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

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

September 24, 2015

Exemption No. 12973
Regulatory Docket No. FAA−2015−2806

Mr. Chad Medford
Owner
Chad Medford Video Production
1111 Tiney Road
Ellenboro, NC 28040

Dear Mr. Medford:

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 July 29, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Chad Medford Video Production (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography for real estate, construction, and utilities industries.

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 UASs proposed by the petitioner are the DJI Phantom 3 Vision+, DJI S900, and 3D Robotics Solo.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that relief from 14 CFR part 21, *Certification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

You have requested to use a UAS for aerial data collection[1]. The FAA has issued grants of exemption in circumstances similar in all material respects to those presented in your petition. In Grants of Exemption Nos. 11062 to Astraeus Aerial (*see* Docket No. FAA−2014−0352), 11109 to Clayco, Inc. (*see* Docket No. FAA−2014−0507), 11112 to VDOS Global, LLC (*see* Docket No. FAA−2014−0382), and 11213 to Aeryon Labs, Inc. (*see* Docket No. FAA−2014−0642), the FAA found that the enhanced safety achieved using an unmanned aircraft (UA) with the specifications described by the petitioner and carrying no passengers or crew, rather than a manned aircraft of significantly greater proportions, carrying crew in addition to flammable fuel, gives the FAA good cause to find that the UAS operation enabled by this exemption is in the public interest.

Having reviewed your reasons for requesting an exemption, I find that—

- They are similar in all material respects to relief previously requested in Grant of Exemption Nos. 11062, 11109, 11112, and 11213;
- The reasons stated by the FAA for granting Exemption Nos. 11062, 11109, 11112, and 11213 also apply to the situation you present; and
- A grant of exemption is in the public interest.

Our Decision

In consideration of the foregoing, I find that a grant of exemption is in the public interest. Therefore, pursuant to the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, Chad Medford Video Production is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection. This exemption is subject to the conditions and limitations listed below.

[1] Aerial data collection includes any remote sensing and measuring by an instrument(s) aboard the UA. Examples include imagery (photography, video, infrared, etc.), electronic measurement (precision surveying, RF analysis, etc.), chemical measurement (particulate measurement, etc.), or any other gathering of data by instruments aboard the UA.

Conditions and Limitations

In this grant of exemption, Chad Medford Video Production 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 3 Vision+, DJI S900, and the 3D Robotics Solo when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

2. Operations for the purpose of closed-set motion picture and television filming are not permitted.

3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.

4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.

5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.

6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.

7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the

Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operating documents. The operator may update or revise its operating documents. It is the operator's responsibility to track such revisions and present updated and revised documents to the Administrator or any law enforcement official upon request. The operator must also present updated and revised documents if it petitions for extension or amendment to this grant of exemption. If the operator determines that any update or revision would affect the basis upon which the FAA granted this exemption, then the operator must petition for an amendment to its grant of exemption. The FAA's UAS Integration Office (AFS−80) may be contacted if questions arise regarding updates or revisions to the operating documents.

8. Any UAS that has undergone maintenance or alterations that affect the UAS operation or flight characteristics, e.g., replacement of a flight critical component, must undergo a functional test flight prior to conducting further operations under this exemption. Functional test flights may only be conducted by a PIC with a VO and must remain at least 500 feet from other people. The functional test flight must be conducted in such a manner so as to not pose an undue hazard to persons and property.

9. The operator is responsible for maintaining and inspecting the UAS to ensure that it is in a condition for safe operation.

10. Prior to each flight, the PIC must conduct a pre-flight inspection and determine the UAS is in a condition for safe flight. The pre-flight inspection must account for all potential discrepancies, e.g., inoperable components, items, or equipment. If the inspection reveals a condition that affects the safe operation of the UAS, the aircraft is prohibited from operating until the necessary maintenance has been performed and the UAS is found to be in a condition for safe flight.

11. The operator must follow the UAS manufacturer's maintenance, overhaul, replacement, inspection, and life limit requirements for the aircraft and aircraft components.

12. Each UAS operated under this exemption must comply with all manufacturer safety bulletins.

13. Under this grant of exemption, a PIC must hold either an airline transport, commercial, private, recreational, or sport pilot certificate. The PIC must also hold a current FAA airman medical certificate or a valid U.S. driver's license issued by a state, the District of Columbia, Puerto Rico, a territory, a possession, or the Federal government. The PIC must also meet the flight review requirements specified in 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.

16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.

17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.

18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.

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

20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.

21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N−Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.

23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.

24. The UA must remain clear and give way to all manned aviation operations and activities at all times.

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

26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
    a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
    b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.

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

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

28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS−80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

If this exemption permits operations for the purpose of closed-set motion picture and television filming and production, the following additional conditions and limitations apply.

29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;
    b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
    c. Name and phone number of the person responsible for the on-scene operation of the UAS;
    d. Make, model, and serial or N−Number of UAS to be used;
    e. Name and certificate number of UAS PICs involved in the aerial filming;
    f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
    g. Signature of exemption holder or representative; and
    h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

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

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

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

Enclosures

Chad Medford Video Production

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July 29, 2015
U.S. Department of Transportation
Docket Management System
1200 New Jersey Ave., SE
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RE: Exemption Request Section 333 of the FAA Reform Act of the Federal Aviation Regulations from 14 CFR 91.7(a);91.119(c); 91.407(a)(1);91.409(a)(1) and (2); 91.417(a)&(b); C.F.R. 61.113(a(&(b); C.F.R. 61.133 (a); C.F.R. 91.405 (a).

To whom it may concern,
Enclosed please find an exemption application filed on behalf of Chad Medford Video Production. (CMV) under Section 333 of the FAA Modernization and Reform Act of 2012 and 14 C.F.R Part 11 to allow commercial operations of unmanned aircraft for aerial photography and videography for the real estate, construction, and utilities industries for commercial use, so long as such operations are conducted within and under the conditions outlined herein or as established by the FAA in an exemption granted under either Section 333 or Section
It is the request of the petitioner for exemptions listed above in order to legally and safely operate the DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and a 3DRobotics Solo in the National Airspace System.
CEM is a leading production company in Western North Carolina with an extensive background in television production and videography. CEM proposes to use small, lightweight, UAVs and proprietary cloud-based software. 2

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

It is the petitioners position that the operations for which exemption is requested are safer and more cost effective than using manned aircraft, and for those reasons are in the Public Interest; and would be of benefit in identifying areas of operation that may need additional oversight as well as raising public awareness and interest in this rapidly growing facet of aviation.

Because these small UASs will be used in lieu of comparatively hazardous operations now conducted with fixed wing and rotary manned aircraft, CEM respectfully submits that the FAA can have confidence that the operations will achieve at least an equivalent level or greater level of safety. Approval of this exemption would thereby enhance safety and fulfill 333(c) of the Reform Act to "establish requirements for the safe operation of such aircraft systems in the national airspace system."

Section 333's Legal Standard

Grant of this exemption application for use of the above named UAV's for purposes of obtaining and recording video will advance the Congressional mandate in Section 333 of the Reform Act to accelerate the introduction of UASs into the national airspace system ("NAS") if such integration can be accomplished safely. The statutory provision directs the Secretary of Transportation to consider whether certain UASs may operate safely in the NAS before completion of the rulemaking required under Sections the Secretary of Transportation to consider whether certain UASs may operate safely in the NAS before completion of the rulemaking required under Section 332 of the Reform Act. In doing so, 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

If 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. (333 emphasis added)

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory, by its terms, includes exempting civil aircraft, as the term is defined under 40101 of the Act, from the requirement that all civil aircraft must have a current airworthiness certificate and those regulation requiring commercial pilots to operate aircrait in commercial service.

Reform Act 333(a)(1)

Applicant submits that this provision places a duty on the Administrator to not only process applications for exemptions under Section 333, but for the Administrator, if he deems the conditions proposed herein require modification in order to allow approval, to supply conditions for the safe operation of the UASs. CEM requests to consult with the FAA staff to address any issues or concerns that they believe may require such modification.

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any of sections 44702-44716 of this title if the Administrator finds the exemption is in the public interest.

49 U.S.C 440701(f) See also 49 U.S.C 44711(a); 49 U.S.C 44704; 14 C.F.R 91.203(a)(1).

The grant of the requested exemption is in the public interest given the clear direction in Section 333 of the Reform Act; the additional authority in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations; and the significant public benefit arising from the use of new technology to provide services that are not practical or safe 4

to provide using traditional aircraft. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

Aircraft and Equivalent of Level of Safety

The applicant proposes that the exemption requested herein apply to civil aircraft that have the characteristics and that operate with the limitations and conditions 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 operations that would be conducted with conventional aircraft. These conditions are drawn from Exemptions 11062 through 11067, 11080, 11109, 11110, 11136, 11138, 11150 and 11153.

Additional Issues

Privacy- All flights will occur over private or controlled access property with the property owner's prior consent and knowledge. Operations will be where the owners have agreed to all CEM's activities to take place. In addition, members of the general public will be alerted to the operation of UASs at these locations.

In filing this application, Chad Medford Video Production also requests that the FAA combine the grant of the Section 333 exemption with a stand-alone Certificate of Operation ("COA") that will allow commercial operations of DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and a 3DRobotics Solo without filing for a COA for each flight. Compliance with the conditions agreed herein and that may be imposed by the FAA, as set forth in prior Section 333 exemptions, provide the separation needed from other aircraft. Notice to airmen and notice to air traffic control can be provided by the filing of a NOTAM as set forth within the proposed conditions. 5

National Security

Grant of this exemption will not raise any national security concerns. Given the size, load carrying capacity, speed at which they operate and the fact that it carries no explosives or any other dangerous materials, the DJI Phantom 2 Vision Plus UAS, DJI S900 UAS and a 3DRobotics Solo pose no threat to national security.

Conclusion

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012- size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security- provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicants UAVs for the purposes outlined herein and are consistent with exemptions already granted, including Exemptions 11062 through 11067, 11080, 11109 through 11112, 11114, 11136, 11138, 11150 and 11153.

Given that CEM is willing to abide by conditions the FAA has required in issuing recent Section 333 exemptions, the FAA has a strong basis for prompt consideration and grant of this request.

Please contact CEM if there are any other questions or concerns.

Best regards,

Chad Medford

owner

Exemption Request and Equivalent Level of Safety Showings under Applicable Rules Subject to Exemption

CEM request an exemption from the following regulations as well as any additional regulations that may apply to the operations of the DJI Phantom 2 Vision Plus UAS, DJI S900 UAS and a 3DRobotics Solo.

14 C.F.R. 61.113(a)(b); 61.133(a): Private Pilot Privileges and Limitations; Pilot in Command; Commercial Pilot Privileges and Limitations.

Section 61.113(a)(b) limit private pilots to non-commercial operations. Unlike a conventional aircraft that carries a pilot, passengers and cargo, the DJI Phantom 2 Vision Plus UAS, DJI S900 UAS and 3DRobotics Solo are remotely controlled with no passengers or property of others on board. Section 61.133(a) requires an individual with a commercial pilot's license to be the pilot in command of any aircraft for hire and/or compensation. CEM proposes that operator requirements should take into account the characteristics of these particular UAS's.

DJI Phantom 2 Vision Plus UAS, DJI S900 UAS and the 3DRobotics Solo have navigation and control systems capable of conducting pre-programmed missions. Flights are pre-programmed with precision GPS guidance and, although monitored by the PIC and Observer, do not require human intervention. The aircrafts also can operate in guided mode, where the aircraft will fly to a location designated by the operators. In the case of an unplanned event, operators can manually intervene and take one of the following actions:

- Command the aircraft to return and land at the recovery location

- Command the aircraft to conduct a return to the recovery area where the pilot will assume control and land the aircraft

- Manually assume control of the aircraft via the hand controller and return the craft to the recovery area in which the operator land its manually

Additionally, the automated safety functions and safety enhancing features include the following:
- Auto-pilot detection of lost GPS initiates GPS failsafe mode, in which the aircraft switches to manual control in an altitude hold mode.

- Low battery power on the aircraft triggers the landing sequence and then the craft will land at the current location

- If the aircraft detects a lost-link to the ground control station, it will return to the launch site and land.

- If the aircraft exceeds an altitude of 400ft AGL or goes more than 2 km from its launch point (except if it is in GPS failsafe mode), it will return to the launch point, automatically.

Given these safety features, CEM purposes that operators of the UAS's should not be required to hold a commercial pilot certification. Instead, operators should be required to hold only a private pilot certification.
The risks associated with the operation of DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and the 3DRobotics Solo are so diminished from the level of risk associated with commercial operations contemplated by Part 61 with conventional aircraft that allowing operations of the UAS's as set forth above meets and/or exceeds the present level of safety provided under 14 C.F.R. 61.113(a)(b) and does not rise to the level of requiring a commercial pilot to operate the aircraft under 61.133(a).
Given these conditions and restrictions, an equivalent level of safety will be provided allowing operation of the DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and the 3DRobotics Solo with a private pilot's certificate, under the conditions set forth in the exemption re, quest. The FAA has, granted exemptions to conduct similar operations in Exemptions 11062 through 11067, 11080, 11109, 11110, 11136 and 11138.
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14 C.F.R 91.119: Minimum Safe Altitudes.

Section 91.119 establishes safe altitudes for operation of civil aircraft. As set forth herein, CEM will never operate at higher than 400 feet AGL. It will, however, be operated to avoid congested or populated areas that are depicted in yellow on VFR sectional charts. No flight will be taken without the permission of the landowner, all affected individuals will be aware of and will have signed waives consenting to the flights. CEM will ensure that the aircraft will remain at least 500 feet away from non-participants unless they are protected from potential hazards by barriers or structures.

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

This regulation prohibits an individual from beginning "a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of landing and, assuming normal cruising speed- (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes."

The batteries powering the DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and the 3DRobotics Solo provide approximately 15 minutes of powered flight. Without an exemption from 14 C.F.R. 91.151, the UAS's flights would not be permitted. Because, of the limitations of the DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and a 3DRobotics Solo, a longer time frame for flight in daylight VFR conditions is reasonable. CEM would not initiate 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 UAS's with 25% battery power remaining.

CEM believes that an exemption from 14 C.F.R. 91.151(a) is safe and within the scope of prior exemptions. See exemption 10673. Operating the UAS without 30 minutes of reserve fuel does not engender the type of risks that Section 91.151(a) was meant to prevent given the size and speed at which the UAS's operate. In the unlikely event that the UAS's achieve a low battery 9

status it would simply land. Given the UAS's weight and construction materials, the risks are less than contemplated by the current regulation.

Similar exemptions have been granted to other operators, including Exemptions 2689F, 5745, 10808, 10673 and Exemptions 11062 through 11067, 11080, 1110, 11112, 11109, 11138, 11136 and 11150.

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

Section 91.405(a) requires that an aircraft operator or owner "shall have that aircraft inspected as prescribed in subpart E of this and shall between required inspections, expect as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43; Section 91.409(a)(2) requires an annual inspection for the issuance of an airworthiness certificate. Section 91.417(a) requires the owner or operator to keep records showing certain maintenance work that has been accomplished by certified mechanics, under Part 43, or licensed pilots and records of approval of the aircraft for return to service. Maintenance of the DJI Phantom 3 Vision Plus UAS, DJI S900 UAS and the 3DRobotics Solo will be accomplished by the owner/operator pursuant to the manuals attached as confidential exhibits. An equivalent level of safety will be achieved because UAS's are small and light, will carry a small payload, will operate in restricted predetermined areas and is not a complex mechanical device. The operator will ensure that the UAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance that is performed; moreover, the operator is the person most familiar with the aircraft and is best suited to maintain the aircraft in an airworthy condition and to ensure an equivalent level of safety. The FAA has granted exemptions for similar operations in Exemptions 11062 through 11067, 11080, 11109, 11110, 11112, 11136 and 11138. 10

Limitations and Conditions

The limitations and conditions for which Chad Medford Video Production agrees to be bound when conducting commercial operations under an FAA issued exemption include:

1. Operations of the UA is limited to the aircraft described in the attached manuals which are miniature rotor aircraft.

2. The UA may not be flown at an indicated airspeed exceeding 50 knots.

3. The may be operated an altitude of no more than 400 feet above the ground level. All altitudes reported to Air Traffic Control (ATC) must be in feet AGL.

4. The UA must operate within visual line of sight (VLOS) of the pilot-in-command (PIC) at all times.

5. All operations must utilize a visual observer. The visual observer (VO) may be used to satisfy the VLOS requirements as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight, The PIC must ensure that the VO can perform the functions prescribed in the operator's manuals.

6. The manuals must be amended to include all conditions and limitations required by the FAA. The manuals must be maintained and made available to the administrator upon request.

7. The PIC must inspect the UA to ensure it is in a condition for safe flight. If the inspection reveals a condition that affects the safe operation of the UA, the aircraft is prohibited from operating until the necessary maintenance has been performed, and the UA is found to be in a condition for safe flight. All maintenance and alterations will be properly documented in the aircrafts records.

8. The PIC who conducts the functional test flight after the UAS has undergone maintenance or alterations that affect the UAS's operation, must make an entry in the UAS aircraft record.

9. The preflight inspection must account for all discrepancies not covered in the relevant preflight inspection sections of the operator's manuals.

10. The operator must follow the manufacturer's UA aircraft/component, maintenance, overhaul, replacement, inspection and life limit requirements, with particular attention to flight critical components that may not be addressed in the manufacturer's manuals.

11. The operator must carry out its maintenance, inspections, and record keeping requirements in accordance with the manuals. Maintenance, inspection and alterations must be noted in the aircraft records, including total flight hours, description of work accomplished, and the signature of the authorized technician returning the UAS to service.

12. The authorized technicians must receive and document training referenced in the manuals.

13. Each UAS operated under the exemption must comply with all manufacturer system and safety bulletins.

14. Operator's maintenance personnel must make a record entry in the UAS logbook or equivalent document of the corrective action taken against discrepancies discovered between inspections.

15. The PIC must possess at least a private pilot certificate and a third-class airman medical certificate. The PIC must also meet the flight review requirements specified in 14C.F.R. 61.56 as to the UAS.

16. The operator may not permit and PIC to operate unless that PIC has demonstrated through Chad'straining and currency requirements that the PIC is able to safely operate the UA in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from people, vessels, vehicles and structures.

17. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within or controlled-access property and land or be recovered in accordance with the manuals.
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18. The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the manuals.

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

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

21. 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.

22. 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.

23. The documents required under 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 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 yield the right of way to all other manned operations and activities at all times (including, but not limited to, ultralight vehicles, parachute activities, parasailing activities, hang gliders, etc.).

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

26. 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"). 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.

27. During operations in Class G airspace, the UA may not operate within 5 nautical miles of geographic center of an airport 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.

28. The UA may not be operated over congested or densely populated areas unless the conditions set forth in #31 are satisfied. These populated areas include, but are not limited to, the yellow areas depicted on World Aeronautical Charts ("WAC", Sectional Aeronautical Charts ("Sectionals"), or Terminal Area Charts ("TAC"). However, it is the PIC's responsibility to maintain safe altitudes required by 91.119.

29. Operations must be conducted at least 500 feet from all nonparticipating persons (persons other than the PIC or VO), vessels, vehicles and structures unless:

- Barriers or structures are present that sufficiently protect nonparticipating persons from debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately; and/or

- 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 object; and

- Operations near the PIC or VO do not present an undo hazard to the PIC or VO, per 91.119(a).

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

31. In the event COA's are required, any incident, accident or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office ("AFS-80") within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB") per instructions contained on the NTSB website : www.ntsb.gov.

Thank you for your consideration,
Chad Medford