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

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

June 1, 2015

Exemption No. 11731
Regulatory Docket No. FAA–2015–0061

Mr. F. B. (Ben) Harvie, Jr.
Counsel for D&C Inspection Services, Inc.
12600 North Featherwood
Suite 120
Houston, TX 77034

Dear Mr. Harvie:

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 January 12, 2015,[1] you petitioned the Federal Aviation Administration (FAA) on behalf of D&C Inspection Services, Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct inspections of industrial complexes, transportation facilities, and other structural entities.

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. However, the FAA received seven comments in support of the petition made to the docket.

[1] On May 11, 2015, the petitioner responded to the FAA's request for information.

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom 2 Vision, DJI Phantom 2 Vision +, Steadydrone QU4D, DJI S1000, DJI Inspire 1, and DJI Flamewheel F550.

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 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.[2] 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,

[2] 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.

delegated to me by the Administrator, D&C Inspection Services, 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.

Conditions and Limitations

In this grant of exemption, D&C Inspection Services, 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 Phantom 2 Vision, DJI Phantom 2 Vision +, Steadydrone QU4D, DJI S1000, DJI Inspire 1, and DJI Flamewheel F550 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 May 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

NOVELLI, HARVIE & ASSOCIATES,
Attorneys at Law, P.L.L.C.
12600 North Featherwood, Suite 120
Houston, Texas 77034
Tel. (281) 484-9500
Fax (281) 484-9519
www.nhapllc.com

F.B. Harvie, Jr.
(Attorney) bharvie@nhapllc.com

January 12, 2015

United States Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, D.C. 20590

Attn: Bill Crozier, Assistant Manager, UAS Integration Office, AFS-80

Re: 1) Applicant: D&C Inspection Services, Inc.
2) Request for exemption Under Section 333 of the FAA Modernization and Reform Act of 2012 (Reform Act)

Dear Mr. Crozier:

1. Applicant's name, address and contact number are:
D&C Inspection Services, Inc.
2215 Repsdorph Rd., Seabrook, Texas 77586
Attn: Daniel Harry
Email: dan@dcinspection.com
Phone No.: (281) 326-1800

2. Applicant's agent:
F.B. (Ben) Harvie, Jr., Attorney At Law
12600 N. Featherwood, Suite 120, Houston, Texas 77034
Email: bharvie@nhapllc.com
Phone No.: (281) 484-9500

3. Purpose for Request:
To secure an exemption to operate a sUAS under controlled conditions in defined airspace which would provide an enhanced level of safety to the successful operation of Applicant's business which includes, but is not limited to, inspection of industrial complexes, transportation facilities and other structural entities that are subject to and in need of periodic or routine safety inspections by persons authorized either by regulation or by industry standard

to determine the condition of the objects being inspected and to assure and establish a level of safe use and operations for which the inspected items are intended.

4. Regulation:

The exemptions requested and/or required are from 14 CFR and are as follows:

Part 21
45.23(b)
61.113 (a) & (b)
91.7 (a)
91.9 (b) (2)
91.103
91.109
91.119
91.121
91.151 (a)
91.203 (a) & (b)
91.405 (a)
407 (a) (1)
409 (a) (2)
417 (a) & (b); and
Any other provisions out of Title 14, Code of Federal Regulations, that may be applicable to Applicant's specific use and not listed above.

5. Public Interest:

Enhancement of Industry Safety.

The exemption requested is in the public interest because the intended purpose of the operation of sUAS will enhance the safety of the inspection process presently utilized by Applicant which may have required, from time-to-time, inspectors to be on scaffold structures or other dangerous environments, or other hazardous conditions, in order to perform the inspections which are necessary and required to comply with industry standards or governmental regulations.

Development of Firefighting Techniques

The public interest would also be enhanced because Applicant intends to develop a heat-sensing device for use by firefighting agencies that would detect dangerous hotspots, thereby reducing the hazardous work environment of firefighters and enhancing their rescue operations.

Protection of Privacy

Applicant has adopted a privacy policy that requires the operator to assure that no information or data of persons not engaged in the intended operation is collected, used, or disseminated so as to achieve the public's expectation of privacy.

6. Previous exemptions:

The FAA has previously granted exemptions under Section 333 for similar operations in Exemption Nos.:

1. 11063
2. 11064
3. 11065
4. 11066
5. 11067
6. 11080

7. Conditions and limitations:

A. Applicant proposes to adopt:

1. A Pilot Operating Handbook (POH) and/or
2. Flight Operations and Procedures Manual (FOPM)
3. Manufacturers Pilot Training Guide (MPTG)
4. UAV Check-List

B. Applicant proposes the following conditions and/or limitations:

1. UA must weigh less than 55 pounds;
2. UA airspeed not to exceed 50 knots;
3. UA flights may not operate at more than 400 AGL and Altitudes reported to ATC must be in feet AGL;
4. UA must be operated within visual line of sight (VLOS) of the PIC;
5. All operations will utilize a visual observer (VO). The VO may be utilized as long as the PIC maintains VLOS capability and can communicate with the VO at all times;
6. The conditions and limitations will be added or amended in the operator's manual;
7. The PIC will inspect the UAS to ensure it is safe for flight, along with the Ground Control Station (GCS) if utilized. All maintenance and alterations must be properly documented.
8. A functional test flight must be performed for any UAS that has undergone maintenance or alterations and be performed by the PIC and added to the operator's manual;
9. The operator must follows the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement inspection and life limit requirements. The following must

be included in the operator's manual;

A. Actuators / Servos;
B. Transmission (single rotor);
C. Power plant (motors);
D. Propellers;
E. Electronic speed controller;
F. Batteries;
G. Mechanical or dynamic components (single rotor);
H. Remote command and control;
I. Ground control station (if used); and
J. Any other component(s) as determined by the operator.

10. The PIC must possess a private pilot certificate, a current third-class medical certificate and meet the flight review requirements specified in 14 CFR § 61.56;
11. A PIC must have accumulated and logged, in a manner consistent with 14 CFR § 61.51 (b), a minimum of 200 flight hours and 25 hours as a UAS rotorcraft pilot and at least ten hours logged as a UAS pilot with a similar UAS type;
12. A PIC must have accumulated and logged, in a manner consistent with 14 CFR § 61.51 (b), a minimum of five hours as a UAS pilot operating the make and model of UAS to be utilized for operations under the exemption and three take-offs and three landings in the preceding 90 days. The PIC must operate the UA with appropriate distance from non-participants in accordance with 14 CFR § 91.119;
13. The PIC and VO must have completed a qualification process;
14. A flight demonstration, administered by an operator-approved and -qualified pilot must be completed and documented in accordance with the operator's manual;
15. The UA may not be operated directly over any person, except authorized and consenting inspection personnel, below an altitude that is hazardous to persons or property;
16. All participating persons must be essential and consent to the UAV operation which should require no further FSDO or ASI approval;
17. The operator must ensure that no persons are allowed within 500 feet of the area except those consenting to be involved and who are necessary for the on-going operation of the entity being inspected;
18. If the UAS loses communications or loses its Global Positioning System (GPS) signal, the UA must return to a

pre-determined location within the security perimeter and land or be recovered in accordance with the operator's manual;

19. The UAS must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual;
20. Each operation must be completed within 30 minutes flight time or with 25% battery power remaining, whichever occurs first;
21. The operator must contain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but no less than 48 hours prior to the operation;
22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47and have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as possible;
23. The operator must develop procedures to document and maintain a record of the UAS maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UAS.
24. Each UAS operated under this exemption will comply with all manufacturing safety bulletins;
25. The operator will develop UAS technician qualification criteria. And the criteria will be in the operator's manuel;
26. The pre-flight inspections section of the operator's manual will include the requirement that the pre-flight inspection will account for all discrepancies, i.e. inoperable components, items, or equipment;
27. Before conducting operations, the radio frequency spectrum used for operation and control of the UA will comply with the FCC or other appropriate government oversight agency requirements;
28. At least three days before a scheduled inspection the operator of the UAS affected by this exemption will submit a written plan of activity to the local FSDO with jurisdiction over the area of the proposed inspection. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities will include the following:
    A. Dates and times for all flights

B. Name and phone number of the operator for the UAS inspection conducted under this grant of exemption
C. Name and phone number of the person responsible for the on-site operation of the UAS
D. Make, model, and serial or N-number of UAS to be used
E. Name and certificate number of UAS PIC s involved in the inspection process
F. A statement that the operator has obtained permission from property owners and/or local officials to conduct the inspection; the list of those who gave permission shall be made available to the inspector upon request
G. Signature of exemption-holder or representative
H. The description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which the inspection will be conducted and the altitudes essential to accomplish the operation.

29. The 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;
30. The UA must remain clear and yield the right of way to all other manned operations and activities at all times (including, but not limited to ultra-light vehicles, parachute activities, parasailing activities, hand gliding, etc.);
31. 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;
32. The UAS cannot be operated by the PIC from any moving device or vehicle;
33. The UA may not be operated less than 500 feet below or less than 2000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC;
34. The UA may not be operated in class B, C, or D airspace without written approval from the FAA. The UA may not operate within 5 nautical miles of the geographic center of a non-towered airport as denoted on a current FAA- published aeronautical chart unless a letter of agreement with the airport's management is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport

management must be made available to the administrator upon request.

35. Any 1) Incident, 2) Accident, or 3) Flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the Federal Aviation Administration's (FAA) UAS Integration Office (AFS-80) within 24 hour. Accidents must be reported to the National Transportation Safety Board (NTSB) per instruction contained on the NTSB web site: www.ntsb.gov. Further flight operations may not be conducted until the incident, accident, or transgression is reviewed by the AFS-80 and authorized to resume operations is provided.
36. The UAS, PIC and operator will comply with all applicable parts of 14 CFR including, but not limited to, parts 45,47,61,91.

The criteria proposed in this application are believed to have previously been reviewed and approved with prior exemptions and given the public need for the inspections mandated by regulation or suggested by industry standards provides the assurance sought by the Federal Aviation Act of 1958 and the FAA modernization and reform act of 2012 to ensure the safe operations anticipated in this request of the aircraft in the national airspace system.

Your review and reply are greatly appreciated. My office is adjacent to the FSDO office on Featherwood in Houston, Texas and would facilitate our in person communication should it be necessary.

Very Truly Yours,

NOVELLI, HARVIE & Associates
Attorneys at law, PLLC

F.B. Harvie, Jr.