



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

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

May 5, 2015

Exemption No. 11456
Regulatory Docket No. FAA-2015-0092

Mr. Drew A. Jurkofsky
Unmanned Experts, Inc.
720 S. Colorado Boulevard
Penthouse North
Denver, CO 80246

Dear Mr. Jurkofsky:

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 January 15, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Unmanned Experts, Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct precision aerial surveys.

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 is an Altavian Nova F6500.

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 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. 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, Unmanned Experts, Inc. 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, Unmanned Experts, Inc. 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 Altavian Nova F6500 when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.
2. Operations for the purpose of closed-set motion picture and television filming are not permitted.
3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.
4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.
5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.
6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.
7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The

operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.
9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.
10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.
11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.
12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.
13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.
14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs

(training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.
16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.
17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.
19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.
20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.
21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.
22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N-Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.
24. The UA must remain clear and give way to all manned aviation operations and activities at all times.
25. The UAS may not be operated by the PIC from any moving device or vehicle.
26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
 - a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
 - b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.

27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.
28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS-80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.nts.gov.

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.

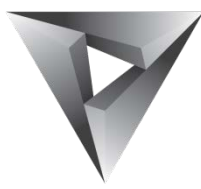
Unless otherwise specified in this grant of exemption, the UAS, the UAS PIC, and the UAS operations must comply with all applicable parts of 14 CFR including, but not limited to, parts 45, 47, 61, and 91.

This exemption terminates on May 31, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan
Director, Flight Standards Service



UNMANNED EXPERTS

720 S. Colorado Blvd
Penthouse North
Denver, CO 80246
Tel: +1 (334) 578 2900
Fax: +1 (334) 460 8111

www.unmannedexperts.com

E-Mail: operations@unmannedexperts.com

Drew A. Jurkofsky
Unmanned Experts, Inc.
720 S. Colorado Boulevard
Penthouse North
Denver, CO 80246

Section 333 Exemption Purpose

The exemption would allow operation of small Unmanned Aircraft Systems (sUAS) for the purpose of precision aerial surveys.

The petitioner requests relief from the following regulations:

Part 21, Certification Procedures for Products and Parts, prescribes, in pertinent part, the procedural requirements for issuing and changing design approvals, production approvals, airworthiness certificates, and airworthiness approvals.

Section 45.23(b) prescribes, in pertinent part, that when marks include only the Roman capital letter “N” and the registration number is displayed on limited, restricted, or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words “limited,” “restricted,” “light-sport,” “experimental,” or “provisional,” as applicable.

Section 61.113(a) and (b) prescribe that—

- (a) No person who holds a private pilot certificate may act as a pilot in command (PIC) of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as PIC of an aircraft.
- (b) A private pilot may, for compensation or hire, act as PIC of an aircraft in connection with any business or employment if—
 - (1) The flight is only incidental to that business or employment; and
 - (2) The aircraft does not carry passengers or property for compensation or hire.

Section 91.7(a) prescribes that no person may operate a civil aircraft unless it is in an airworthy condition.

Section 91.9(b)(2) prescribes, in pertinent part, that no person may operate U.S.-registered civil aircraft unless there is available in the aircraft a current approved Airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

Section 91.103 prescribes that each PIC shall, before beginning a flight, become familiar with all available information concerning that flight. This information must include—

- (b) For any flight, runway lengths at airports of intended use, and the following takeoff and landing distance information:
 - (1) For civil aircraft for which an approved Airplane or Rotorcraft Flight Manual containing takeoff and landing distance data is required, the takeoff and landing distance data contained therein; and
 - (2) For civil aircraft other than those specified in paragraph (b)(1) of this section, other reliable information appropriate to the aircraft, relating to aircraft performance under expected values of airport elevation and runway slope, aircraft gross weight, and wind and temperature.

Section 91.109 prescribes, in pertinent part, that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.

Section 91.119 prescribes that, except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

- (c) *Over other than congested areas.* An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.

Section 91.121 prescribes, in pertinent part, 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.”

Section 91.151(a) prescribes that no person may begin a flight in an airplane under visual flight rules (VFR) conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed—

- (1) During the day, to fly after that for at least 30 minutes.

Section 91.203(a) prescribes, in pertinent part, that no person may operate a civil aircraft unless it has within it—

- (1) An appropriate and current airworthiness certificate; and
- (2) An effective U.S. registration certificate issued to its owner or, for operation within the United States, the second copy of the Aircraft Registration Application as provided for in § 47.31(c).

Section 91.203(b) prescribes, in pertinent part, that no person may operate a civil aircraft unless the airworthiness certificate or a special flight authorization issued under § 91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

Section 91.405(a) prescribes, in pertinent part, that each owner of 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, Maintenance, Preventive Maintenance, Rebuilding, and Alteration.

Section 91.407(a)(1) prescribes that no person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless it has been approved for return to service by a person authorized under § 43.7 of this chapter.

Section 91.409(a)(2) prescribes, in pertinent part, that no person may operate an aircraft unless, within the preceding 12 calendar months, it has had an inspection for the issuance of an airworthiness certificate in accordance with part 21.

Section 91.417(a) and (b) prescribe, in pertinent part, that—

- (a) Each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:
 - (1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—
 - (i) A description (or reference to data acceptable to the Administrator) of the work performed; and
 - (ii) The date of completion of the work performed; and
 - (iii) The signature and certificate number of the person approving the aircraft for return to service.
 - (2) Records containing the following information:
 - (i) The total time in service of the airframe, each engine, each propeller, and each rotor.
 - (ii) The current status of life-limited parts of each airframe, engine, propeller, rotor, and appliance.
 - (iii) The time since last overhaul of all items installed on the aircraft that are required to be overhauled on a specified time basis.

- (iv) The current inspection status of the aircraft, including the time since the last inspection required by the inspection program under which the aircraft and its appliances are maintained.
 - (v) The current status of applicable airworthiness directives (AD) and safety directives including, for each, the method of compliance, the AD or safety directive number and revision date. If the AD or safety directive involves recurring action, the time and date when the next action is required.
 - (vi) Copies of the forms prescribed by § 43.9(d) for each major alteration to the airframe and currently installed engines, rotors, propellers, and appliances.
- (b) The owner or operator shall retain the following records for the periods prescribed:
- (1) The records specified in paragraph (a)(1) of this section shall be retained until the work is repeated or superseded by other work or for 1 year after the work is performed.
 - (2) The records specified in paragraph (a)(2) of this section shall be retained and transferred with the aircraft at the time the aircraft is sold.
 - (3) A list of defects furnished to a registered owner or operator under § 43.11 shall be retained until the defects are repaired and the aircraft is approved for return to service.

Unmanned Aircraft System (UAS)

The UAS Unmanned Experts proposes to use is constructed by Altavian, Inc. and referred to as the *Nova F6500*. This system is comprised of an unmanned aircraft and a transportable ground station. The Nova F6500 has a total weight of 15 pounds without payload and can carry payloads up to 1.3 pounds, resulting in a total weight of no more than 16 ½ pounds. It is equipped with a single propeller driven by an electric motor powered by a lithium polymer battery and has a wingspan of 108 inches and a length of 67 inches. The Nova F6500 flies at a speed of no more than 70 miles per hour and carries neither a pilot nor passenger.

The Nova F6500 can be operated 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. The Nova F6500 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 take manual control of the aircraft at any time if necessary. The petitioner states further that the UAS has built-in intelligent fault handling which allows the Nova F6500 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 and low battery levels.

All flight operations are global positioning system (GPS) controlled, making the system easy to navigate. The flight control system employs not only GPS positioning but a variety of sensors

including barometric pressure, magnetometer, and a static and ram-air pitot tube sensor to ensure stability so long as wind thresholds are not exceeded. Also a flight termination link – to prevent a “fly away” or other potentially dangerous situation – is available to the operator.

The petitioner states that even though its UAS will have no airworthiness certificate, an exemption may be needed from 14 CFR 45.23 as the UA will have no entrance to the cabin, cockpit, or pilot station on which the aircraft type certificate can be placed. The petitioner asserts that an equivalent level of safety will be provided by having the UA marked with the word “restricted” on the fuselage in compliance with § 45.23(b), in a location where the pilot, observer, and others working with the UA will see the identification.

The petitioner states that the maintenance requirements in §§ 91.405(a), 91.407(a)(1), 91.409(a)(2), 91.417(a) and (b) apply only to aircraft with an airworthiness certificate and are therefore inapplicable to its sUAS operations. The petitioner states that the Nova F6500 is nearly maintenance free since it performs automatic pre-flight checks prior to flight and the failure of any check will prevent take-off. The petitioner notes that checks which cannot be done by the system will be performed by a qualified person prior to each flight. The petitioner further states that Original Equipment Manufacturer (OEM) requirements will be followed in the performance of maintenance, inspection and record keeping for the Nova F6500 as provided in the Operations Guide. Also, the petitioner will implement a maintenance and quality assurance program for the Nova F6500.

The petitioner states that the OEM defines the maintenance requirements for the unmanned aircraft and per those requirements Unmanned Experts will ensure that OEM qualified maintainers are performing all inspections to precise OEM standards. No operations will take place without required inspections and maintenance items being completed. Further, all inspections and maintenance action items will be documented in aircraft logs and communicated to the OEM as required. Aircraft maintenance logbooks will be made available upon official request.

UAS Pilot In Command (PIC)

The petitioner asserts all operations of the Nova 6500 will be conducted by a designated PIC who shall hold a current private pilot certificate with a valid third class airman medical certificate. Further, the petitioner indicates that the PICs will be certified to operate by the unmanned system manufacturer.

The petitioner notes that for all flight operations a PIC will be designated and this person will be directly responsible for the operation of the UAS and the safety of the operation. It will be the responsibility of the PIC to ensure the operation complies with all applicable regulations and/or ensures professional “best practice” to all applicable regulations.

In addition, for each operation a visual observer (VO) will be responsible to visually maintain contact with the Nova 6500 and scan the area for undetected aircraft or obstacles. The observer will also handle the communications between the PIC, external crew, air safety officer and the platform safety officer.

UAS Operating Parameters

The petitioner states that the Nova 6500 will remain within Visual Line of Sight (VLOS) of the PIC and VO. All flight operations will be conducted at least 5 miles from an airport and at least 3 miles from any city or densely populated area, which are depicted in yellow on VFR sectional charts. The petitioner will provide notification to the local Flight Standards District Office (FSDO) and airport controller of all operations within five miles of an airport. The petitioner notes that the Nova 6500 will be restricted to an altitude of 400 feet above ground level (AGL). The petitioner states that all operations will occur during daylight hours and the FAA will have advance notice of all operations through the filing of notices-to-airmen (NOTAMs). All operations will occur under Visual Meteorological Conditions (VMC) only.

The petitioner asserts all operations will be conducted over private or controlled access property. Flight operations will be conducted at least 500 feet from all non-participating persons (persons other than the PIC or VO), vessels, vehicles, and structures unless:

1. Barriers or structures are present that sufficiently protect non-participating persons from debris in the event of an accident. The PIC will ensure that non-participating persons remain under such protection. If a situation arises where non-participating persons leave such protection and are within 500 feet of the UA, flight operations will cease immediately and/or;
2. The aircraft is operated near vessels, vehicles or structures where the land owner/controller has granted permission and the PIC has made a safety assessment of the risk of operating closer to those objects and;
3. Operations near the PIC or VO do not present an undue hazard to the PIC or VO, per § 91.119(a).

The petitioner further asserts that the size of the aircraft, the lack of flammable fuel, and the fact that the aircraft is carried to the location and not flown there all establish the equivalent level of safety. The petitioner states that the Nova 6500 construction with energy absorbent material provides at least an equivalent level of safety compared to operations being conducted with conventional aircraft that would be orders-of-magnitude larger and would be carrying passengers, cargo, and flammable fuel.

With respect to the fuel requirements, the petitioner notes that, in order to meet the 30 minute reserve requirements in 14 CFR 91.151, UAS flights would have to be limited to approximately 60 minutes. The petitioner states that limiting Nova 6500 flights to 60 minutes would greatly reduce their utility. The petitioner argues that, given the limitations on the UA's proposed operations and the location of those proposed operations, a longer time frame for flight in daylight VFR conditions is reasonable. The petitioner believes that an equivalent level of safety can be achieved by maintaining 20 minutes of reserve fuel, which, allowing 70 minutes of flight time, would be more than adequate to return the UAS to its planned landing zone from anywhere in its operating area.

Public Interest

The petitioner states that performing pipeline, power line and infrastructure inspections with unmanned systems is a benefit to the public for the following reasons: 1) the operation significantly improves safety and reduces risk by alleviating human exposure to danger; 2) there is a compelling

need to improve such inspection processes and save operating costs; 3) this service can provide a means of infrastructure monitoring to ensure structural integrity and uninterrupted service to consumers; and 4) Unmanned Experts is prepared to share operational data with the FAA.