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

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

September 10, 2015

Exemption No. 12815
Regulatory Docket No. FAA−2015−2603

Mr. Brian Deatherage
ArizonaFPV, LLC
4717 East Gatewood Road
Phoenix, AZ 85050

Dear Mr. Deatherage:

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 June 2, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of ArizonaFPV, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial geospatial analysis, and aerial photography and videography operations for a range of business that include infrastructure inspection, mining, and real estate.

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 and DJI S900.

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, ArizonaFPV, LLC is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

In this grant of exemption, ArizonaFPV, LLC is hereafter referred to as the operator.

[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.

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 and DJI S900 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 September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

ARIZONAFPV
YOUR WORLD, NEW VIEW

Brian Deatherage
ArizonaFPV
4717 E. Gatewood Rd
Phoenix, AZ 85050

June 2, 2015

U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
Washington, DC 20590

Re: Exemption Request Under Section 333 of the FAA Modernization and Reform Act of 2012 and Part 11 of the Federal Aviation Regulations from Certain Provisions of 14 C.F.R.

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 ("the Reform Act") and 14 C.F.R. Part 11, ArizonaFPV, LLC ("ArizonaFPV"), an operator of Small Unmanned Aircraft Systems ("UAs") equipped to conduct aerial geospatial analysis, and aerial photography/videography operations for a range of businesse that include infrastructure inspection, mining, and real estate, hereby requests an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operations of its UAs, so long as such operations are conducted within and under the conditions outlined herein or as may be established by the FAA as required by Section 333. This request is substantially similar to other petitions previously approved, and should be considered under the expedited summary grant procedure.

Approval of the exemption will allow commercial operations of the: (1) DGI S900 approved for commercial operations in Exemption Nos.11240, 11256, and 11384; and (2) the senseFly eBee approved for commercial operations in Exemption Nos. 11518, 11646, and 11673.

The safety and public benefits of using these UAs for the operations contemplated by this petition are significant. The UAs covered by this petition are small battery powered craft, with the senseFly eBee weighing approximately 1.5 lbs., inclusive of battery and payload, and the DJI S900 weighing approximately 15 lbs., inclusive of battery and payload. The use of these UAs will greatly reduce the need to operate manned aircraft in unconventional operations, and will provide more accurate data and imagery in a more safe, economical, and efficient manner.

As Congress intended, the operations pursuant to the exemption will be subject to strict operating requirements and conditions to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft, and under conditions as may be modified by the FAA as required by section 333.

For your ease in reviewing the petition, please refer to the following table of contents:

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I. Petitioner's Contact Information

The name and address of the Petitioner is:

ArizonaFPV LLC
Attn: Brian Deatherage, Owner
4717 E. Gatewood Rd
Phoenix, AZ 85050
480-200-0371
brian@arizonafpv.com

II. The UA[1]

1. senseFly eBee

The requested exemption will permit petitioner to operate the senseFly eBee, with a maximum weight of approximately 1.5 lbs., inclusive of batteries and technical payload. This UA operates at a speed of no more than 49 knots.

The UA will have the following specifications or equivalent:

Airframe:	senseFly eBee
Wingspan:	96cm (3.2 ft.)
Control System:	Internal to the eBee which includes the Main Controller (MC), Internal Measurement Unit (IMU) with a built in internal sensor, barometric altimeter (which measures attitude and altitude), compass, GPS, and radio receiver (Rx)
Transmitter (Tx):	senseFly system with 2.4 GHz
Receiver (Rx):	internal to eBee
Motor:	electric brushless motor with nominal static thrust of 6.2 N
Data Link:	2.4 GHz USB ground modem
OSD:	senseFly eMotion 2 software, which allows live telemetry to be displayed to the visual observer, including the battery level and altitude
Batteries	Lithithium Polymer batteries with a capacity of 2150 mah

The FAA has previously approved use of the eBee in Exemption Nos. 11518, 11646, 11673.

2. DJI S900

The requested exemption will permit petitioner to operate the DJI S900, with a maximum weight of approximately 15 lbs., inclusive of batteries and technical payload. This UA operates at a speed of no more than 31 knots.

Airframe:	DJI S900 Spreadwings
Dimensions:	Diagonal motor-motor distance 88.9 cm (35 in.)
Flight Controller:	Wookong-M

[1] At the request of the FAA, ArizonaFPV will also be pleased to provide, under Confidentiality to support this Exemption Request: the eBee SenseFly User Manual, eBee Inspection and Maintenance Requirements, the senseFly eBee Training Documentation, and the eBee Justification of Airworthiness and Safety Assessments, and the DGI S900 User Manual.

	Built in Functions: Enhanced Failsafe, 2-Axis Gimbal Support, Low Voltage Protection, Go Home & Auto Landing, D-Bus Receiver Supported, Intelligent Orientation Control.
On Screen Display:	IOSD Mark II
TX/RX:	LawMate 1000mW Transmitter V2/Dragon Link V2 UHF
Motor:	DJI 4114-11. 41mm x 14mm, 400 KV/RPM
Propellers	DJI Innovations, Model # 15 x 5.2
Radio:	Spectrum DX9 Data Link: 2.4 GHz USB ground modem
Gimbal:	Zenmuse Z15-BMPCC
Batteries	Lithithium Polymer batteries with a max capacity of 15000 mAH

The FAA has previously approved use of the S900 in Exemption Nos. 11240, 11256, 11384.

III. The Crew

The flight crew will consist of a pilot in command (PIC) and a visual observer (VO). The PIC will have, at minimum, a sport pilot's license and a third class medical certificate, or a U.S. driver's license

All training, qualifications, and responsibilities required for the PIC and VO can be found in Section 1 and 2 of the ArizonaFPV Flight Operations Manual. (Appendix A)

IV. Operations

1. The UAs will weigh no more than 55 pounds, inclusive of battery and payload.

2. The UAs will not be operated at a speed exceeding 87 knots (100 miles per hour).

3. The UAs operations under this exemption will be limited to conducting operations for the purpose of providing aerial geospatial analysis, and aerial photography/videography operations for a range of business that include infrastructure inspection, mining, and real estate.

4. Minimum flight crew for each operation will consist of the UA pilot in command (PIC) and a visual observer (VO).

5. The PIC may deem other crew essential to the safe operation of the UA to include camera operator, instructor, trainee, or person's necessary for the safe operation of the flight.

6. The PIC will have at minimum, a sport pilot license and a third class medical certificate or a U.S. driver's license.

7. The petitioner will not permit any PIC to operate unless the PIC meets its qualification criteria and demonstrates the ability to safely operate the UA in a manner consistent with how the UA will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from person's vessels, vehicles, and structures.

8. PIC qualification flight hours and currency will be logged in a manner consistent with 14 CFR § 61.51(b). A record of the PIC training will be documented and made available upon request by the Administrator. Training operations will 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 will operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR §91.119.

9. The PIC will be designated before the flight and will not be allowed to transfer his or her designation for the duration of the flight. The PIC will ensure that the VO can perform the duties required of the VO.

10. Flights will be operated within visual line of sight (VLO) of the PIC and VO at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses. PIC and VO will at all time be able to communicate verbally. They will not be permitted to use electronic messaging or texting to communicate during flight operations.

11. Flights will be operated at an altitude of no more than 400 feet AGL. All altitudes reported to Air Traffic Control (ATC) will be feet AGL.

12. A briefing will be conducted about the planned UA operations prior to each day's activities. It will be mandatory that all personnel who will be performing duties in connection with the operations be present for this briefing.

13. Prior to each flight, the PIC will inspect the UA, including the Ground Control Station, to ensure it is in a condition for safe flight. If the inspection reveals a condition that affects the safe operation of the UA, the PIC will not operate the UA until necessary maintenance has been performed and the UA is found to be in a condition for safe flight. All maintenance and alterations will be properly documented in the UA records.

14. Petitioner will conduct a function flight test on any UA that has undergone maintenance or alterations that affect the UA operation or flight characteristics, e.g. replace of a flight critical component. The PIC who conducts the functional flight test will make an entry in the UA records.

15. The petitioner will carry out maintenance, inspections, and record keeping requirements, in accordance with the UA manufacturer's aircraft/component, maintenance, overhaul replacement, inspection, and life limit requirements for the UA and UA components. Maintenance, inspection, alterations, and status of replacement/overhaul components parts will be noted in the UA records, including total time in service, description of work accomplished, and the signature of the authorized person returning the UA to service. The authorized person will make an entry in the UA record of the corrective action taken against discrepancies discovered between inspections.

16. The PIC will not begin a flight unless (considering wind and forecast weather conditions) there is enough power to fly at normal cruising speed to the intended landing point and prepare to land each UA with 20% battery life remaining.

17. Actual total flight time for each operational flight will result in no less than 20% battery reserve.

18. The UA will have the capability to abort a flight in case of unexpected obstacles or emergencies.

19. The UA will be programmed so that if it loses communication or loses its GPS signal, it will return to a pre-determined location within the planned operating area and land or be recovered in accordance with the operating documents.

20. All operations will 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.

21. UA operations will not be conducted during night, as defined in 14 CFR § 1.1. All operations will be conducted under visual meteorological conditions (VMC). Flights will not be conducted under special visual flight rules (SVFR).

22. The petitioner will obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under the grant of exemption. All operations shall be conducted in accordance with an ATO-issued COA. The petitioner will apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

23. The UA will not be operated within 5 nautical miles of an airport reference point as denoted on a current FAA-published aeronautical chart unless a letter of agreement with that airport's management has been obtained or otherwise permitted by a COA issued to the petitioner. Any letter of agreement with the airport management will be made available to the Administrator upon request.

24. The UA will 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.

25. All UA operated in accordance with this exemption will 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 will be as large as practicable.

26. The UA will remain clear and yield the right of way to all manned aviation operations and activities at all times.

27. The UA will not be operated by the PIC from any moving device or vehicle.

28. Petitioner will conduct all flight operations at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures; unless one of the following three conditions is met:

    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The petitioner will ensure nonparticipating persons remain under such protection. If a situation arises, where nonparticipating persons leave such protection and are within 500 feet of the UA, the PIC will ensure that flight operations cease immediately.

    b. The UA is operated near vessels, vehicles or structures where the owner/controller of such vessels, vehicles or structures has granted permission 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

    c. Operations nearer to the PIC, VO, operator trainees, or essential persons do not present an undue hazard to those persons.

29. 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 will be available to the PIC at the Ground Control Station of the UAS any time the UA is operating. These documents will be made available to the Administrator or any law enforcement official upon request.

30. Petitioner will report any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA to the FAA's UAS Integration Office (AFS-80) within 24 hours. Petitioner will report accidents to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Website: www.ntsb.gov

V. Privacy and Public Interest

All flights will occur over private or controlled-access property with the property owner's prior consent and knowledge. Photography/videography will be of people who have also consented to being photographed or otherwise having agreed to be in the area where the aerial photography/videography operations will take place.

The planned UAs use will increase ground safety for aerial geospatial analysis and aerial photography/videography for a range of business that include infrastructure inspection, mining, and real estate. The enhanced safety and reduced environmental impact achieved using a UA with the specifications described by the petitioner, 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 UA operation enabled by this exemption is in the public interest.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012 – size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security – provide more than adequate justification for the grant of the requested exemption allowing commercial operation of petitioner's UAs.

Additionally, the FAA has previously approved a numerous UAs for geospatial analysis and aerial photography/videography similar to this request in Exemption Nos.:

11654 (Aerial photography and videography);
11655 (Aerial photography);
11656 (Aerial photography, videography, and surveying);
11664 (Aerial photography, videography, and inspections);
11665 (Aerial photography and videography);
11666 (Aerial photography and precision survey);
11672 (Aerial photography, videography and land surveying);
11674 (Aerial videography and cinematography)

VI. FAR Relief Requested and Equivalent Level of Safety

Petitioner requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of the senseFly eBee and DJI S900.[2]

Specific regulations for which relief is sought by the Applicant:

- 91.119(c): Minimum safe altitudes
- 91.121: Altimeter settings
- 91.151(a)(1): Fuel requirements for flight in VFR conditions
- 91.405(a): Maintenance required
- 91.407(a)(1): Operation after maintenance, preventive maintenance, rebuilding, or alteration
- 91.409 (a)(1)&(2): Inspections
- 91.417(a)&(b): Maintenance records

14 C.F.R. §91.119(c): Minimum Safe Altitudes

Section 91.119 (c) establishes safe altitudes for operation of civil aircraft over other than congested areas. Petitioner requests authority to operate at altitudes only up to 400 AGL over uncongested areas. The UA will operate in a limited area within pre-defined boundaries with the consent of the landowner/controller and require that all non-essential persons remain clear of the flight area during operations. The PIC will make a safety assessment of the risk of operating the UA and ensure no undue hazard is present for persons or property. Considering the size, weight, and speed of the UA, these protections will ensure the equivalent level of safety of minimum safe altitudes. Compared to flight operations for manned aircraft and the lack of flammable fuel, any risk associated with the proposed UA operations is far less than conventional aircraft operating at or below 500 AGL. In addition, the low-altitude operations of the UA will ensure separation with conventional aircraft.

14 C.F.R. §91.121 Altimeter Settings

Section 91.121 requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "to the elevation of the departure airport or an appropriate altimeter setting available before departure." The eBee and S900 do not have a barometric altimeter, but instead a GPS altitude data. An equivalent level of safety will be achieved by Petitioner, pursuant to the FOM, confirming the altitude will be set to zero before every flight.

14 C.F.R. §91.151(a)(1): Fuel Requirements for Flight in VFR Conditions

Section 91.151(a)(1) requires all day VFR flights to operate with enough fuel to fly to first point of intended landing and then for at least an additional thirty minutes. The battery powering Petitioners UA provides approximately 25 minutes of powered flight and therefore is unable to meet this requirement. Petitioner believes that since their UAs will be flying in a confined area without the presence of non-

[2] Petitioner understands that if it satisfies the requirements under Section 333, then there is no need for relief under 14 CFR Part 21 (airworthiness certificate), and under 14 CFR §§ 45.23(b) and 91.7(a). Petitioner further understands that operations of a UA does not require exemptions under 14 CFR § 91.9(b)(2) (civil aircraft marking and manual requirements) and based on the FAA memorandum "Interpretation regarding whether certain required documents may be kept on unmanned aircraft's control station." If the Administrator determines that the Petioners may be subject to those requirements, the Petitioner reserves the right to supplement this request. Petitioner also understands that the FAA allows operations under Section 333 by a PIC who holds a minimum of a recreational or sport certificate, and that a driver's license satisfies the medical requirement under Part 61.

essential persons, with landowner/controller permission and remain in line-of-sight of the PIC and/or Observer an equivalent level of safety can be achieved by flight planning all flights to return to intended landing site with a minimum of 20% reserve power in accordance with the FOM.

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

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

Given that these sections and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to Petitioners operations. Maintenance will be accomplished by Petitioner in accordance with it FOM. As provided in the FOM, the PIC will ensure that the UA is in working order prior to flight. It is Petitioners intention that the PIC perform maintenance and inspection of the UA and "be authorized to approve the aircraft for return to service." The PIC will ensure that the UA is in an airworthy condition prior to flight. Petitioners will keep a log of maintenance performed. Moreover, Petitioners and the PIC are most familiar with the UA and best suited to maintain it in an airworthy condition.

An equivalent level of safety will be achieved because the eBee and S900 is limited in size, will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise, the UA can land immediately and will be operating from no higher than 400 feet AGL.

VII. Publishable Summary

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

Petitioner seeks an exemption from the following rules: 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409 (a)(1)&(2), 91.417(a)&(b) to operate commercially a small unmanned aircraft system (UA) that is 55 pounds or less.

Approval of the exemption requested by petitioner will allow commercial operation of a (1) senseFly eBee, and (2) DJI S900 for the purpose of providing aerial geospatial analysis, and aerial photography and videography operations for a range of business that include infrastructure inspection, mining, and real estate.

Approval of exemptions allowing commercial operations for UAs will enhance safety by reducing risk. Conventional manned flight operations, using jet, or piston aircraft, sometimes operate at low in close proximity to people and structures; and resent the risk associated with vehicles that weigh approximately 6,000 pounds, carrying large amounts of fuel or other flammable liquid. Such aircraft must fly to and from the job location. In contrast, as UA weighing less than 55 pounds and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The UA is carried to the job location, not flown. The UA will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights.

The operations of UAs, weighing less than 55 pounds, conducted in accordance with the conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested

herein. These lightweight UA operate at slow speeds, close to the ground, and in a secured environment and as a result, are safer than conventional operations conducted with helicopters operating in close proximity to the ground and people. The substantial increase of safety and decrease of risk to human life, coupled with the low risk use of UAs to conduct these operations, weigh heavily in favor of granting the exemption.

VIII. Conclusion

Petitioner is prepared to modify or amend any part of this request to satisfy the need for an equivalent level of safety. We look forward to working with your office. Please contact us at any time if you require additional information or clarification.

Pursuant to 14 C.F.R. §11.35, Petitioner requests confidential treatment for Appendix A, ArizonaFPV Flight Operations Manual, that is provided with this request for exemption. Petitioner requests that the information contained in this document not be made public because it is a trade secret whose disclosure would harm petitioner.

Thank you for your time and consideration.

Sincerely,

/s/ Brian Deatherage

Brian Deatherage
Owner, ArizonaFPV

Appendices:

Appendix A: ArizonaFPV Flight Operations Manual
Appendix B: DJI S900 Product Overview
Appendix C: senseFly eBee product Overview