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

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

May 26, 2015

Exemption No. 11696
Regulatory Docket No. FAA–2015–0746

Mr. Jase W. Robak
Midwest UAV Imaging
3930 North 15th Street
Lincoln, NE 68521

Dear Mr. Robak:

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 letters posted to the public docket on March 25 and May 15, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Midwest UAV Imaging (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct commercial photography, videography, inspections or surveying.

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 2 Vision +, DJI Phantom 3, and Yuneec Q500 Typhoon,

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. 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, Midwest UAV Imaging 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, Midwest UAV Imaging 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 2 Vision +, DJI Phantom 3, and Yuneec Q500 Typhoon 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 May 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

U.S. Department of Transportation
Docket Management System
1200 New Jersey Avenue, SE
Washington, D.C. 20590

JASE WILLIAM ROBAK (JWR)
3930 N. 15TH ST,
LINCOLN, NE 68521

BASIS FOR PETITION

Petitioner, JWR , pursuant to the provisions of the Federal Aviation Regulations (14 C.F.R. § 11.61) and the FAA Modernization and Reform Act of 2012 (FMRA), Section 333, *Special Rules for Certain Unmanned Aircraft Systems*, hereby petitions the Administrator to commercially operate the DJI Phantom 2 Vision+, in the National Airspace System (NAS), and for an exemption from the requirements of :

14 C.F.R §§ 61.113(a) & (b)
14 CFR 45.23(b)
91.7(a),
91.121,
91.151(b),
91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91

Name And Address Of The Petitioner

The name and address of the Petitioner and point of contact is:
JASE W. ROBAK
3930 N. 15TH ST
LINCOLN, NE 68521
CELL: 402-802-5804
Email: jaserobak@gmail.com

PREFACE:

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority by its terms includes exempting civil aircraft, as the term is defined under §40101 of the Act, that includes UAS, from the requirement that all civil aircraft must have a current airworthiness certificate.

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702 - 44716 of this title if the Administrator finds the exemption in the public interest. 49 U.S.C. §44701(f) See also 49 USC §44711(a); 49 USC §44704; 14 CFR §91.203 (a) (1). JWR proposes to use one UAS; 1) DJI PHANTOM 2 Vision +, for commercial photography, videography, inspections or surveying. This aircraft has four rotors and four motors in a quadcopter configuration (X4). It is only capable of vertical take off and landing. This UAS weighs less than 55 lbs. including payload. Can fly, under normal conditions at a speed of no more than 30

knots and has the capability to hover, and move in the vertical and horizontal plane simultaneously. This UAS is equipped with GPS and ato-return function to the predetermined safe landing area as well as allowing reading of magnetic interference that can cause loss off GPS signal. The UAS will operate only in line of sight and will operate only within a sterile closed-set area of a residential or commercial listing, open desolate areas near rural farms or a closed-set special event. Such operations will insure that the UAS will "not create a hazard to users of the national airspace system or the public." (Reform Act Section 333 (b)).

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rule making required under Section 333 of the Reform Act. In making this determination, the Secretary is required to determine which types of UASs do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

- The UAS's size, weight, speed and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within visual line of sight of the operator.

Reform Act § 333 (a). Secretary determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." Id. §333(c).

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority by its terms includes exempting civil aircraft, as the term is defined under §40101 of the Act, that includes UAS, from the requirement that all civil aircraft must have a current airworthiness certificate.

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any sections 44702 - 44716 of this title if the Administrator finds the exemption in the public interest. 49 U.S.C. §44701(f) See also 49 USC §44711(a); 49 USC §44704; 14 CFR §91.203 (a) (1).

RELIEF OVERVIEW

Given the small size of the UAS involved and the restricted sterile environment within which they will operate, the applicant falls squarely within that zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of UASs to commence immediately. Also due to the size of the UASs and the restricted areas in which the relevant UAS will operate, approval of the application presents no national security issue.

Given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit, including enhanced safety, reduction in environmental impacts, including reduced emissions associated with allowing UASs for aerial inspections, surveying and photography and videography, the grant of the requested exemptions is in the public interest. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

AIRCRAFT AND EQUIVALENT LEVEL OF SAFETY

JWR proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations listed herein. These limitations provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure because the proposed operations represent a safety enhancement to the already safe aerial inspections, surveying and photography and videography operations conducted with conventional aircraft.

These limitations and conditions to which JWR agrees to be bound when conducting commercial operations under an FAA issued exemption include:

1. The UAS will weigh less than 55 lbs.

2. Flights will be operated within line of sight of a pilot and/or observer.

3. Maximum total flight time for each operational flight will be 30 minutes or less.

Flights will be terminated at 25% battery power reserve should that occur prior to the 30 minute limit.

4. Flights will be operated at an altitude of no more than 400 feet AGL or, not more than 200 feet above an elevated platform for which filming is planned.

5. Minimum crew for each operation will consist of the UAS Pilot, the Visual Observer, and or Camera Operator.

6. Additional camera will be filming UAS in flight at applicable times

7. The UAS will only operate within a confined sterile closed-set area with a set safety perimeter, the boundaries of which will be determined by the UAS PIC based on the site-specific activities and speed of the UAS required for the operation, and coordinated with the jurisdictional FAA FSDO and local government officials as applicable.

8. A briefing will be conducted in regards to the planned UAS operations prior to each day's production activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.

9. The UAS Pilot and/or Aerial Coordinator will ensure this safety perimeter that only consenting personnel will be allowed within 100 feet of the UAS operation by not permitting anyone who had not been briefed or whom is not involved in production to be in the closed-set area, and 500 ft away from people not directly involved in operations.

10. Observer and PIC will at all times be able to communicate by voice and/or two way radio communication system.

11. Written and/or oral permission from the relevant property holders will be obtained.

12. If applicable, all required permissions and permits will be obtained from territorial, state, county or city jurisdictions, including local law enforcements, fire, or other appropriate governmental agencies.

13. If the UAS loses communications or loses its GPS signal, the UAS will have the capability to return to a pre-determined location within the Security Perimeter and land safely.

14. The UAS will have the capability to abort flight in case of unpredicted obstacles or emergencies.

14 C.F.R. Part 21, Subpart H: Airworthiness Certificates 14 C.F.R. §91.203 (a) (1)

Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR §91.203 (a) (1). Given the size and limited operating area associated with the aircraft to be utilized by the Applicant, an exemption from Part 21 Subpart H meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act (49 U.S.C.§44701 (f)) and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the particular UAS. In all cases, an analysis of these criteria demonstrates that the UAS operated without an airworthiness certificate, in the restricted environment and under the conditions proposed will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) operating with an airworthiness certificate without the restrictions and conditions proposed.

In consideration of the speed, weight, size, and limited operating area associated with the unmanned aircraft and its operation, JWR'S operation of DJI Phantom 2 Vision+, UAS meets the conditions of FMRA Section 333 and therefore, will not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H.

Accordingly, JWR requests relief from Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b), as these sections set forth requirements for maintenance that only apply to aircraft with an airworthiness certificate. JWR submits that the requested relief is proper since an equivalent level of safety will be ensured. JWR will use experienced personnel or technicians as needed to perform maintenance, alterations, or preventive maintenance on the UASs using the methods, techniques, and practices prescribed in the operating documents (i.e., Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual). Furthermore, JWR will document and maintain all maintenance records for the DJI Phantom 2 Vision+ UAS.

Relief from certain requirements of Section 61.113(a) and (b), entitled *Private pilot privileges and limitations: Pilot in command*, is requested by JWR to the extent necessary to allow a Pilot in Command (PIC) meet or exceed the described requirements of operations set by manufacturer, and who has demonstrated, that the PIC is able to safely operate the DJI Phantom 2 Vision+ UAS in a manner consistent with this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

JWR seeks relief from Section 91.7(a), entitled *Civil aircraft airworthiness*, because the DJI Phantom 2 Vision+ UAS do not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. As such, JWR submits that he will ensure that the DJI Phantom 2 Vision+ UAS is in an airworthy condition, prior to every flight, by determining that the UASs are in compliance with the operating documents (i.e., Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual), and that the aircraft are in a condition for safe flight.

JWR also seeks an exemption from the requirements of Section 91.121, entitled *Altimeter Settings*, as the DJI Phantom 2 Vision+ will not have a typical barometric altimeter onboard. However, altitude information of the DJI Phantom 2 Vision+ will be provided to the PIC via Global Positioning System (GPS) equipment and radio communications telemetry data link, which downlinks from the UA to the GCS for active monitoring of the flight path. This altitude information, combined with JWR'S operation of the DJI Phantom 2 Vision+ UAS within visual line of sight, at or below 500 feet AGL, will ensure a level of safety equivalent to Section 91.121.

Additionally, JWR seeks an exemption from the requirements of Section 91.151(b), entitled *Fuel requirements for flight in VFR conditions*. JWR submits that safety will not be affected by operation of the DJI Phantom 2 Vision+ during daylight hours in visual meteorological conditions (VMC) under visual flight rules (VFR), with enough battery power to fly for a total duration of approximately 30 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 5 minutes.

EXTENT AND REASONING WHY JWR SEEKS RELIEF FROM THE LISTED SECTIONS ABOVE:

1. Section 61.113(a) & b).

Relief from Section 61.113(a) and (b) entitled *Private pilot privileges and limitations: Pilot in command*, is requested to the extent necessary to allow a PIC meet all requirements as described in the DJI Phantom 2 Vision+ owner's manual to conduct the proposed UAS flight operations for compensation or hire.

This relief is requested since the limitations set forth in Section 61.113(a) and (b) state that 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.

As set forth more fully below, JWR submits that an equivalent level of safety will be maintained because no PIC will be allowed to operate the DJI Phantom 2 Vision+ UAS unless that PIC has demonstrated that the PIC is able to safely operate either the DJI Phantom 2 Vision+ UAS in a manner consistent with the operations specifications as described in this exemption, including evasive and emergency maneuvers, as well as maintaining appropriate distances from people, vessels, vehicles and structures.

Further, JWR submits that all flights of the DJI Phantom 2 Vision+ 1 UAS, conducted by the PIC pursuant to the grant of this Petition: (1) will be incidental to JWR'S business; and (2) will not carry passengers or property for compensation or hire.

2. 91.7(a).

Relief from Section 91.7(a) entitled *Civil aircraft airworthiness*, is requested to the extent required to allow JWR to determine that the DJI Phantom 2 Vision+ UAS are in airworthy condition prior to every flight by ensuring that the UAS is in compliance with the operating documents (i.e., the JWR Operations Manual, Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual).

JWR seeks the requested relief because the DJI Phantom 2 Vision+ UAS does not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H. Therefore, JWR will ensure that the DJI Phantom 2 Vision+ UAS are in airworthy condition based upon its compliance with the operating documents (i.e., Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual) prior to every flight, and further, determine that the aircraft are in condition for safe flight, as stated in the conditions and limitations below.

3. 91.121.

Relief from Section 91.121, entitled Altimeter settings, may be required to allow flight operations of the DJI Phantom 2 Vision+ UAS, which utilize a barometric pressure sensor, GPS equipment, and a radio communications telemetry data link to downlink altitude information from the UA to the PIC at the ground control station (GCS). Since the FAA requires that any altitude information concerning UAS operations be reported to air traffic control (ATC) in feet above ground level (AGL), JWR seeks the requested relief because the DJI Phantom 2 Vision+ UA altimeter may be set on the ground to zero feet AGL, rather than the local barometric pressure or field altitude, before each flight.

Considering the limited altitude of the proposed operations, relief from 14 CFR 91.121 is sought to the extent necessary to comply with the applicable conditions and limitations stated below. As more fully set forth herein, an equivalent level of safety will be maintained since the DJI Phantom 2 Vision+ UA are equipped with a barometric pressure sensor and GPS equipment, which automatically ensures that a ground level pressure setting will be established prior to each flight, and provides the PIC with altitude information of the UA on the heads-up display of the GCS.

4. 91.151(b).

Relief from Section 91.151(b) entitled Fuel requirements for flight in VFR conditions, is requested to the extent required to allow flights of the battery powered DJI Phantom 2 Vision+ UA during daylight hours in visual meteorological conditions (VMC), under visual flight rules (VFR), for a total duration of 25 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 5 minutes. JWR seeks the requested relief because without an exemption from Section 91.151(b), the flight time duration of the battery powered DJI Phantom 2 Vision+ UA will severely constrain the practicality of any aerial video or still photo flight operations that JWR proposes to conduct pursuant to this Petition.

Significantly, as set forth below, the technical specifications of the DJI Phantom 2 Vision+ UAS, the DJI Phantom 2 Vision+ operating documents, and JWR'S proposed operating limitations, ensure that JWR will safely operate the battery powered DJI Phantom 2 Vision+ UA during daylight hours in visual meteorological conditions (VMC), under visual flight rules (VFR), with enough battery power to fly for a total duration of 25 minutes to the first point of intended landing and, assuming normal cruising speed, to fly after that for at least 4.5 minutes.

14 CFR 45.23(b)

Marking of the Aircraft;

Applicable codes of Federal Regulation require aircraft to be marked according to certain specifications. UAV Field Services UASs are, by definition, unmanned. They therefore do not have a cabin, cockpit or pilot station on which to mark certain words or phrases. Further, two inch lettering is difficult to place on such small aircraft. Regardless, UAV Field Services will mark its UAS in the largest possible lettering by placing the "N "number on its fuselage as required by 14 CFR 45.29 (f) so that the pilot, technician, spotter and others working with the UAV will see the markings. The FAA has previously issued exemptions to this regulation through- Exemption No 10167 and 10700

5. 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), And 91.417(a) & (b).

Since Sections 91.405(a), 91.407(a)(1), 91.409(a)(1) & (a)(2), and 91.417(a) & (b) only apply to aircraft with an airworthiness certificate, JWR requests relief from these Sections because the DJI Phantom 2 Vision+ UAS do not require airworthiness certificates. As set forth more fully below, the DJI Phantom 2 Vision+ UAS meet the conditions of FMRA Section 333 for operation without an airworthiness certificate. Accordingly JWR will use trained technicians to perform maintenance, alterations, or preventive maintenance on the UASs using the methods, techniques, and practices prescribed in the UAS operating documents (i.e., the JWR aerial Operations Manual, Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual). Furthermore, JWR will document and maintain all maintenance records for the DJI Phantom 2 Vision+ UAS.

The Reasons for granting my request are entirely beneficial to the public and community as a whole.

Granting the present Petition will further the public interest by allowing JWR to safely, efficiently, and economically perform aerial video and photography of construction sites, real estate, survey and inspect over certain areas of the United States. To assist other businesses in helping them grow from my services or rather, to fulfill their needs, whatever it may be.

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rule making required under Section

332 of the Reform Act. In making this determination, the Secretary is required to determine which types of UAS do not create a hazard to users of the NAS or the public or pose a threat to national security in light of the following:

- The UAS's size, weight, speed and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within visual line of sight of the operator.

Reform Act § 333 (a). Lastly, id. the Secretary determines that such vehicles "may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system." Id. §333(c).

Given the small size of the UAS involved and the restricted sterile environment within which they will operate, the applicant falls squarely within that zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of UASs to commence immediately. Also due to the size of the UASs and the restricted areas in which the relevant UAS will operate, approval of the application presents no national security issue. Given the clear direction in Section 333 of the Reform Act, the authority contained in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations, and the significant public benefit, including enhanced safety, reduction in environmental impacts, including reduced emissions associated with allowing UASs for movie and television operations, the grant of the requested exemptions is in the public interest. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

REASONS BENEFICIAL TO THE PUBLIC/COMMUNITY

1. The Public Will Benefit From Decreased Congestion Of The NAS.

The DJI Phantom 2 Vision+ UA are battery powered and serve as a safe, efficient, and economical alternative to the manned aircraft traditionally utilized to obtain aerial imagery. By reducing the amount of manned aircraft needed to perform aerial acquisitions, an exemption allowing the use of a DJI Phantom 2 Vision+ UAS would reduce the amount of manned aircraft in the NAS, reduce noise and air pollution, as well as increase the safety of life and property in the air and on the ground.

Furthermore, by reducing the number of manned aircraft operating in the NAS, congestion around airports caused by arriving and departing aircraft will be reduced. The DJI Phantom 2 Vision+ UA do not require an airport to takeoff or land. Likewise, a reduction of manned aircraft conducting aerial video and photography missions would result in fewer aircraft that must be handled by air traffic control during the ground, takeoff, departure, arrival, and landing phases of flight operations.

2. The Public Will Benefit From The Safety And Efficiency Of The DJI Phantom 2 Vision+ UAS.

Conducting aerial acquisitions with the DJI Phantom 2 Vision+ UAS, instead of manned aircraft, will greatly benefit the public by drastically reducing the levels of air and noise pollution generated during traditional aerial video and still photography flight operations. By using battery power and electric motors, the DJI Phantom 2 Vision+ UAS produce no air pollution, and is the most viable environmentally conscious alternative to the cabin class, six cylinder internal combustion engine aircraft that are typically utilized for aerial video and photography, while burning approximately 20-30 gallons per hour of leaded aviation fuel. The DJI Phantom 2 Vision+ UA, while reducing the carbon

footprint of aerial acquisitions, also eliminates noise pollution, as the UAs are propelled by battery powered electric motors, rather than an internal combustion engine.

By using the DJI Phantom 2 Vision+ UAS to perform aerial acquisitions, the substantial risk to life and property in the air and on the ground, which is usually associated with traditional manned aircraft flight operations, will be substantially reduced or completely eliminated. Aside from the lack of flight crew members located onboard the aircraft, the DJI Phantom 2 Vision+ UA (weighing approximately 2 pounds 11 ounces, at their maximum gross weights with length of 16 inches, widths of 16 inches, and with no fuel on board), has less physical potential for collateral damage to life and property on the ground, and in the air, compared to the manned aircraft that typically conduct similar operations (weighing approximately 6,000 pounds with a wingspan of approximately 42 feet, a length of 34 feet, and a fuel capacity of 180 gallons).

3. Performing Aerial Video and Photography, Surveys and Inspections, Operations With The DJI Phantom 2 Vision+ UAS Will Benefit The Economy.

In addition to being safe and efficient, the DJI Phantom 2 Vision+ UAS are also an economical alternative to using manned aircraft to conduct similar aerial operations. As such, operation of the DJI Phantom 2 Vision+ UAS will allow United States based companies, like JWR, to remain competitive and contribute to growth of the U.S. economy. Specifically, with the rising cost of aviation fuel and the Environmental Protection Agency ("EPA") regulatory actions phasing out leaded aviation fuels, U.S. owned and operated companies must adopt new and alternative technology in order to remain competitive. Operating the battery powered DJI Phantom 2 Vision+ UAS is one such technology that not only allows companies greater operational flexibility compared to manned aircraft, but provides such flexibility without the high operational cost of a traditional manned aircraft.

By operating the DJI Phantom 2 Vision+ UAS, companies such as JWR, can remain competitive and profitable, and therefore, provide greater job stability to employees and contractors, which will ultimately contribute to growth of the U.S. economy. Improved financial performance of U.S. companies, through commercial use of the DJI Phantom 2 Vision+ UAS, provides a stable workforce that increases consumer spending; improves local, state, and federal tax revenues; and allows companies to invest in research and development in order to remain competitive both in the United States and abroad.

4. There Are No Privacy Issues.

Similar to the manned aerial acquisition flight operations that have been conducted for decades, JWR'S proposed operation of the DJI Phantom 2 Vision+ UAS will not implicate any privacy issues. Specifically, the DJI Phantom 2 Vision+ UAS will be operated only in compliance with operating documents (i.e., the JWR Aerial Operations Manual, Monthly Maintenance Log, and DJI Phantom 2 Vision+ Instruction Manual) which requires property owner involvement as well as local law enforcement notification, and in accordance with the Federal Aviation Regulations, including the minimum altitude requirements of 14 C.F.R. § 91.119.

E. The Reasons Why Granting The Exemption Would Not Adversely Affect Safety, Or How The Exemption Would Provide A Level Of Safety At Least Equal To That Provided By The Rule From Which JWR Seeks Exemption.

1. Reasons Why The DJI Phantom 2 Vision+ UA Meet The Conditions Of The FAA Modernization and Reform Act of 2012 (FMRA) Section 333.

In consideration of the size, weight, speed, and limited operating area associated with the unmanned aircraft and its operation, JWR'S operation of the DJI Phantom 2 Vision+ UAS meet the conditions of FMRA Section 333, and will not require an airworthiness certificate in accordance with 14 C.F.R. Part 21, Subpart H.

In seeking this exemption, JWR submits that the DJI Phantom 2 Vision+ UAS can operate safely in the NAS pursuant to FMRA Section 333, as demonstrated by: (a) the characteristics of the DJI Phantom 2 Vision+ UAS; (b) the pilot certification requirement; and (c) the specific operating limitations.

a. The Specifications Of The DJI Phantom 2 Vision+ UAS Demonstrate Its Safe Characteristics.

The DJI Phantom 2 Vision UAS do not create a hazard to users of the NAS or the public, or otherwise pose a threat to national security considering its size, weight, speed, and operational capability.

i. Technical Specifications Of The DJI Phantom 2 Vision+ UAS.

The technical specifications of the DJI Phantom 2 Vision+ UAS are set forth by the DJI Phantom 2 Vision+ Specifications and Data Sheet.

ii. The DJI Phantom 2 Vision+ UAS Autonomous Flight And Navigation Modes Enable The UAS To Remain Within A Defined Operational Area.

The DJI Phantom 2 Vision+ UAS may be operated in both manual and fully autonomous flight modes. A complete description of the flight and navigational modes of the DJI Phantom 2 Vision+ UAS User Manuals.

iii. The DJI Phantom 2 Vision+ and DJI Inspire 1 UASs Are Designed For Automatic Return To Home Point Or Hover In The Event Of Loss Of The Control Link Or Navigation.

When the Control Link is lost, the DJI Phantom 2 Vision+ UA will remain stationary, in flight, for 3 seconds or more. If, after 3 seconds, the DJI Phantom 2 Vision+ UA does not reacquire control link data from the GCS, the UAs will assume that the Control Link is lost and the UAs will return to the home position (i.e., failsafe mode) via GPS, and will descend to the takeoff position and shutdown.

A complete description of the Failsafe Functions of the DJI Phantom 2 Vision+ UA are set forth in the DJI Phantom 2 Vision+ User Manual, attached.

iv. The DJI Phantom 2 Vision+ GCS And Its Operation.

A complete description of the operation and specifications of the DJI Phantom 2 Vision+ GCS and flight control software is provided in the DJI Phantom 2 Vision+ User Manual.

b. Flight Operations Of DJI Phantom 2 Vision+ UAS Are Limited To The Line Of Sight Of A Certificated Pilot in Command With A Safety Observer.

JWR will only utilize certificated pilots who possess a current and valid airman medical certificate to act as a pilot in command (PIC) of the DJI Phantom 2 Vision+ UAS. Additionally, a safety observer will assist all pilots during flight time.

c. Flights Of DJI Phantom 2 Vision+ UAS Will Be Conducted Pursuant To Specific Operating Limitations.

In seeking this exemption, JWR proposes to commercially operate DJI Phantom 2 Vision+ UAS for the special purpose of conducting aerial video and photography over certain areas of United States, pursuant to the following specific operating limitations:

1. Operations authorized by this grant of exemption will be limited to the following aircraft described in the operating documents, rotorcraft UASs weighing less than 55 pounds maximum gross weight: DJI Phantom 2 Vision+ Unmanned Aircraft Systems. Proposed operations of any other aircraft will require a new petition or a petition to amend this grant.

2. UAS operations under this exemption will be limited to conducting operations for the purpose of aerial video and photography.

3. The UA may not be flown at an indicated airspeed exceeding 20 knots.

4. The UA must be operated at an altitude of no more than 500 feet above ground level (AGL), as indicated by the procedures specified in the operating documents unless a special request is made and approved by ATC. All altitudes reported to ATC must be in feet AGL.

5. The UAs 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.

6. The use of first person view (FPV) by the PIC or safety observer (SO) is not permitted.

7. All operations must utilize a safety observer (SO). The SO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The SO 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 SO can perform the functions prescribed in the operating documents.

8. The SO must not perform any other duties beyond assisting the PIC with seeing and avoiding other air traffic and other ground based obstacles/obstructions and is not permitted to operate the camera or other instruments.

9. The operating documents and the grant of exemption must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations contained in the grant of exemption and the procedures outlined in the operating documents, the conditions and limitations contained in the grant of exemption 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 upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to the grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted the exemption, then the operator must petition for 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.

10. Prior to each flight the PIC must inspect the UAS to ensure that it is in a condition for safe flight. 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. The Ground Control Station must be included in the preflight inspection. All maintenance and alterations must be properly documented in the aircraft records.

11. 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. The PIC who conducts the functional test flight must make an entry in the aircraft records.

12. 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.

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

14. 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 accomplished, and the signature of the authorized person returning the UAS to service.

15. Each UASs operated under this exemption must comply with all manufacturer Safety Bulletins.

16. The authorized person must make an entry in the aircraft record of the corrective action taken against discrepancies discovered between inspections.

17. The PIC must meet or exceed all requirements as set forth by manufacturer in order to justifiably operate the DJI Phantom 2 Vision+, or hold an equivalent pilot license approved by the FAA.

18. The operator may not permit any PIC to operate unless the PIC meets the operator's qualification criteria and demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under the exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours must be logged in a manner consistent with 14 C.F.R. § 61.51(b). Flights for the purposes of training the operator's PICs are permitted under the terms of the 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 C.F.R. § 91.119.

19. UAS 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 (VMC). If flight at night is required, a special request will be made at the FAA office closest to proposed area of operations. Flights under special visual flight rules (SVFR) are not authorized.

20. The UA 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.

21. 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.

22. If the UA loses communications or loses its GPS signal, it must return to a pre- determined location within the planned operating area and land or be recovered in accordance with the operating documents.

23. The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operating documents.

24. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough power to fly at normal cruising speed to the intended landing point and land the UA with 25% battery power remaining.

25. The operator must obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under the grant of exemption. This COA will also require the operator to request a Notice to Airman (NOTAM) not more than 72 hours in advance, but not less than 48 hours prior to the operation. All operations shall be conducted in accordance with airspace requirements in the ATO issued COA including class of airspace, altitude level and potential transponder requirements.

26. All aircraft operated in accordance with the exemption must be identified by serial number, registered in accordance with 14 C.F.R. part 47, and have identification (N- Number) markings in accordance with 14 C.F.R. part 45, Subpart C. Markings must be as large as practicable.

27. Before conducting operations, the radio frequency spectrum used for operation and control of the UA must comply with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.

28. The documents required fewer than 14 C.F.R. 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the UAS is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

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

30. The UAS may not be operated by the PIC from any moving device or vehicle.

31. Flight operations must be conducted at least 500 feet from all nonparticipating persons (persons other than the PIC, SO, operator trainees or essential 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 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, SO, operator trainees or essential persons do not present an undue hazard to those persons per § 91.119(a).

32. All operations shall be conducted over private or controlled-access property with permission from the land owner/controller or authorized representative. Permission from land owner/controller or authorized representative will be obtained for each flight to be conducted.

33. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries ofthe 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

JWR AFFIRMS ALL INFORMATION LISTED ABOVE TO BE TRUE AND BINDING UPON FAA'S FINDINGS OF EXEMPTION REGARDING COMMERCIAL OPPERATIONS OF LISTED UAS, UNTIL FURTHER NOTICE OF LAWS OR REGULATIONS DECIDED BY THE GOVERNEMENT/FAA. THANKYOU FOR YOUR CONSIDERATION.

JASE W. ROBAK