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

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

August 10, 2015

Exemption No. 12397
Regulatory Docket No. FAA–2015–0651

Mr. Wayne A. Johnson
Counsel for Drone Dynamics LLC
Law Offices of Wayne A. Johnson
2901 West Parker Road, #864434
Plano, TX 75086

Dear Mr. Johnson:

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 March 9, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Drone Dynamics LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct commercial operations in aerial photography, surveys, mapping, and demonstrations.

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

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

Airworthiness Certification

The UAS proposed by the petitioner are the DJI Phantom Vision, DJI S1000, DJI Inspire, 3D Robotics X8+, and 3D Robotics Aero.

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, Dynamic Drones 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.

[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.

Conditions and Limitations

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

Failure to comply with any of the conditions and limitations of this grant of exemption will be grounds for the immediate suspension or rescission of this exemption.

1. Operations authorized by this grant of exemption are limited to the DJI Phantom Vision, DJI S1000, DJI Inspire, 3D Robotics X8+, and 3D Robotics Aero 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 August 31, 2017, unless sooner superseded or rescinded.

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

Enclosures

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March 9, 2015

Docket Management Facility
U. S. Department of Transportation
1200 New Jersey Ave.
SE West Building Ground Floor Room W12-140
Washington, DC 20590

Re: Exemption request under Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14 CFR Part 11, Drone Dynamics LLC hereby applies for an exemption from the Federal Aviation Regulations (FARs) listed below and discussed in Appendix A. Exemption is being sought in order to allow Drone Dynamics to operate its small unmanned aircraft systems (sUAS) in commercial operations involving aerial applications such as photography, inspections, surveying, and demonstrations.

sUAS are ideally suited for the commercial operations such as the above because the aircraft has the capability to deliver high quality data more efficiently and cost-effectively than traditional methods. Using sUAS can also be safer for workers because in many cases it will avoid putting workers in situations with potential hazards, eliminating the risk of injuries. They also allow the safe inspection of hard-to-access or environmentally sensitive areas without the use of trucks and other utility vehicles. Overall, sUAS can provide significant benefits to workers and customers over these traditional methods.

Drone Dynamics proposes to use sUAS that are rotorcraft and one fixed wing aircraft, which crafts have a maximum takeoff weight of 25 pounds or less, will be operated at a speed of no more than 50 knots, and which crafts contain built-in safety features. Proposed operations will be conducted under controlled conditions in airspace that is (1) limited, (2) predetermined, and (3) access controlled. Operations under the exemption will be subject to strict operating parameters to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft.

The name and mailing address of the petitioner, Drone Dynamics, is:

Drone Dynamics LLC
Attn: Craig Alan Nehrkorn
Ph.: (512) 740-3740
Email: craig_nehrkorn@yahoo.com
Address: 1105 Wayside Drive B, Austin, Texas 78703

The regulations from which the exemption is requested are listed below. These are more fully discussed in Appendix A.

14 CFR § 61.113 (a) and (b)
14 CFR § 61.133 (a)
14 CFR § 91.7 (a)
14 CFR § 91.119 (c)
14 CFR § 91.121
14 CFR § 91.151 (a)
14 CFR § 91.405 (a)
14 CFR § 91.407 (a) (1)
14 CFR § 91.409 (a) (1) and (2)
14 CFR § 91.417 (a) and (b)

The Unmanned Aircraft Systems. Drone Dynamics will conduct operations with lightweight rotorcrafts produced by industry leaders DJI and 3D Robotics, along with one small 3DR fixed wing. For DJI that would include the Phantom Vision, S1000, and the Inspire. For 3DR this would include the X8+ and the 3DR Aero fixed wing. All weigh under 25 pounds with energy sources and equipment. Both companies are widely recognized for their reliable product innovations. Platforms are stable and, with proper training, simple to operate.

These sUAS have common characteristics. Each can be operated by toggle or entirely by a touch-screen, map-based interface. This means the operator only needs to command the system where to go, and the system does all the flying for the operator. They can be operated in both semi and fully autonomous flight modes, with the operator simply clicking on a map to create a pre-planned flight path for a flight. In addition, the operator can create no fly zones or maximum flight ranges and altitudes so the system cannot enter areas deemed unsafe or unnecessary to fly over.

In addition, the sUAS have built-in intelligent fault handling capabilities which allow them to detect a system fault while in the air and automatically fly back to its take-off location and land. Faults that can be detected include: loss of communication; exceeding pre-set wind thresholds; and low battery levels.

All flight operations are global positioning system (GPS) controlled, making the systems easy to navigate. At any point if the operator is not explicitly commanding the rotorcraft system to move, the system automatically holds its GPS position. The flight control system employs not only GPS positioning but a variety of sensors including sonar, barometric pressure, temperature, wind speed and others to ensure stability so long as wind thresholds are not exceeded.

DJI and 3DR both maintain online product information portals with comprehensive downloadable operating and maintenance manuals, user guides, flight checklists, safety information and mission planning instructions. Available also are instructional product and training videos along with robust online blogs and product forums.

Operating Documents. The comprehensive operation manuals/user guides for each aircraft are attached as Appendix "B". They are available on the internet at the manufacturers' websites but are nevertheless **being submitted under confidentiality protection request**.

Attached as Appendices "C", "D" and "E", **being submitted under confidentiality protection request**, are Standard Operating Procedures, Pre-flight Checklist and Post-flight Checklist.

The PIC (pilot in command).

The PIC will:

- hold either a current FAA private pilot certification or higher FAA pilot certification
- hold a valid third-class medical certificate
- ,in the case of rotorcraft, have accumulated and logged, in a manner consistent with 14 CFR 61.51(b), a minimum of 25 hours of total time as a sUAS rotorcraft pilot and at least 10 hours logged as a sUAS pilot with a similar sUAS type
- ,in the case of fixed wing aircraft, have accumulated and logged, in a manner consistent with 14 CFR 61.51(b), a minimum of 25 hours of total time as a sUAS fixed wing pilot and at least 10 hours logged as a sUAS pilot with a similar sUAS type
- have accumulated and logged a minimum of five hours as a sUAS pilot with the make and model of sUAS to be utilized for operations under the exemption and three take-offs and landings in the preceding 90 days prior to an operation
- as noted below in "Operating Parameters; Conditions and Limitations", the operator will not allow a PIC to operate unless the PIC has demonstrated that the PIC is able to safely operate the sUAS in a manner consistent with how the sUAS will be operated under the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

Visual observers must have demonstrated that they understand the conditions and limitations of flight noted below in "Operating Parameters; Conditions and Limitations".

Operating Parameters; Conditions and Limitations. Grant of the exemptions will be subject to the following conditions, which provide at least an equivalent or higher level of safety than under the current conditions. These conditions are drawn from Exemptions 11062 through 11067, 11080, 11109 and 11110. For purposes of this listing, Drone Dynamics is referred to as the operator.

1. Operations authorized by the grant will be limited to the sUASs described above and manufacturers' upgraded versions.

2. The sUAS must weigh 25 pounds or less, including energy source(s) and equipment.

3. The sUAS may not be flown at an indicated ground speed exceeding 50 knots.

4. Flights must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitudes reported to Air Traffic Control must be in feet AGL.

5. The sUAS 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 medical certificate.

6. All operations must utilize a visual observer (VO). The VO may be used to satisfy the VLOS requirement as long as the VO and PIC always maintain VLOS capability. The VO and PIC must be able to communicate verbally at all times. The PIC must be designated before the flight and cannot transfer his or her designation during the flight. The PIC must ensure that the VO can perform the functions prescribed in the operating documents.

7. The operating documents and this grant of exemption must be made available to the Administrator upon request. The operator may update or revise its operations manual. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator upon request. If there is a discrepancy between the exemption conditions and limitations and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. If the operator determines that any update or revision would affect the basis upon which the FAA grants this exemption the operator must petition the FAA for amendment to the exemption.

8. Prior to each flight the PIC must inspect the sUAS to ensure it is in a condition for safe flight. If the inspection reveals a condition that affects the safe operation of the sUAS, the aircraft will be prohibited from operating until the necessary maintenance has been performed and the sUAS is found to be in a condition for safe flight. The ground control station must be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

9. Any sUAS that has undergone maintenance or alterations that affect the sUAS operation or flight characteristics, e.g. replacement of a flight critical component, must undergo a functional test flight. The PIC who conducts the functional test flight must make an entry in the sUAS aircraft records of the flight.

10. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items or equipment not already covered in the relevant sections of the operating documents.

11. The operator must follow the sUAS manufacturer's aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements.

12. The operator must carry out its maintenance, inspections, and record keeping requirements in accordance with the operating documents. Maintenance, inspection, alterations and status of replacement/overhaul component parts must be noted in the aircraft records, including total time in service, description of work done, discrepancies between inspections, and the identification of the authorized person returning the sUAS to service.

13. Each sUAS operated under this exemption must comply with all manufacturer safety bulletins.

14. The PIC must possess at least a private pilot certificate and a current third-class medical certificate. The PIC must also meet the flight review requirements specified in 14 CFR 61.56 as the sUAS.

15. The operator may not permit any PIC to operate unless the PIC has demonstrated that the PIC is able to safely operate the sUAS in a manner consistent with how the sUAS will be operated under the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

16. Maximum flight time for each operational flight will be limited to the amount of time the sUAS can be flown and still maintain a reserve battery power of no less than 20%.

17. The operator will file a request for a Notice to Airmen (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation.

18. The radio frequency spectrum used for operation of the sUAS must comply with the FCC or other appropriate governmental oversight agency requirements.

19. All flights must be conducted over property that is private or controlled access property with permission from the land owner/controller or authorized representative. Permission will be obtained for each flight, where necessary or appropriate.

20. If the sUAS loses communications or loses the GPS signal, the sUAS must return to a pre-determined location or take-off point or be recovered in accordance with the operator's manual.

21. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.

22. The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption.

23. 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 possible.

24. The documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the ground control station of the sUAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

25. The sUAS must remain clear and yield the right of way to manned aviation operations and activities at all times.

26. sUAS operations may not be conducted during night, as defined in 14 C.F.R § 1.1. All operations must be conducted under visual meteorological conditions. Flights under special visual flight rules are not authorized.

27. The sUAS may not be operated by the PIC from any moving device or vehicle.

28. The sUAS 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.

29. The sUAS may not operate 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 is obtained, and the operation is conducted in accordance with a NOTAM as required by the operator's COA. The letter of agreement with the airport management must be made available to the Administrator upon request.

30. Flight operations must be conducted at least 500 feet from all nonparticipating persons (persons other than the PIC, VO, operator trainees or essential persons) vessels, vehicles and structures, unless:

    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the sUAS 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 sUAS, flight operations must cease immediately and/or;

b. The aircraft 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, and;

c. Operations nearer to the PIC, VO, operator trainees or essential persons do not present an undue hazard to those persons per § 91.119(a).

32. 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 Website: www.ntsb.gov.

The Public Interest. The public interest in granting this exemption request is served by, among others, the following:

- Congress has established a national policy that favors early integration of sUAS into the NAS – pending completion of the statutorily required rulemaking for such integration, exemption requests such as this one by Drone Dynamics (and many others) are integral in developing and in moving this policy along

- The use of sUAS improves public safety and reduces risk by alleviating the public's exposure to danger and emissions associated with traditional aerial methods (full size aircraft) that carry passengers and flammable fuel

- Allowing the commercialization of the NAS by sUAS will provide additional job and career opportunities for our nation's population

- Resulting ecological and environmental benefits such as precision inspections and assessments of fuel-laden pipelines, rights-of-way, energy production platforms, along with coastal marine environment observations for conservation purposes

- Harnessing the power of new technologies and providing challenges to our nation's entrepreneurs and developers

Summary for publication. For publication in the *Federal Register* Drone Dynamics provides the following summary. An exemption is requested from the following regulations in order to allow commercial operations of its unmanned aircraft systems involving aerial applications such as photography, inspections, surveying, and demonstrations.

14 CFR § 61.113 (a) and (b)
14 CFR § 61.133 (a)
14 CFR § 91.7 (a)
14 CFR § 91.119 (c)
14 CFR § 91.121
14 CFR § 91.151 (a)
14 CFR § 91.405 (a)
14 CFR § 91.407 (a) (1)
14 CFR § 91.409 (a) (1) and (2)
14 CFR § 91.417 (a) and (b)

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Conclusion. Given the small size of the sUASs involved and the restricted environment within which they will operate, this petition falls squarely within that equivalent level of safety in which Congress envisioned that the FAA must, by exemption, allow commercial operations of sUASs to commence immediately.

Too, given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit of the various applications, including enhanced safety, reduction in environmental impacts by fuel laden vehicles, including reduced emissions, the public value of the unmanned aerial vehicle industry, the grant of the requested exemption is in the public interest.

Drone Dynamics seeks an exemption from the listed and discussed FARs to operate commercially the small unmanned aircraft systems in the aerial operations set forth herein.

Thank you.

Sincerely,

Wayne A. Johnson, Attorney
Counsel for Drone Dynamics LLC

Summary for publication. For publication in the *Federal Register* Drone Dynamics provides the following summary. An exemption is requested from the following regulations in order to allow commercial operations of its unmanned aircraft systems involving aerial applications such as photography, inspections, surveying, and demonstrations.

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14 CFR § 91.417 (a) and (b)

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Conclusion. Given the small size of the sUASs involved and the restricted environment within which they will operate, this petition falls squarely within that equivalent level of safety in which Congress envisioned that the FAA must, by exemption, allow commercial operations of sUASs to commence immediately.

Too, given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit of the various applications, including enhanced safety, reduction in environmental impacts by fuel laden vehicles, including reduced emissions, the public value of the unmanned aerial vehicle industry, the grant of the requested exemption is in the public interest.

Drone Dynamics seeks an exemption from the listed and discussed FARs to operate commercially the small unmanned aircraft systems in the aerial operations set forth herein.

Thank you.

Sincerely,

Wayne A. Johnson, Attorney
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