlass Contractors, Inc. 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 Inspire 1 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 June 30, 2017, unless sooner superseded or rescinded.

Sincerely,

John S. Duncan
Director, Flight Standards Service

Enclosures

March 30, 2015

U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave, SE
Washington, DC 2050

Re: Exemption Request Pursuant to Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 CFR Part 61.113(a); 91.7(a); 91.119; 91.121; 91.151(b); 91.405(a); 91.407(a)(1); 91.409(a)(1) and (2); 91.417(a) and (b).

Dear Madam/Sir,

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, SpawGlass Contractors, Inc. is applying for an exemption from the Federal Aviation Regulations ("FARs") to allow commercial operation of its small Unmanned Aircraft Systems ("sUAS").

SpawGlass strives to provide the absolute best construction experience, as a General Contractor, Construction Manager, Design/Builder, Civil Contractor and overall construction services provider. In doing this, capturing quality images, videos and data from construction sites is important and valuable to the construction process. In the past, aerial photography has been obtained for construction projects by the use of a single engine aircraft with a pilot and a photographer. This form of aerial photography has benefited the construction process in many ways; however, to take aerial photography to the next level, SpawGlass is procuring the use of sUAS. The transition from manned aircraft-aerial photography to the sUAS photography and videography for data collection has been a well thought-out decision for SpawGlass.

In the construction industry, it is important to capture aerial images and videos. This data will be obtained more effectively and safely from a sUAS than it would be with the traditional manned aircraft. Initial site surveying, site logistics planning, progress inspections, thermal imaging and post construction completion videos are some of the main uses for the sUAS on construction sites. SpawGlass is requesting this exemption to permit operations of its sUAS under controlled conditions within the National Airspace System, which will be 1) site specific, 2) pre-planned, 3) access controlled, and 4) will provide a greater level of safety, which is already a high priority and best practice with all tasks that are performed on SpawGlass construction

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GOLDEN TRIANGLE
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Beaumont, Texas 77701
409-681-4547

HOUSTON
13800 West Road
Houston, Texas 77041
281-970-5300

NORTH TEXAS
1000 W. Magnolia Avenue
Fort Worth, Texas 76104
817-288-0890

SAN ANTONIO
9331 Corporate Drive
Selma, Texas 78154
210-651-9000

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sites. Therefore, an approval of this exemption by the FAA would provide a greater level of safety and reduce the risks associated with these activities on construction sites and surrounding areas. As such, the use of sUAS is in the public interest.

I. The contact information of the applicant is:

SpawGlass Contractors, Inc.
4909 E. Grimes Suite 116
Harlingen, TX 78550
Gary Powell
Phone: 956-778-8304
Email: gary.powell@spawglass.com

II. The specific sections of Title 14 of the Code of Federal Regulations from which SpawGlass requests exemption are:

14 CFR 61.113(a)
14 CFR 91.7(a)
14 CFR 91.119
14 CFR 91.121
14 CFR 91.151(b)
14 CFR 91.405(a)
14 CFR 91.407(a)(1)
14 CFR 91.409(a)(1) and (2)
14 CFR 91.417(a) and (b)

III. Aircraft, Increased Level of Safety & the Public Benefit:

The sUAS, which will be operated by SpawGlass, weighs less than 10 pounds, including all equipment as indicated in the attached manual. The sUAS can be maneuvered vertically and horizontally at the same time and hover in place. Specifically, the sUAS that SpawGlass intends to use is the Inspire 1 manufactured by DJI. The provided supporting documentation includes the user manual, safety guidelines and quick-start guide for this model of sUAS. As a requirement for compliance, all documentation and relevant manual materials for the flight and sUAS will be kept in an accessible location that will be available to the PIC at all times. As determined in a previous Grant of Exemption, relief from 14 CFR Section 91.9(b) (2) and 91.203(a) and (b) is not required.

As indicated within the user manual and to increase the safety of all personnel within the site, the sUAS is equipped with the use of GPS and motion sensors which can bring the unmanned aircraft back to the ground safely upon command, during low battery levels, and loss of communications or GPS signal. Additionally, if there are any unexpected obstacles or emergencies that come up during the flight, the sUAS will be capable of aborting the flight. Furthermore, as required by 14 CFR Section 45.29(f), and due to the small size of the unmanned aircraft, the sUAS will have identifiable markings that will be as large as practicable on the largest surface available.

If the submitted exemption is approved, SpawGlass intends to utilize the sUAS as previously stated above with the following conditions and limitations:

1. Aircraft will weigh less than 55 pounds.
2. Unless prior written approval is provided, all sUAS flights will be at or below 200 feet AGL.
3. Operations will occur during daytime Visual Flight Rules (VFR) conditions, from sunrise to sunset.
4. Maximum total flight time for each flight shall be no more than 18 minutes or flights will be terminated at 15% battery power reserve or when low battery level indications are present as indicated in the user manual and safety guidelines.
5. The sUAS Pilot will have at least a Private Pilot Certificate and a current 3rd Class Medical Certificate.
6. At a minimum, the crew for the sUAS will include the pilot and an observer trained by the pilot.
7. All flights will be within Visual Line of Sight (VLOS) of the pilot and/or visual observer.
8. The sUAS will remain close enough to the operator/pilot for the operator to be capable of seeing the aircraft with vision unaided by any device other than corrective lenses.
9. The sUAS Pilot will be the Pilot In Command (PIC).
10. The sUAS will only operate within the designated area as discussed and planned during the pre-flight briefing.
11. During sUAS operations within 10 nautical miles (NM) of an airport, the closest air traffic radio frequency channel will be monitored for air traffic via a hand held aviation radio.
12. With operations within 5 NM of an air traffic control tower, the airport operator or air traffic controller will be notified and clearance accepted prior to operations.
13. A pre-flight briefing will be conducted prior to each sUAS flight. All personnel involved in the flight are required to be present during this briefing.
14. Prior to each flight, a pre-flight inspection will be conducted as per the pre-flight checklist provided within the Inspire 1 User Manual.
15. The sUAS will not operate directly over any persons not directly involved in the operation.
16. The sUAS PIC will obtain the consent of all personnel onsite and within the area and perimeter of the site in which the sUAS will be operating above.
17. Property owners' approval will be obtained prior to sUAS operations on each site.
18. The pilot and observer will be trained in the operation of UAS generally and received up-to-date information on the specific sUAS that is being operated.
19. At all times voice communications between the observer and the pilot will be maintained.
20. All required permissions and permits will be obtained from territorial, state, county, or city jurisdictions, including local law enforcement, fire, or other appropriate government agencies.

14 CFR 61.113 (a): Private Pilots Privileges and Limitations: Pilot in Command.

Section 61.113 (a) limits private pilots to non-commercial operations. Although, these flights will be operating an aircraft for compensation or hire, but the sUAS will not physically carry a pilot or any passengers. Therefore, the proposed flight operations can achieve a level of safety that is equal to manned aircraft operations, provided that the PIC operating the aircraft holds at least a Private Pilot Certificate, in lieu of having a commercial pilot Certificate. In order to achieve a higher level of safety for all personnel involved in the operations of the sUAS, SpawGlass will require that the PIC operating the sUAS have at least 100 hours of total flight time experience and hold, at least a Private Pilot Certificate. There is a greater level of safety and reduced level of risk, with not only the sUAS crew, but all personnel and construction inspectors involved in the project. The level of safety that is provided by the sUAS exceeds that of a single individual with a commercial pilot certificate while PIC of a manned aircraft flight. The level of risk associated with the sUAS is far lower than could be achieved on the commercial operations of a manned aircraft. Therefore, allowing commercial operations of sUAS as requested with a Private Pilot as PIC will surpass the current level of safety provided by 14 CFR Section 61.113(a).

14 CFR 91.7(a): Civil Aircraft Airworthiness.

This regulation section requires that the aircraft be in an airworthy condition prior to flight. Although, a sUAS is not required to have an airworthiness certificate, the PIC will operate the sUAS and comply with all user manuals and operating documents to ensure that the aircraft and all aircraft systems are in an airworthy condition prior to each flight. The PIC will perform the required pre-flight inspection with the pre-flight checklist as provided in the sUAS user manual, which will provide an equivalent level of safety.

14 CFR 91.119: Minimum safe altitudes.

Section 91.119 provides the requirements for safe altitudes for civil aircraft operations. Section 91.119(d) (1) allows the operations of helicopters below the minimum altitudes described under parts (b) and (c). As this exemption request is for the sUAS which is a "quad-copter" (4 rotor type) unmanned aircraft, similar to a helicopter, an equivalent level of safety will be provided. Based on the operating conditions and limitations for the sUAS, all essential and non-essential personnel and property on the surface will not be exposed to any hazards due to an emergency or power failure as per part (a). Altitudes will be limited to no more than 200 AGL, which will require an exemption from parts (b) and (c). Currently there are manned rotorcrafts that operate at altitudes less than the 500 AGL, with more hazardous materials and on a larger scale than unmanned aircraft have. Therefore, this will reduce the risk of flights at lower altitudes with less weight and no flammable materials which will not pose a high risk to people or property on the surface. No flight will begin without the prior approval of the property owners and/or local officials. Due to the short periods of operations being limited to 20 minutes or less, and limited to confined areas while maintaining visual line of site, an equivalent level of safety will be provided.

As stated within the sUAS list of conditions and limitations, if flight operations plan to take place within class B, C or D airspace and within 5 NM of an air traffic control tower, the airport operator or air traffic controller will be notified and clearance provided prior to operations. As an added safety precaution, the closest aviation radio frequency will be monitored for any air traffic in the area by the use of a handheld aviation radio. The air traffic controller will be aware of the sUAS operations and the PIC will be aware of any air traffic within the area. This will benefit the public and any pilots of manned aircraft above by the PIC ensuring that there are no other aircraft in the area prior to visual confirmation. The use of the handheld aviation radio will greatly reduce the risk and provide a greater level of safety. Furthermore, the low altitude operations will ensure separation from the sUAS and any conventionally manned aircraft operations that will comply with this regulation.

14 CFR 91.121: Altimeter Settings:

This section requires that "each person operating an aircraft shall maintain the cruising altitude… by reference to an altimeter that is set… [at] the elevation of the departure airport or an appropriate altimeter setting available before departure." An exemption may be required, because the sUAS provide the PIC with the altitude reading on the remote controller, from a GPS signal on the sUAS. An equivalent level of safety can be achieved by the PIC by ensuring the correct altitude is provided during the pre-flight checks prior to each flight while on the ground.

14 CFR 91.151(b): Fuel Requirements for Flight in VFR Conditions:

For this regulation, all flights in a rotorcraft, during the day require an additional 20 minutes of fuel for each flight. However, similar to rotorcrafts, the particular unmanned aircraft that SpawGlass uses has a total flight time of approximately 18 minutes as indicated in the user manual. With this total flight time, it is impossible to have 20 minutes of additional fight time beyond the planned flight time. An equivalent level of safety will be provided because the Inspire 1 has an emergency feature equipped which will automatically return to the departure location upon reaching low battery power levels. At low battery levels there are several alerts to notify the Pilot that the sUAS has a low battery. During a low battery level warning, the aircraft status indicator will blink red slowly which is notifying the Pilot to return the aircraft to the home position. If, after 10 seconds the Pilot does not begin to return the aircraft to the home position the aircraft will automatically return to the home position and land while the remote is sounding an alarm. By maintaining visual line of sight with the sUAS the aircraft will always be in close proximity to the home position. Although the sUAS is equipped with the automatic low battery settings, there is a battery level percentage indicator on the remote. If the battery level indicator reaches 15% or the flight time is 15 minutes (whichever occurs first) the PIC will start to return to the home position. With these features incorporated within the sUAS and the standards set in the conditions and limitations herein, an equivalent level of safety can be provided for this requested exemption.

14 CFR Subpart E: 91.405(a); 407(a)(1); 409(a)(1) and (2); 417(a) and (b): Maintenance, Preventive Maintenance, Inspections and Maintenance Records.

These regulations require the aircraft owner or operator to have the aircraft inspected and maintained "…in accordance with part 43 of this chapter."

It is understood that these regulation sections apply to aircraft that hold an airworthiness certificate, therefore the above mentioned sections will not apply to the operations of the sUAS. The operator of the sUAS will perform all required and periodic maintenance as indicated within the user manual and any supporting documents included with the sUAS being used. Due to the small scale of the unmanned aircraft systems and specific area of operations, this can be achieved by the operator, and an equivalent level of safety will be provided. In the event that any extensive mechanical repairs are required, these tasks will be perfumed by the aircraft manufacturer if needed. During any flight, if mechanical failures occur, the sUAS will immediately terminate the flight and return to land. As indicated previously, pre-flight inspections will take place prior to all flight operation to verify all systems and equipment are functioning properly. Any maintenance performed by the operator will be logged appropriately for documentation. Overall, to provide an equal level of safety, the aircraft will be maintained in an airworthy condition by the operator, which is most familiar with the aircraft.

IV. Summary:

Pursuant to 14 CFR Part 11, the following is a summary to be provided for publication in the Federal Register if needed:

SpawGlass is seeking an exemption from the following regulations:
14 CFR Part 61.113(a); 91.7(a); 91.119; 91.121; 91.151(b); 91.405(a); 91.407(a)(1); 91.409(a)(1) and (2); 91.417(a) and (b) for the commercial operation of its small Unmanned Aircraft Systems (55lbs or less) for construction site imaging, inspections and data collection operations.

The approval of exemptions to allow commercial operations of sUASs in the construction industry for inspections and data collection will greatly enhance safety and reduce risks associated with these activities in the past. The conventional methods included the use of manned aircraft or rotorcraft, which pose a greater risk to personnel involved. Also, the inspection activities associated with the construction site have a greater risk when an inspector is required to be physically in the location that needs an inspection. By the use of the sUAS that will carry no passengers or crew, this will eliminate the majority of the risks associated with these tasks.

The operation of the sUAS that will be conducted in the specific conditions listed above will provide a greater than or equal level of safety supporting the grant of the Part 21 and allowing commercial operations. The lightweight Unmanned Aircrafts operate at low speeds, generally close to ground level, and always being monitored with line of sight operations, as a result, they are far safer than the conventional methods with manned single engine aircraft or rotorcraft that are just as close to ground level.

V. Privacy & Public Acknowledgement:

As indicated above, all sUAS operations will occur after receiving prior approval and authorization from the property owners of the area in which the operations are being conducted within.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012—size, weight, speed, operating characteristics, operations within visual line of sight, and the use of radio communications will provide considerable justification to grant the requested exemptions and allow commercial operations of the applicant's sUAS for use in the construction industry.

Sincerely,

Gary Powell
Assistant Project Manager
SpawGlass Contractors, Inc.