Exemption No. 11189

UNITED STATES OF AMERICA
DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
WASHINGTON, DC 20591

In the matter of the petition of **VIDEO SOLUTIONS, LLC** for an exemption from part 21; §§ 45.23(b); 61.113(a) and (b); 91.7(a); 91.9(b)(2); 91.103; 91.109; 91.119; 91.121; 91.151(a); 91.203(a) and (b); 91.405(a); 91.407(a)(1); 91.409(a)(2); and 91.417(a) and (b) of Title 14, Code of Federal Regulations	**Regulatory Docket No. FAA-2014-0880**

GRANT OF EXEMPTION

By letter dated October 28, 2014[1], Mr. Anton A. Ewing (hereinafter Petitioner or Operator), Video Solutions, LLC, 2175 Cowley Way, San Diego, California 92110 petitioned the Federal Aviation Administration (FAA) for an exemption from part 21, §§ 45.23(b), 61.113(a) and (b), 91.7(a), 91.9(b)(2), 91.103, 91.109, 91.119, 91.121, 91.151(a), 91.203(a) and (b), 91.405(a), 91.407(a)(1), 91.409(a)(2), and 91.417(a) and (b) of Title 14, Code of Federal Regulations (14 CFR). The exemption would allow the petitioner to operate the DJI Phantom 2 Vision+ unmanned aircraft system (UAS) to conduct commercial UAS operations for the purpose of scripted, closed set filming for the motion picture and television industry.

The petitioner supports its request with the following information:

The petitioner proposes to operate the DJI Phantom 2 Vision+ UAS to conduct scripted, closed set filming for the motion picture and television industry. See Appendix A for the petition submitted to the FAA describing the proposed operations, including the regulations from which the petitioner seeks an exemption.

The petition and the following information provided by the petitioner in support of its request for an exemption, which includes proprietary supporting documents, are hereinafter referred to as the operating documents:

[1] By letter posted to the public docket on February 4, 2015, the petitioner responded to the FAA's request for information.

1. Motion Picture and Television Flight Operation Manual
2. Phantom 2 Vision+ User Manual
3. The Operator's Manual

The FAA evaluated the petition and determined it was not precedent-setting. Therefore, a summary of the petition was not published in the Federal Register for public comment and no comments were submitted.

The FAA's analysis is as follows:

The FAA has organized its analysis into four sections: (1) UAS, (2) the UAS pilot in command (PIC), (3) the UAS operating parameters, and (4) the public interest.

UAS

The petitioner requested relief from 14 CFR part 21, *Certification procedures for products and parts*. In accordance with the statutory criteria provided in Section 333 of P.L. 112-95 in reference to 49 USC § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, and any associated noise certification and testing requirements of part 36, is not necessary.

Commercial motion picture and television aerial filming operations with manned aircraft are typically conducted with aircraft holding standard airworthiness certificates issued under Part 21, subpart H. These aircraft are normally modified via the Supplemental Type Certificate (STC) process to install cameras and other equipment not included in the original aircraft design.

Manned helicopters conducting motion picture and television aerial filming can weigh 6,000 lbs. or more and are operated by an onboard pilot, in addition to other onboard crewmembers, as necessary. The petitioner's UA will weigh less than 3.5 lbs. with no onboard pilot or crew. The pilot and crew will be remotely located from the aircraft. The limited weight significantly reduces the potential for harm to participating and nonparticipating individuals or property in the event of an incident or accident. The risk to an onboard pilot and crew during an incident or accident is eliminated with the use of an unmanned aircraft (UA) for the aerial filming operation.

Manned aircraft are at risk of fuel spillage and fire in the event of an incident or accident. The UA carries no fuel, and therefore the risk of fire following an incident or accident due to fuel spillage is eliminated.

During motion picture and television aerial filming with manned aircraft under the conditions of an FAA issued Certificate of Waiver, normally issued by a jurisdictional Flight Standards District Office (FSDO) under FAA Order 8900.1 V3, C8, S1, aircraft can be operated in very close proximity to participating persons. The safety of these individuals is maintained through use of an aircraft with standard airworthiness certification under 14 CFR part 21, Subpart H, operation of the aircraft by a qualified and competent pilot, and operating according to

limitations necessary to ensure safety. In these situations, the filming subject and production personnel are exposed to risk by virtue of their close proximity to an aircraft in flight. Compared to manned aircraft, the UA being operated by the petitioner reduces the risk to participating persons in close proximity to the aircraft due to the limited size, weight, operating conditions, and design safety features of the UAS.

This exemption does not require an electronic means to monitor and communicate with other aircraft, such as transponders or sense and avoid technology. Rather the FAA is mitigating the risk of these operations by placing limits on altitude, requiring stand-off distance from clouds, permitting daytime operations only, and requiring that the UA be operated within visual line of sight and yield right of way to all manned operations. Additionally, the exemption provides that the operator will request a Notice to Airmen (NOTAM) prior to operations to alert other users of the National Airspace System (NAS).

The petitioner's UAS has the capability to operate safely after experiencing certain in-flight failures. The UA is also able to respond to a lost-link event with a pre-coordinated, predictable, automated flight maneuver. These safety features have no adverse effect to participating and nonparticipating individuals compared to a manned aircraft that holds a standard airworthiness certificate performing a similar operation and ensure that these operations will not adversely impact the safety of participating and nonparticipating individuals.

Regarding the petitioner's requested relief from 14 CFR § 45.23(b) *Display of marks,* the petitioner's request is made under the assumption that marking with the word "experimental" will be required as a condition of an exemption request. However, this marking is reserved for aircraft that are issued experimental certificates under § 21.191. Since the petitioner's UAS will not be certificated under 14 CFR § 21.191, a grant of exemption for 14 CFR § 45.23(b) is not necessary.

The petitioner requests relief from 14 CFR §§ 91.405(a) *Maintenance required*, 91.407(a)(1) *Operation after maintenance, preventive maintenance, rebuilding, or alteration,* 91.409(a)(2) *Inspections,* and 91.417(a) and (b) *Maintenance records*. The FAA has evaluated the petitioner's request and determined that cause for exemption to these requirements is warranted. The FAA notes that the petitioner's operating documents contain minimum inspection requirements and daily preflight inspection for the UAS. Per the petitioner's operating documents:

> "The UAS will be on a 100hr/annual inspection program. Other required tests and inspections (transponder, E.L.T., etc.) will be performed as per Part 91 when necessary. Each aircraft will have a flight log containing upcoming scheduled maintenance and inspections and the dates or times they must be performed. A section for discrepancies is also found in the flight log. The pilot in command will assure the aircraft to be flown is in airworthy condition and all required inspections and maintenance has been completed before each flight."

The FAA has also determined that relief from § 91.409(a)(1) is also necessary because it is an alternate inspection requirement of § 91.409(a)(2).The FAA finds that adherence to the operating

documents, as required by the conditions and limitations below, is sufficient to ensure that safety is not adversely affected. Therefore, the FAA finds that exemption from 14 CFR §§ 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b) is warranted subject to the conditions and limitations below.

UAS PIC

Regarding the petitioner's requested relief from 14 CFR § 61.113(a) and (b) *Private pilot privileges and limitations*, the petitioner requested regulatory relief to operate its UAS with an FAA-certificated private pilot certificate. Under current regulations, civil operations for compensation or hire require a PIC holding a commercial pilot certificate per 14 CFR part 61. Based on the private pilot limitations in accordance with pertinent parts of 14 CFR § 61.113(a) and (b), a pilot holding a private pilot certificate cannot act as a PIC of an aircraft for compensation or hire unless the flight is only incidental to a business or employment. However, in Grant of Exemption No. 11062 to Astraeus Aerial (Astraeus), the FAA determined that a PIC with a private pilot certificate operating the Astraeus UAS would not adversely affect operations in the NAS or present a hazard to persons or property on the ground.

The FAA has analyzed the petitioner's proposed operation and has determined that it does not differ significantly from the situation described in Grant of Exemption No. 11062 to Astraeus. The petitioner plans to operate over property with the permission of the property owner/controller while also limiting access to the property during operations. Given: 1) the similar nature of the petitioner's proposed operating environment to that of Astraeus, 2) the parallel nature of private pilot aeronautical knowledge requirements to those of commercial requirements, and 3) the airmanship skills necessary to operate the UAS, the FAA finds that the additional manned airmanship experience of a commercially certificated pilot would not correlate to the airmanship skills necessary for the petitioner's proposed operations.

The petitioner proposed that its PIC would not hold a medical certificate. As outlined in 14 CFR § 61.23, airmen exercising the privileges of a private certificate must possess a current third class medical certificate. Therefore, the FAA finds that a PIC holding a private pilot certificate and a third-class airman medical certificate is appropriate for the proposed operations.

With regard to the airmanship skills necessary to operate the UAS, the petitioner has proposed a minimum of 400 hours logged as a PIC and at least 20 hours logged as the PIC in the aircraft type, 100 hours of total time as a UAS rotorcraft pilot, and at least 5 hours logged as a UAS pilot with a similar UAS type (single blade or multirotor). Additionally, the PIC must complete 10 take offs and landings in the preceding 30 days. The conditions and limitations below stipulate that the petitioner may not permit any PIC to operate unless that PIC has completed the petitioner's qualification criteria, meet the petitioner's currency requirements, and 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.

In conclusion, the FAA finds that a PIC holding a private pilot certificate and a third-class airman medical certificate, meets the petitioner's pilot qualification criteria and completes the

petitioner's currency requirements, can conduct the proposed UAS operations without adversely affecting the safety of the NAS and persons or property on the ground. Upon consideration of the overall safety case presented by the petitioner, the FAA finds that granting limited relief from 14 CFR § 61.113(a) is warranted subject to the conditions and limitations listed below. The FAA also finds that relief from 14 CFR § 61.113(b) is not necessary.

The petitioner has also indicated it will supplement its proposed operation(s) with a visual observer (VO). The conditions and limitations below stipulate that the PIC must ensure that the VO can perform the functions of complementing the PIC's capability to see and avoid other aircraft (per § 91.113), including when the PIC may be momentarily attending to other flying tasks (e.g., maneuvering the aircraft close to structures, vehicles, or other objects) and providing an additional level of operational safety so that the UA will never be operated beyond the actual visual capabilities of the VO and PIC. Additionally, as discussed in Exemption No. 11109 to Clayco, Inc., there are no regulatory requirements for VO medical certificates. A medical certificate is not required for a VO. The VO and PIC must have the ability to maintain VLOS with the UA at all times. It is the responsibility of the PIC to be aware of the VO's visual limitations and limit operations of the UA to distances within the visual capabilities of both the PIC and VO. Moreover, the VO will not be operating the aircraft. Therefore, as in Grant of Exemption No. 11062 to Astraeus, the FAA does not consider a medical certificate necessary for the VO.

The FAA considers the PIC to be designated for the duration of the flight. Therefore, per the conditions and limitations below, the PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight.

UAS Operating Parameters

Based upon its assessment of the proposed operations, the FAA has determined that notification and coordination with jurisdictional Flight Standards District Offices (FSDOs) similar to the requirements prescribed in FAA Order 8900.1, Volume 3, Chapter 8, Section 1 (V3, C8, S1), *Issue a Certificate of Waiver for Motion Picture and Television Filming*, is necessary, as required in Exemption No. 11062 to Astraeus, including submitting a written Plan of Activities. Motion picture and television filming waivers similar to the petitioner's operation are normally issued from one jurisdictional FSDO and can be used in locations covered by other geographically responsible FSDOs through notification. Since the petitioner's operation deals specifically with UAS, this exemption will take the place of the Certificate of Waiver normally issued by a jurisdictional FSDO under FAA Order 8900.1 V3, C8, S1 (Note: this should not be confused with the Certificate of Waiver or Authorization (COA) issued by the FAA Air Traffic Organization as discussed below and in the conditions and limitations). Every FSDO with jurisdiction over the area that the petitioner plans to operate within must still be notified, just as with manned filming operations, and those FSDOs will have the ability to coordinate with the UAS Integration Office to address any local concerns, as stated below in the conditions and limitations section of this exemption.

The petitioner requested relief from 14 CFR § 91.7(a) *Civil aircraft airworthiness* and the FAA finds that relief from § 91.7(a) is necessary. While the petitioner's UAS will not require an

airworthiness certificate in accordance with 14 CFR part 21, Subpart H, the FAA considers the petitioner's compliance with its operating documents to be a sufficient means for determining an airworthy condition. Therefore, relief from § 91.7(a) is granted. The petitioner is still required to ensure that its aircraft is in an airworthy condition – based on compliance with the operating documents prior to every flight, and as stated in the conditions and limitations below.

In accordance with 14 CFR § 91.7(b) *Civil Aircraft Airworthiness*, the PIC of the UAS is responsible for determining whether the aircraft is in a condition for safe flight. The FAA, as in grant of Exemption No.11062 to Astraeus, has determined that the operating documents include procedures to be used prior to each flight that can ensure compliance with § 91.7(b). The petitioner is still required to ensure that its aircraft is in a condition for safe flight – based on compliance with the operating documents– prior to every flight.

Regarding the petitioner's requested relief from 14 CFR § 91.9 *Civil aircraft flight manual, marking, and placard requirements* and 14 CFR § 91.203(a) and (b) *Civil aircraft: Certifications required*, the FAA has previously determined in Grant of Exemption 11062, Astraeus Aerial, that relief from these sections is not necessary. Relevant materials may be kept in a location accessible to the PIC in compliance with the regulations.

Regarding the petitioner's requested relief from 14 CFR § 91.103, *Preflight Action*, the petitioner requires each PIC to take certain actions before flight to ensure the safety of the flight. The exemption is needed because the pilot will take separate preflight actions as referenced in the operating documents. Although there will be no approved Airplane or Rotorcraft Flight Manual available, the FAA believes that the petitioner can comply with the other applicable requirements in 14 CFR § 91.103(b)(2). The procedures outlined in the operating documents address the FAA's concerns regarding compliance with § 91.103(b). The PIC will take all actions including reviewing weather, flight battery requirements, landings, and takeoff distances and aircraft performance data before initiation of flight. The FAA has imposed stricter requirements with regard to visibility and distance from clouds; this is to keep the UA from departing the VLOS and to preclude the UA from operating in the NAS. The FAA also notes the risks associated with sun glare; the FAA believes that the PIC's and VO's ability to still see other air traffic, combined with the PIC's ability to initiate a return-to-home sequence, are sufficient mitigations in this respect. The PIC must also account for all relevant site-specific conditions in his or her preflight procedures. Therefore, the FAA finds that exemption from 14 CFR § 91.103 is not necessary.

Although the petition requests relief from 14 CFR § 91.109, *Flight instruction; Simulated instrument flight and certain flight tests*, it did not include supporting rationale or basis for such relief. However, as in Grant of Exemption Number 11138 (Douglas Trudeau, Realtor), the FAA has determined that relief is not necessary since the petitioner has not presented operations requiring a full-functioning dual set of controls.

The petitioner requested relief from 14 CFR § 91.119, *Minimum safe altitudes*. Relief from § 91.119(a), which requires operating at an altitude that allows a safe emergency landing if a power unit fails, is not granted. The FAA expects the petitioner to be able to perform an emergency landing without undue hazard to persons or property on the surface if a power unit

fails. Relief from 14 CFR § 91.119(b), *operation over congested areas*, is not applicable, because the petitioner states that operations will only be conducted within the sterile area described in the operating documents.

The FAA finds that relief is only needed from 14 CFR § 91.119(c), which is consistent with the relief typically provided to manned operations in FAA Order 8900.1 V3, C8, S1. This Order allows for relief from § 91.119(c) with respect to those participating persons, vehicles, and structures directly involved in the performance of the actual filming. Consistent with FAA Order 8900.1 V3, C8, S1, persons other than participating persons[2] are not allowed within 500 feet of the operating area. This provision may be reduced to no less than 200 feet if an equivalent level of safety can be achieved and the Administrator has approved it. For example, an equivalent level of safety may be determined through evaluation by an aviation safety inspector of the filming production area to note terrain features, obstructions, buildings, etc. Such barriers may protect nonparticipating persons (observers, the public, news media, etc.) from debris in the event of an accident. The stand-off distances above are applicable to all UA operations, including takeoff, flight, and landing of the UA. Therefore, the FAA finds that relief from 14 CFR § 91.119(c) is warranted, provided adherence to the procedures outlined in the petitioner's Motion Picture and Television Operation Manual (MPTOM) and Operators Manual and the FAA's additional conditions and limitations outlined below.

Regarding the petitioner's requested relief from 14 CFR § 91.121 *Altimeter Settings*, the UAS will not have a typical barometric altimeter onboard the aircraft. Rather it uses information generated from GPS to transmit altitude information to the PIC. As stated in the conditions and limitations below, the FAA requires any altitude reported to ATC to be in feet AGL. The petitioner may choose to set the GPS altitude indicator to zero feet AGL rather than local barometric pressure or field altitude before flight. Considering the limited altitude of the proposed operations, relief from 14 CFR § 91.121 is granted to the extent necessary to comply with the applicable conditions and limitations stated below.

Regarding the petitioner's requested relief from 14 CFR § 91.151(a) *Fuel requirements for flight in VFR conditions*, relief has been granted for manned aircraft to operate at less than the minimums prescribed in 14 CFR § 91.151(a), including Exemption Nos. 2689, 5745, and 10650. In addition, similar UAS-specific relief has been granted in Exemption Nos. 8811, 10808, and 10673 for daytime, Visual Flight Rules (VFR) conditions. The petitioner states that its UAS operations will be conducted in a controlled, closed-set filming environment, with UA less than 45 pounds, at speeds below 35 knots, and within VLOS. The FAA will limit the maximum flight speed to 30 knots, which is recommended in the UA manual. These factors, combined with the petitioner's stated intention to land with 25% battery power remaining provides the FAA sufficient reason to grant the relief from 14 CFR § 91.151(a) as requested in accordance with the conditions and limitations below. Additionally, in evaluating the petitioner's proposed operating parameters with regard to VLOS and a safe operating perimeter, the FAA considered operations from a moving device or vehicle. Since the petitioner did not discuss provisions for these

[2] Per Order 8900.1 V3, C8, S1, participating persons are all persons associated with the filming production, and they must be briefed on the potential risk of the proposed flight operation(s) and must acknowledge and accept those risks. Nonparticipating persons are the public, spectators, media, etc., not associated with the filming production.

circumstances, the conditions and limitations below preclude operations from moving devices or vehicles.

Regarding an Air Traffic Organization (ATO) issued COA, the majority of current UAS operations occurring in the NAS are being coordinated through Air Traffic Control (ATC) by the issuance of a COA. This is an existing process that not only makes local ATC facilities aware of UAS operations, but also provides ATC the ability to consider airspace issues that are unique to UAS operations. The COA will require the operator to request a NOTAM, which is the mechanism for alerting other users of the NAS to the UAS activities being conducted. The conditions and limitations below prescribe the requirement for the petitioner to obtain an ATO-issued COA.

Public Interest

The FAA finds that this grant of exemption is in the public interest. The enhanced safety achieved using a 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. The FAA also finds that UAS provide an additional tool for the aerial filming industry, adding a greater degree of flexibility, which supplements the current capabilities offered by manned aircraft.

The following table summarizes the FAA's determinations regarding regulatory relief:

Relief considered (14 CFR)	**FAA determination (14 CFR)**
Part 21	Relief not necessary
45.23(b)	Relief not necessary
61.113(a) and (b)	Relief granted from 61.113(a) with conditions and limitations; relief from 61.113(b) not necessary
91.7(a)	Relief granted with conditions and limitations
91.9(b)(2)	Relief not necessary
91.103	Relief not necessary
91.109	Relief not necessary
91.119(c)	Relief granted with conditions and limitations
91.121	Relief granted with conditions and limitations
91.151(a)	Relief granted from 91.151(a)(1), day, with conditions and limitations
91.203(a) and (b)	Relief not necessary
91.405(a)	Relief granted with conditions and limitations
91.407(a)(1)	Relief granted with conditions and

	limitations
91.409(a)(1)(2)	Relief granted with conditions and limitations
91.417(a) and (b)	Relief granted with conditions and limitations

The FAA's 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, Video Solutions, LLC is granted an exemption from 14 CFR §§ 61.113(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1)(2), and 91.417(a) and (b) to the extent necessary to allow petitioner to operate a UAS for the purpose of conducting commercial UAS operations for the purpose of scripted, closed set filming for the motion picture and television industry. This exemption is subject to the conditions and limitations listed below.

Conditions and Limitations

Relative to this grant of exemption, Video Solutions, LLC is hereafter referred to as the operator.

The petition and the following supporting documentation are hereinafter referred to as the operating documents:

1. Motion Picture and Television Flight Operation Manual
2. Phantom 2 Vision Plus User Manual
3. The Operator's Manual

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 following aircraft described in the operator's documents: DJI Phantom 2 Vision +. Proposed operations of any other UAS will require a new petition or a petition to amend this grant.

2. UAS operations under this exemption are limited to conducting operations for the purpose of aerial filming in the motion picture and television industry.

3. The UA may not be flown at a ground speed exceeding 30 knots.

4. The UA must be operated at an altitude of no more than 400 feet AGL. All altitudes reported to ATC must be 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 medical certificate.

6. All operations must use a visual observer (VO). 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 functions prescribed in this grant of exemption.

7. The VO 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.

8. The operating documents and this 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 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 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 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.

9. Prior to each flight the PIC must inspect the UAS to ensure 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.

10. Any UAS 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.

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

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

13. The operator must carry out its maintenance, inspections, and record keeping requirements, in accordance with the operating documents. 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 person returning the UAS to service.

14. Each UAS operated under this exemption must comply with all manufacturer Safety Bulletins.

15. The authorized person must make an entry in the aircraft record of the corrective action taken against discrepancies discovered between inspections.
16. 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 14 CFR § 61.56 in an aircraft in which the PIC is rated on his or her pilot certificate.

17. The operator may not permit any PIC to operate unless the PIC meets the operator's qualification criteria (400 hours PIC experience, 100 hours of total time as a UAS rotorcraft pilot and at least 20 hours logged as a UAS pilot with a similar UAS type, 5 hours in the make and model UAS authorized under this exemption), training requirements, and currency requirements (10 take-offs and 10 landings in the preceding 30 days). The PIC must also demonstrate 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 must be logged in a manner consistent with 14 CFR § 61.51(b). The VO is also required to complete the operator's training requirements. A record of training must be documented and made available upon request by the Administrator. Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building), 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.

18. 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.

19. The UA may not operate within 5 nautical miles of the geographic center of a non-towered 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 Notice to Airmen (NOTAM) as required by the operator's Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA). The letter of agreement with the airport management must be made available to the Administrator upon request.

20. 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.

21. 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 and land or be recovered in accordance with the operator's documents.

22. The PIC must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's documents.

23. 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.

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

25. 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.

26. 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.

27. The 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.

28. 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 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.

29. The UA must remain clear and yield the right of way to all other 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. The UA may not be operated from an elevated platform.

32. The UA may not be operated over congested or densely populated areas. Ultimately, it is the PIC's responsibility to maintain the minimum safe altitudes required by § 91.119.

33. Regarding distance from nonparticipating persons, the operator must ensure no persons are allowed within the perimeter of 500 feet from the area of primary filming except those consenting to be involved and necessary for the filming production. This provision may be reduced to no less than 200 feet if it would not adversely affect safety and the Administrator has approved it. For example, an equivalent level of safety may be determined by an aviation safety inspector's evaluation of the filming production area to note terrain features, obstructions, buildings, safety barriers, etc. Such barriers may protect nonparticipating persons (observers, the public, news media, etc.) from debris in the event of an accident. This is also consistent with the same FAA Order 8900.1, V3, C8, S1.

34. 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 prior to the beginning of every flight.

35. 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.

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 February 28, 2017, unless sooner superseded or rescinded.

Issued in Washington, DC, on February 27, 2015.

/s/
John Barbagallo
Acting Deputy Director, Flight Standards Service