



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

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

September 4, 2015

Exemption No. 12758  
Regulatory Docket No. FAA-2015-2590

Mr. Charles R. Lyle  
Nex Gen Aerial Imaging  
12 Countryside Lane  
Moultonboro, NH 03254

Dear Mr. Lyle:

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 December 8, 2014, that posted to the docket June 30, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Nex Gen Aerial Imaging (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct videography, photography, inspections and analyses.

See Appendix A for the petition submitted to the FAA describing the proposed operations and the regulations that the petitioner seeks an exemption.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner.

### **Airworthiness Certification**

The UAS proposed by the petitioner are the DJI Phantom 3 and DJI Inspire 1.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112-95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the

aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

### **The Basis for Our Decision**

You have requested to use a UAS for aerial data collection<sup>1</sup>. 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, Nex Gen Aerial Imaging 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.

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<sup>1</sup> 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, Nex Gen Aerial Imaging 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 and 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.nts.gov](http://www.nts.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 September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan

Director, Flight Standards Service

Enclosures



**U.S. Department of Transportation, Docket Operations**  
**West Building Ground Floor, Room w12-140**  
**1200 New Jersey Avenue, S.E.**  
**Washington, DC 20590**

**Petition for Exemption Under 14 CFR § 11.81**  
**to Allow Commercial Use of Unmanned Aircraft**  
**Systems**

**December 8, 2014**

**Petitioner:**

**Nex Gen Aerial Imaging**

**Charles R. Lyle**

**12 Countryside Lane, Moultonboro NH, 03254**

**Phone: (603)651-9128**

**Email: [charlielyle@yahoo.com](mailto:charlielyle@yahoo.com)**

**Greetings,**

**This application is substantially based on the FAA's findings in Exemption No. 11062 granted to Astraeus Aerial on September 25, 2014, and in reliance on the analysis provided therein.**

**1. Sections from which exemptions are sought:**

**Application is hereby made for exemption from:**

**a. FAA Modernization and Reform Act of 2012, PL**

**112-95 FEB. 14, 2012, Section 333**

**b. 14 CFR Part 21, subpart H**

**c. 14 CFR Part 61.113(a) and (b)**

**d. 14 CFT Part 91:**

**2. Relief sought:**

**i. 91.103(b)(2)**

**ii. 91.105**

**iii. 91.109**

**iv. 91.119**

**v. 91.121**

**vi. 91.151**

**vii. 91.405**

**viii. 91.407**

**ix. 91.409**

**x. 91.417**

## **2. Relief sought**

**Nex Gen Aerial Imaging(NGAI)wishes to operate  
Unmanned Aircraft Systems for commercial purposes  
to  
include (but not limited to) videography, photography,  
inspections and analyses. This  
relief is sought because commercial use of UAS's is  
currently prohibited by law unless  
performed under an exemption.**

**b. This exemption will cover use of the following  
airframes, all of which will weigh less than  
55 pounds including payload and energy sources:**

**1. DJI Phantom and Inspire models**

**a.DJI Phantom 3**

**b.DJI Inspire 1**

**Other models to be added by future amendment to  
this exemption.**

**3. Public benefit:**

**a. Use of UAS technology to obtain imagery,  
information and data currently obtained by use  
of manned flight or manual methods:**

**i. Reduces statistical risk to human life due to manned  
aircraft accidents (e.g.,  
powerline inspections) and due to other dangerous**

**activities that can be avoided  
(e.g., scaffolding/rigging failures during stack or  
bridge inspections).**

**ii. Reduces the cost of obtaining such information,  
which benefits consumers and  
the economy.**

**iii. Reduces environmental impact by eliminating  
sources of hydrocarbon emissions  
from manned aircraft.**

**4. Safety not adversely affected:**

**a. Aircraft will be registered and marked in  
accordance with Section 44711 and Part 47 and  
Part 45, Subpart C.**

**b. Aircraft will comply with maintenance and  
inspection requirements of the manufacturer.**

**All repair and maintenance work will be conducted or**

**approved by qualified personnel  
such as those authorized by DJI Los Angeles (or equivalent)  
after such work. Records of all maintenance and  
repair work will be kept in a  
maintenance log for each aircraft.**

**c. All flight operations will be conducted by two  
individuals who will maintain verbal  
communication capability with each other at all times  
during the flight, and who will  
remain stationary on the ground during the flight  
operations:**

**i. A Pilot In Command(PIC) who possess the following  
credentials:**

**1. An Airman Certificate issued under 14 CFR 61  
(private pilot license)  
screened by the TSA**

**a. NGIA may change PIC credentials when and if the  
FAA makes a change to (PIC)  
credentials under current proposed framework and  
regulations changes dated February,15,2015.**

**2. A Third Class medical certificate issued under 14  
CFR 67.**

**3. A Bi-annual flight review under 14 CFR 61.56**

**4. A completion of a course of instruction in safe UAS  
flying conducted by  
Unmanned Experts Inc. (or equivalent instruction).**

**5. At least 200 cycles and 25 hours of flight experience  
in a UAS rotorcraft  
(or UAS fixed-wing in the case of fixed-wing flight  
operations under this  
exemption). Such cycles and hours may be gained  
during flights under**

**this exemption if a safe distance is maintained from  
persons in**

**accordance with 14 CFR 91.119.**

**6. At least 5 hours of flight experience and 3 takeoffs**

**and landings in make**

**and model being flown in the prior 90 days. Such**

**cycles and hours may**

**be gained during flights under this exemption if a safe**

**distance is**

**maintained from persons in accordance with 14 CFR**

**91.119.**

**ii. A Visual Observer.**

**d. All flight operations will be conducted in**

**accordance with valid Certificates of**

**Authorization**

**e. All flight operations will comply with the following:**



- i. The manufacturers' Aircraft Flight Manuals and operation guidelines**
- ii. NGIA flight operations policies including lost communication and other emergency and safety procedures.**
- iii. Conducted in VMC conditions during daylight hours**
- iv. PIC and VO will maintain VLOS at all times.**
- v. Pre-flight inspections (including ground control station, if any) and safety risk assessments will be conducted prior to each flight**
- vi. Flight altitudes will remain below 400 feet above ground level**
- vii. Flight ground speeds will not exceed 50 knots.**
- viii. Not intrude into Class B, C or D airspace, or published approach, SID or STAR, or**

**take place within 5 miles of an airport**

**ix. Not be made near persons as required in 14 CFR**

**91.119 and not over persons on**

**the ground without their prior permission**

**x. Each flight will be logged in both the PIC's logbook**

**and the aircraft logbook**

**xi. Not exceed 75% of the battery or fuel capacity of**

**the aircraft, or 30 minutes,**

**whichever occurs first.**

**xii. Any incidents will be reported within 24 hours of**

**occurrence.**

**xiii. NGIA will maintain liability insurance of at least**

**\$1,000,000 issued by**

**USAA Insurance or equivalent insurer.**

**xiv. Any applicable local FSDO requirements.**

**xv. All other applicable regulations concerned with the**

**operation of aircraft.**

**f. Aircraft will use 2.4 GHz for control of the aircraft,  
and 5.8 GHz for sending data.**

**Please advise us of any additional information or  
changes that are required.**

**Attached are user manuals for both UAS described in  
section**

**Charles Lyle-Owner**

**Nex Gen Aerial Imaging(NGIA)**

**603-651-9128**

**charlielyle@yahoo.com**