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

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

July 28, 2015

Exemption No. 12204
Regulatory Docket No. FAA–2015–1865

Mr. Michael Mogavero
President
Greyhawk Group LLC, dba GooseView Technologies
7 Greyhawk Lane
Thornton, PA 19373

Dear Mr. Mogavero:

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 May 8, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Greyhawk Group LLC, dba GooseView Technologies (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial inspections, surveys, photography, videography, and training[1] and monitoring.

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.

[1] The petitioner also requested authority to conduct UAS training. At this time, the FAA is unable to authorize UAS operations for training until a further assessment is completed. When the FAA completes its review, we will proceed accordingly and no further action will be required by the petitioner. However, the petitioner is permitted to train its own pilot in commands and visual observers in accordance with condition no. 14 and the other conditions and limitations in this exemption.

Airworthiness Certification

The UAS proposed by the petitioner are the 3D Robotics IRIS+, 3D Robotics X8+, and 3D Robotics Solo.

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[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.

[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.

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, GooseView Technologies 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, GooseView Technologies 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 3D Robotics IRIS+, 3D Robotics X8+, and 3D Robotics Solo 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,
/s/
John S. Duncan
Director, Flight Standards Service

Enclosures

Greyhawk Group LLC
DBA, GooseView Technologies
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Thornton, PA 19373
(610) 883-0970
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Date: May 8, 2015
U. S. Department of Transportation
Docket Management System
1200 New Jersey Ave.,
SE Washington, DC 20590

RE: Greyhawk Group, LLC, DBA GooseView Technologies for Exemption Pursuant to Section 333 of the FAA Reform Act.

Attn: To whom it may concern

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, Greyhawk Group LLC, DBA GooseView Technologies, owner and operator of Small Unmanned Aircraft Systems ("sUAS") equipped to conduct aerial inspections, aerial surveys and photography & videography, training and monitoring, hereby applies for an exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of sUAS, so long as such operations are conducted under the conditions outlined by the FAA as required by Section 333.1

The proposed exemption, if granted, would allow Greyhawk Group LLC, DBA GooseView Technologies to conduct commercial operations of small unmanned aircraft systems ("sUAS") meeting or exceeding all of the operational and safety requirements Congress has set forth in Section 333. Statutory Authority Section 333, titled "Special Rules for Certain Unmanned Aircraft Systems" provides a mechanism for seeking expedited FAA authorization of safe civil UAS operations in the NAS. Section 333(a) states that the FAA "shall determine if certain unmanned aircraft systems may operate safely in the national airspace system before completion of the (comprehensive) plan and rulemaking required by section 332(b)(1) of this Act or the guidance required by section 334 of this Act." In Section 332(b)(1), Congress made it clear that Section 333 provides a mechanism for "expedited operation authorization" if several factors are met. Petitioner meets all requirements to permit FAA approval of commercial UAS operations.

We have closely reviewed the FAA's existing exemptions grants under section 333, and submit this request as being materially similar to Exemptions 11430, 11365, 11409, 11209, 11111 among others. We are fully prepared and willing to operate under (and abide by) the exemptions already granted and the conditions required in Exemptions 11430 and 11365. The detailed request below is provided to further demonstrate our understanding of the rationale for the FAR exemption requests and associated decisions by the FAA, as well as provide a basis for establishing our need for the same.

We hope the FAA determines that good cause exists for not requiring publishing petition summary in the Federal Register as this request does not set a precedent and parallels existing grant authorizations.

Regards,

Michael Mogavero
President, Greyhawk Group, LLC

The Petitioner Requests Relief From the following regulations:

14 C.F.R. Part 21
14 C.F.R. 45.23 (b)
14 C.F.R. 91.7 (a)
14 C.F.R. 91.119
14 C.F.R. 91.121
14 C.F.R. 91.151(a)
14 C.F.R. 91.405
14 C.F.R. 91.407
14 C.F.R. 91.409
14 C.F.R. 91.417

Greyhawk Group LLC, DBA GooseView Technologies is petitioning for exemption to enable GooseView Technologies to operate; [3D Robotics Iris+ (approved grant #11273)]. Additionally GooseView technologies requests approval to operate [3D Robotics X8+] and [3D Robotics Solo], both weighing less than 5.6 Lbs., and utilizing the same Pix4D flight controller as the approved Iris+ (#11273) and by inclusion -- having all the redundant safety features of already approved 3D Robotics UAS's; GPS, loss of signal RTL, GPS fence, low battery RTL, real-time telemetry, see below.

The sUASs will be equipped with cameras, camera stabilizing gimbals and OSD (on screen displays) providing the PIC with GPS strength, altitude, airspeed, battery life and direction. Our UAS flight controllers utilize GPS to limit the altitude above the ground and limit the radius of the distance it flies from the PIC. Our UASs have GPS guided failsafe functions allowing the autopilot system to fly back to the launch site autonomously. If the transmitter is disconnected the system will automatically trigger return to home and will land safely.

GooseView Technologies is owned and operated by Greyhawk Group, LLC. GooseView Technologies is an Infrared Inspection Services company specializing in commercial, industrial and municipal survey and inspections (electrical, steam, mechanical, structure). We offer qualitative & quantitative infrared inspections for preventive and/or predictive maintenance. As such, our clients may range across; manufacturing, data centers, construction sites, farms, and infrastructure. Our state-of-the-art equipment has direct traceability to the National Institute of Standards and Technology.

Certified infrared providers have long worked under industry standard operating procedures including ASNT, ASTM and Infraspection Institute. Our principal is a native US Citizen and Global Entry participant having undergone rigorous background checks and interviews with Federal Officials.

Our commercial activities would include:

- Aerial survey / mapping
- Aerial Infrared surveys of physical plant, assets, infrastructure, solar panels, structures, construction
- Aerial photo & video surveys of physical plant, assets, infrastructure, solar panels, structures
- Real Estate & marketing promotion (non-closed set)
- Aerial videography and photography
- Agricultural surveys
- Research and environmental monitoring

FCC INFORMATION

Our transmitters used for controlling the sUAS comply with part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference,
(2) This device must accept any interference received, including interference that may cause undesired operation.

Our radio transmitters used for controlling the sUAS' are wireless technology which has been tested and found to be compliant with the applicable regulations governing a radio transmitter in the 2.4GHz and 5.8GHz frequency range.

STANDARD OPERATING PROCEDURES (unless revised per FAA grant of exemption)

1. Operations authorized by this grant of exemption are limited to the specific UAS approved in the grant, 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. All documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in the grant of exemption "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 4 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, 5 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 5 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. 6 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 7 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.

HOW THIS REQUIST IS TO THE BETTERMENT OF OUR COMMUNITY

GooseView sUAS are powered by batteries, smaller, lighter and more maneuverable than larger aircraft running on combustible fuel, it operates at lower altitudes with no people on board and will thereby reduce current risk levels associated with traditional aircraft, enhance safety and diminish the likelihood of death or serious bodily injury. Also with a small payload and typical flight time of only 10-25 minutes, there is little or no risk to national security.

Low level photos and video are far more effective than ground or high altitude manned aircraft imagery for displaying detailed characteristics of ground based objects or elevations required for plant, asset and structural inspection with standard or infrared cameras. The applicant is aware of costs associated with full-sized helicopters or planes for parallel purpose, which is proven more costly than many potential clients have been able to afford. The benefits of reduced cost and improved quality of presentation from the UAS will be incredibly valuable to clients.

EXEMPTION REQUESTS AND EQUIVALENT LEVEL OF SAFETY

Greyhawk Group LLC, DBA GooseView Technologies requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of the sUAS System.

14 CFR Part 21, Airworthiness Certificates:
This part establishes the procedures for the issuance of an airworthiness certificate. While the FAA continues to work to develop airworthiness standards for Unmanned Aerial Systems, we request an experimental certificate be issued for our UAS's under either or both of the following provisions: 21.191 Experimental certificates. Experimental certificates are issued for the following purposes:
(a) ***Research and development****.* Testing new aircraft design concepts, new aircraft equipment, new aircraft installations, new aircraft operating techniques, or new uses for aircraft.
(b) ***Showing compliance with regulations****.* Conducting flight tests and other operations to show compliance with the airworthiness regulations including flights to show compliance for issuance of type and supplemental type certificates, flights to substantiate major design changes, and flights to show compliance with the function and reliability requirements of the regulations. Since the experimental certificate can be used for commercial purposes such as market surveys, sales demonstrations, and customer crew training, we would expect that an experimental certificate would permit our commercial purpose as well. The aircraft will not carry persons or property, will not carry fuel, and will only fly under strict operational requirements. Combined with the UAS lightweight, being constructed primarily of carbon fiber and plastic in conjunction with the ability to utilize emergency parachute systems. We propose that the UAS will be at least as safe, if not safer, than a conventionally certificated aircraft performing the same mission. If an experimental airworthiness certificate is not appropriate for this application, then we request an exemption of 14 CFR Part 21, Subpart H, and the requirement for an airworthiness certificate in general, citing the equivalent level of safety outlined in the previous paragraph.

14 CFR 45.23 Display of marks; general and 45.29 Size of marks:
These regulations provide that each aircraft must display "N" and the aircraft's registration number in letters at least 3 inches high. Additionally, the aircraft must display the word "EXPERIMENTAL" in letters at least 2 inches high near the entrance to the cabin, cockpit, or pilot station. The sUAS does not have an entrance in which the word "EXPERIMENTAL" can be placed, and may not have a registration number assigned to it by the FAA. We

will display at the ground station a flag or banner that containing the words "Unmanned Aircraft Ground Station." Since the aircraft will operate within 3/4 NM of the ground station, the banner should be visible to anyone that observes the aircraft and chooses to investigate its point of origin.

14 CFR 91.7 Prohibits the Operation of an aircraft without an airworthiness certificate:
As no such certificate will be applicable in the form contemplated by the FARs, this Regulation is inapplicable.

91.119 Minimum safe altitudes:
The regulation states that over sparsely populated areas the aircraft cannot be operated closer than 500 feet to any person, vessel, vehicle, or structure. Since the typical mission of the sUAS would be inspect or survey persons, vessels, vehicles or structures it would be necessary to operate closer than 500 feet to the items listed. The hazard to persons or property on the surface will be very limited. Therefore we maintain that due to the small size of the UAS, the hazard to persons, vehicles and structures is minimal compared to manned aircraft, which should be considered in granting the exemption. The exemption is not unlike 11062, 11136, and 11111 among othes.
CFR 91.121 Altimeter settings:

The regulation requires that aircraft shall maintain cruising altitudes by reference to an altimeter setting available within 100 NM of the aircraft. The sUAS will always fly below 400 feet AGL and will not need to maintain cruising altitudes in order to prevent conflict with other aircraft. An Above Ground Level altimeter measurement above the takeoff point is transmitted via radio from the sUAS on-board computer to the display screen held by the PIC, providing a constantly updated AGL readout. The Pix4D flight controller can be configured to geo-fence the UAS under the 400' maximum altitude.

14 CFR 91.151 Fuel requirements for flight in VFR conditions:
The regulation provides that no person may begin a flight in an airplane under day-VFR conditions unless there is enough fuel to fly to the first point of intended landing and to fly after that for at least 30 minutes. The purpose of this is to provide an energy reserve as a safety buffer for delays to landing. Since the aircraft will never fly more than 3/4 NM from the point of intended landing, a full battery charge at launch will ensure that we meet the reserve energy requirement of this paragraph. 30% minimum reserve for immediate landing.

14 CFR Subpart E (91.401- 91.417) -Maintenance, Preventive Maintenance, Alterations:
The regulation provides that the operator is primarily responsible for maintaining the aircraft in an airworthy condition, including compliance with part 39 and 43. Paragraphs 91.407 and 91.409 require that the aircraft be "approved for return to service by a person authorized under 43.7" after maintenance and inspection. It is our intention that the PIC perform maintenance and inspection of the aircraft and "be authorized to approve the aircraft for return to service." The PIC will ensure that the aircraft is in an airworthy condition prior to every flight and in addition conduct detailed inspections after every five hours of flight. All maintenance will be performed by the PIC in accordance with the manufactures manual. If required maintenance is beyond the ability of the PIC the maintenance will be performed by the manufacturer or their designated repair facility. The PIC will document work performed in accordance with 91.417. We feel that due to the size, construction, and simplicity of the aircraft, the PIC can ensure an equivalent level of safety.
14 CFR 91.405(a), 407(a), 409(a) (1) & (2), 417(a) & (b)
Section 91.405(a) prescribes that: "(a) 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,"

Section 91.407(a) prescribes that: "(a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless – (1) It has been approved for return to service by a person authorized under 43.7 of this chapter; and (2) The maintenance record entry required by 43.9 or 43.11, as applicable, of this chapter has been made."

Section 91.409(a) prescribes that: "(a) Except as provided in paragraph (c) of this section, no person may operate and aircraft unless, within the proceeding 12 calendar months, it has had – (1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by 43.7 of this chapter; or (2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter."

Section 91.417(a) and (b) prescribe, in summary, that each registered owner and operator of an aircraft shall keep records of maintenance, alterations, service life, and inspections.

Since, if an exemption is granted, the SUAS in question will not carry an airworthiness certificate, and will not have established standards with which to determine it airworthiness, we request exemption from the above listed regulations.

Instead, the SUAS will be operated and maintained by the PIC per the manufacturers operating and maintenance manuals for inspecting, maintaining, and repairing the sUAS. Further, all flight operations will be recorded by way of an entry in the Log Book.

The exemption request is not unlike exemptions granted in 11136 and 11062, among others.

CONCLUSION

By granting Greyhawk Group LLC, DBA GooseView Technologies the requested exemptions, the FAA will help drive development of safe and successful commercial UAS operations and will advance the public knowledge base for such operations of UAS. GooseView Technologies is committed to promoting the UAS research efforts of policymakers by sharing data from its commercial UAS operations and serving as a resource for future UAS research operations.

As pointed out in this application, all the sUASs which our company would use, under authorization by the US DOT-FAA, are small, light-weight devices operated within the line of sight of the Pilot-in-Command (PIC), less than 400 feet above the ground and outside 5 miles from any airport or location with aviation activities, unless the air traffic control authorities (ATC) have been notified and have authorized each flight within a radius of this distance. GooseView Technologies seeks an exemption pursuant to 14 C.F.R. and Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), which will permit safe operation of our UAS commercially, without an airworthiness Certificate.

By granting this Petition, the FAA Administrator will be fulfilling the Congressional mandate of the FAA Modernization and Reform Act of 2012, while also advancing the interests of the public, by allowing GooseView Technologies to safely, efficiently, and economically operate sUASs commercially within the NAS. Wherefore, in accordance with the Federal Aviation Regulations and the FAA Modernization and Reform Act of 2012, Section 333, GooseView Technologies respectfully requests that the Administrator grant this Petition for an exemption from the requirements of 14 C.F.R Sections.

Sincerely,

Michael Mogavero
President, Greyhawk Group LLC

GooseView Technologies

Attachments: operating manuals & flight check lists for the requested UAV's.