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

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

June 30, 2015

Exemption No. 11956
Regulatory Docket No. FAA–2015–1411

Mr. Jaroslav Geba
Field Supervisor
Mission Geospatial Ltd.
3320 8 Street SE.
Calgary, Alberta
Canada T2G 5S7

Dear Mr. Geba:

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 April 28, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Mission Geospatial Ltd. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial data collection.

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 Sensefly eBee, Sensefly eBee RTK, and 3D Robotics X8-M.

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*. In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

**The Basis for Our Decision**

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

**Our Decision**

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Mission Geospatial Ltd. 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

[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.

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, Mission Geospatial Ltd. 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 Sensefly eBee, Sensefly eBee RTK, and 3D Robotics X8-M 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 July 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

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# Exemption Request under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations to allow Commercial Use of Unmanned Aircraft Systems

Petitioner:
Mission Geospatial Ltd.
Jaroslav Geba
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Dear Sir or Madam,

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (herein to as Reform Act) and 14 CFR Part 11, Mission Geospatial, a professional and technical services firm, hereby applies for an exemption from the listed Federal Aviation Regulations (FARs) to allow commercial operation of sUAS for aerial data collection.

Mission Geospatial has obtained a blanket Special Flight Operating Certificate in the Prairie North Region of Canada and has abided by Canadian Aviation Regulations (CARs) and has enough experience to bring benefit to the citizens of United States of America.

This application is substantially based on the FAA'S findings in Exemption No. 11329 & 11351 granted to bizUAS Corp & Falkirk Mining Company on December 19th, 2014 & January 2nd, 2015, 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 45.23(b)
   d) 14 CFR Part 61.113(a) and (b)
   e) 14 CFT Part 91:
      i) 91.103(b)(2)
      ii) 91.105
      iii) 91.109

iv) 91.119
v) 91.121
vi) 91.151
vii) 91.203(a)&(b)
viii) 91.405
ix) 91.407
x) 91.409
xi) 91.417
xii) 91.7(a)

2) Relief sought:
   a) Mission Geospatial (mGeo) wishes to operate small Unmanned Aircraft Systems (sUAS) for commercial purposes for aerial data collection.
   b) This exemption will cover use of the following airframes, all of which will weight lesss than 55 pounds including payload and energy sources:
      i) Sensefly eBee
      ii) Sensefly eBee RTK
      iii) 3D Robotics X8-M
      iv) Other models to be added by future amendment to this exemption
3) Public benefit:
   a) Use of sUAS 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., power line 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 Robotic Skies (or equivalent), and will require a test flight after such work. Records of all maintenance and repair work be kept in a maintenance log for each aircraft.
   c) All flight operations will be conducted by at least two individuals (PIC and observer) 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 (recreational pilot certificate) screened by the TSA
         (2) A valid driver's license to satisfy the medical requirement
         (3) A bi-annual flight review under 14 CFR 61.56

(4) 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.

iii) A Sensor Operator as necessary.

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) mGeo 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 nautical miles of an airport unless a letter of agreement with that airport's management is obtained.

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 to NTSB within 24 hours of occurrence.

xiii) mGeo will maintain liability insurance of at least $1,000,000 issued by a insurance underwriter.

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 with well-defined and tested lost link procedures.

g) If the sUAS loses communications or loses its GPS signal, the sUAS will return to a pre-determined location within the private or controlled-access property.

Please advise us of any additional information or changes that may be required.

Sincerely,

Jaroslav Geba

Field Supervisor, Mission Geospatial

April 28, 2015