



Federal Aviation Administration

August 20, 2015

Exemption No. 12549 Regulatory Docket No. FAA–2015–2109

Mr. Timothy Ravich, Esq. Ravich Law Firm, P.A. Counsel 2155 Lake Baldwin Lane, 209 Orlando, FL 32814

Dear Mr. Ravich:

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 May 27, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Certified Productions Inc. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial photography for the motion picture and television industry for scripted closed set filming.

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 S1000, DJI Inspire 1, and the DJI Phantom 3.

The petitioner requested relief from 14 CFR part 21, Certification procedures for products and parts, Subpart H—Airworthiness Certificates. In accordance with the statutory criteria provided in Section 333 of Public Law 112–95 in reference to 49 U.S.C. § 44704, and in

consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that the requested relief from 14 CFR part 21, *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 and closed set motion picture and filming. 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–2014–0382), 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, Certified Productions Inc. is granted an exemption from 14 CFR §§ 61.23(a) and (c), 61.101(e)(4) and (5), 61.113(a), 61.315(a), 91.7(a), 91.119(c), 91.121, 91.151(a)(1), 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b), to the extent necessary to allow the petitioner to operate a UAS to perform aerial data collection and closed set motion picture and filming. 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, Certified Productions Inc. is hereafter referred to as the operator.

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

- 1. Operations authorized by this grant of exemption are limited to the DJI S1000, DJI Inspire 1, and DJI Phantom 3 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 permitted.
- 3. The UA may not be operated at a speed exceeding 87 knots (100 miles per hour). The exemption holder may use either groundspeed or calibrated airspeed to determine compliance with the 87 knot speed restriction. In no case will the UA be operated at airspeeds greater than the maximum UA operating airspeed recommended by the aircraft manufacturer.
- 4. The UA must be operated at an altitude of no more than 400 feet above ground level (AGL). Altitude must be reported in feet AGL.
- 5. The UA must be operated within visual line of sight (VLOS) of the PIC at all times. This requires the PIC to be able to use human vision unaided by any device other than corrective lenses, as specified on the PIC's FAA-issued airman medical certificate or U.S. driver's license.
- 6. All operations must utilize a visual observer (VO). The UA must be operated within the visual line of sight (VLOS) of the PIC and VO at all times. The VO may be used to satisfy the VLOS requirement as long as the PIC always maintains VLOS capability. The VO and PIC must be able to communicate verbally at all times; electronic messaging or texting is not permitted during flight operations. The PIC must be designated before the flight and cannot transfer his or her designation for the duration of the flight. The PIC must ensure that the VO can perform the duties required of the VO.
- 7. This exemption and all documents needed to operate the UAS and conduct its operations in accordance with the conditions and limitations stated in this grant of exemption, are hereinafter referred to as the operating documents. The operating documents must be accessible during UAS operations and made available to the Administrator upon request. If a discrepancy exists between the conditions and limitations in this exemption and the procedures outlined in the operating documents,

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

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

- 14. The operator may not permit any PIC to operate unless the PIC demonstrates the ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption, including evasive and emergency maneuvers and maintaining appropriate distances from persons, vessels, vehicles and structures. PIC qualification flight hours and currency must be logged in a manner consistent with 14 CFR § 61.51(b). Flights for the purposes of training the operator's PICs and VOs (training, proficiency, and experience-building) and determining the PIC's ability to safely operate the UAS in a manner consistent with how the UAS will be operated under this exemption are permitted under the terms of this exemption. However, training operations may only be conducted during dedicated training sessions. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.
- 15. UAS operations may not be conducted during night, as defined in 14 CFR § 1.1. All operations must be conducted under visual meteorological conditions (VMC). Flights under special visual flight rules (SVFR) are not authorized.
- 16. The UA may not operate within 5 nautical miles of an airport reference point (ARP) as denoted in the current FAA Airport/Facility Directory (AFD) or for airports not denoted with an ARP, the center of the airport symbol as denoted on the current FAA-published aeronautical chart, unless a letter of agreement with that airport's management is obtained or otherwise permitted by a COA issued to the exemption holder. The letter of agreement with the airport management must be made available to the Administrator or any law enforcement official upon request.
- 17. The UA may not be operated less than 500 feet below or less than 2,000 feet horizontally from a cloud or when visibility is less than 3 statute miles from the PIC.
- 18. If the UAS loses communications or loses its GPS signal, the UA must return to a pre-determined location within the private or controlled-access property.
- 19. The PIC must abort the flight in the event of unpredicted obstacles or emergencies.
- 20. The PIC is prohibited from beginning a flight unless (considering wind and forecast weather conditions) there is enough available power for the UA to conduct the intended operation and to operate after that for at least five minutes or with the reserve power recommended by the manufacturer if greater.
- 21. Air Traffic Organization (ATO) Certificate of Waiver or Authorization (COA). All operations shall be conducted in accordance with an ATO-issued COA. The exemption holder may apply for a new or amended COA if it intends to conduct operations that cannot be conducted under the terms of the attached COA.

- 22. All aircraft operated in accordance with this exemption must be identified by serial number, registered in accordance with 14 CFR part 47, and have identification (N–Number) markings in accordance with 14 CFR part 45, Subpart C. Markings must be as large as practicable.
- 23. Documents used by the operator to ensure the safe operation and flight of the UAS and any documents required under 14 CFR §§ 91.9 and 91.203 must be available to the PIC at the Ground Control Station of the UAS any time the aircraft is operating. These documents must be made available to the Administrator or any law enforcement official upon request.
- 24. The UA must remain clear and give way to all manned aviation operations and activities at all times.
- 25. The UAS may not be operated by the PIC from any moving device or vehicle.
- 26. All Flight operations must be conducted at least 500 feet from all nonparticipating persons, vessels, vehicles, and structures unless:
 - a. Barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident. The operator must ensure that nonparticipating persons remain under such protection. If a situation arises where nonparticipating persons leave such protection and are within 500 feet of the UA, flight operations must cease immediately in a manner ensuring the safety of nonparticipating persons; and
 - b. The owner/controller of any vessels, vehicles or structures has granted permission for operating closer to those objects and the PIC has made a safety assessment of the risk of operating closer to those objects and determined that it does not present an undue hazard.
 - The PIC, VO, operator trainees or essential persons are not considered nonparticipating persons under this exemption.
- 27. All operations shall be conducted over private or controlled-access property with permission from the property owner/controller or authorized representative. Permission from property owner/controller or authorized representative will be obtained for each flight to be conducted.
- 28. Any incident, accident, or flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the FAA's UAS Integration Office (AFS–80) within 24 hours. Accidents must be reported to the National Transportation Safety Board (NTSB) per instructions contained on the NTSB Web site: www.ntsb.gov.

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

- 29. The operator must have a motion picture and television operations manual (MPTOM) as documented in this grant of exemption.
- 30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
 - a. Dates and times for all flights;
 - b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
 - c. Name and phone number of the person responsible for the on-scene operation of the UAS;
 - d. Make, model, and serial or N-Number of UAS to be used;
 - e. Name and certificate number of UAS PICs involved in the aerial filming;
 - f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
 - g. Signature of exemption holder or representative; and
 - h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.
- 31. Flight operations may be conducted closer than 500 feet from participating persons consenting to be involved and necessary for the filming production, as specified in the exemption holder's MPTOM.

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

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

Sincerely,

/s/

John S. Duncan Director, Flight Standards Service

Enclosures



TIMOTHY M. RAVICH

CERTIFIED BY THE FLORIDA BAR IN AVIATION LAW

May 27, 2015

James H. Williams
Manager
Unmanned Aircraft Systems Integration Office
AFS-80
800 Independence Ave., S.W.
Washington, D.C. 20591

Dear Mr. Williams:

Enclosed please find an exemption application filed on behalf of Certified Productions, Inc. under Section 333 of the FAA Modernization and Reform Act of 2012 and 14 C.F.R. Part 11 to allow It to conduct aerial photography for the motion picture and television industry for scripted closed set filming consistent with almost identical exemptions already granted by the Federal Aviation Adminsitration

Please contact me at travich@ravichlawfirm.com or at 305-213-1223 with any questions.

Best regards,

Timothy M. Ravich

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Enclosures



TIMOTHY M. RAVICH

CERTIFIED BY THE FLORIDA BAR IN AVIATION LAW

May 27, 2015

U.S. Department of Transportation Docket Management System 1200 New Jersey Ave., SE Washington, DC 20590

RE: Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 (the "Reform Act") and 14 C.F.R. Part 11, Certified Productions Inc. ("CPI"), the operator of Small Unmanned Aircraft Systems ("sUASs"), seeks exemption from the listed Federal Aviation Regulations ("FARs") to allow commercial operation of its sUASs—a DJI S1000, DJI Inspire 1, and DJI Phantom 3—to conduct aerial photography for the motion picture and television industry for scripted closed set filming, 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 49 U.S.C. § 44701(f).

CPI is willing to abide by conditions the Federal Aviation Administration ("FAA") has required in issuing recent Section 333 exemptions, specifically Exemptions Nos. 114440 to Wild Rabbit Productions LLC (see Docket No. FAA-2015-0168), 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).

CPI's stipulations and the fact the FAA has issued grants of exemption for close set motion picture and television filming in circumstances and as to aircraft similar in all respects to the instant petition should give the FAA a basis for summary consideration and processing of this request.

The conditions proposed here are drawn from Order 8900.1 CHG 0, Volume 3, Chapter 8
 Issue a Certificate of Waiver for Motion Picture and Television Filming.

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.

Moreover, the requested exemption would authorize commercial operations of aerial photography for the motion picture and television industry for scripted closed set filming using sUASs with a maximum take-off weight of approximately 25 pounds. Operation of small unmanned UAS will be operated under controlled conditions at low altitude in airspace that is limited in scope, as described more fully herein; it will have automated control features, as described herein. The sUASs also will be operated by an individual possessing a private pilot certificate. Finally, the airspace in which the UAS will operate will be disclosed to the FAA in advance.

CPI respectfully submits that because its small, unmanned aerial vehicle will be used in lieu of comparatively hazardous operations now conducted with fixed wing and rotary conventional aircraft, 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 the Secretary of Transportation's (the FAA Administrator's) responsibilities under Section 333(c) of the Reform Act to "establish requirements for the safe operation of such aircraft systems in the national airspace system."

The name and address of the applicant are:

Certified Productions Inc. Attn: Frank Arant 2314 Heavenly View Henderson, Nevada 89014

Ph: 702-610-8675

Email: pilot675@gmail.com

Ravich Law Firm, P.A. Attn: Timothy Ravich, Esq. 2155 Lake Baldwin Lane, 209 Orlando. Florida 32814

Ph: 305-213-1223

Email: travich@ravichlawfirm.com

The regulations from which the exemption is requested are as follows:

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14 C.F.R. Part 21, Subpart H
14 C.F.R. § 45.23(b);
14 C.F.R. § 61.113(a) & (b);
14 C.F.R. § 61.133(a);
14 C.F.R. § 91.7(a);
14 C.F.R. § 91.9(b)(2);
14.C.F.R. § 91.103;
14 C.F.R. § 109;
14 C.F.R. § 91.119(c);
14 C.F.R. § 91.121:
14 C.F.R. § 91.151(a);
14 CFR § 91.203 (a) & (b);
14 C.F.R. § 91.405(a);
14 C.F.R. § 91.407(a)(1);
14 C.F.R. § 91.409(a)(2); and
14 C.F.R. § 91.417(a) & (b)
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Appendix A discusses each rule listed above and explains why exemptions pursuant to the proposal set forth in this letter are appropriate, provide an equivalent level of safety, and are in the public interest. Appendix B provides the requisite *Federal Register* summary.

THE APPLICABLE LEGAL STANDARD UNDER SECTION 333

CPI submits that grant of this exemption application for use of small unmanned rotorcraft for the purpose of scripted, closed-set filming for the motion picture and television industry 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 it can be accomplished safely. This law directs 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 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)(1).

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." *Id.* § 333(c) (emphasis added).²

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, from the requirement that all civil aircraft must have a current airworthiness certificate and those regulations requiring commercial pilots to operate aircraft in commercial service:

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. § 44701(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 based on 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, including enhanced safety and cost savings associated with transitioning to UASs for the activities detailed.

Indeed, CPI's sUAVs are rotorcraft weighing substantially less than 55 lbs. including payload. They operate, under normal conditions at a speed of no more than 50 knots and they have the capability to hover, and move in the vertical and horizontal plane simultaneously. They will operate only within VLOS and only within the sterile area described in the Confidential Motion Picture and Television Operations Manual and Flight Operations and Procedures Manual attached as Exhibit 1 (hereinafter "the Operating Manual").³ Such operations will insure that the UA will "not create a hazard to users of the national airspace system or the public." Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

² 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 to allow approval, to supply conditions for the safe operation of the UAS. CPI welcomes the opportunity to consult with FAA staff in order to address any issues or concerns that this proposal may raise that they believe may require modification.

³ FAA Licensed Commercial Pilots, a Certified Flight Instructor, a FAA Designated Engineering Representative, and members of the motion picture industry have reviewed this manual and have found it acceptable for UAV flight operations in the film and television industry. Applicant submits this manual as a confidential document under 14 C.F.R. § 11.35(b) as the entire manual contains private and proprietary information that is not available to the public and is protected from release to the public under the Freedom of Information Act, 5 U.S.C. § 552 et seq.

AIRCRAFT AND EQUIVALENT 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 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, and 11440. These limitations and conditions to which CPI (or "operator") agrees to be bound when conducting commercial operations under an FAA issued exemption include:

- 1. The unmanned aerial vehicle weighs less than 55 pounds, including batteries and camera gimbal. Operations requested in this petition for exemption are limited to the following aircraft described in the proprietary operator's manual: DJI S1000, DJI Inspire 1, and DJI Phantom 3 ("UA"). Proposed operations of any other UA will require a new petition or an amendment.
 - 2. The UA shall not be flown at a speed exceeding a ground speed of 50 knots.
- 3. Flights must be operated at an altitude of no more than 400 feet above ground level (AGL), as indicated by the procedures specified in the operator's manual. All altitudes reported to ATC must be in feet AGL.
- 4. 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.
- 5. All operations must utilize 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.
- 6. The operator's manual shall be maintained 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 operator's manual, the conditions and limitations herein take precedence and must be followed. Otherwise, the operator must follow the procedures as outlined in its operator's manual. The operator may update or revise its operator's manual. 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. If the operator determines that any update or revision would affect the basis of this exemption, then the operator must petition for amendment to their exemption. The FAA's UAS Integration Office (AFS-80) may be contacted if questions arise regarding updates or revisions to the operator's manual.
- 7. 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 shall be included in the preflight inspection. All maintenance and alterations shall be properly documented in the aircraft records.

- 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 in accordance with the operator's manual. The PIC who conducts the functional test flight must make an entry in the UAS aircraft records of the flight. The requirements and procedures for a functional test flight and aircraft record entry are included in the operator's manual.
- 9. The operator shall follow the manufacturer's UAS aircraft/component, maintenance, overhaul, replacement, inspection, and life limit requirements. An aircraft maintenance manual with maintenance/component/overhaul, replacement, and inspection/maintenance requirements has been established and included in the operator's manual.
- 10. The Pilot-In-Command (PIC) shall possess at least a private pilot certificate and at least a current third-class medical certificate. The PIC must also meet the flight review requirements specified in 14 C.F.R. § 61.56 in an aircraft in which the PIC is rated on his/her pilot certificate.
- 11. Prior to operations conducted for the purpose of motion picture filming (or similar operations), the PIC must have accumulated and logged, in a manner consistent with 14 C.F.R. § 61.51 (b), a minimum of 200 flight cycles and 25 hours of total time as a UAS rotorcraft pilot and at least ten hours logged as a UAS pilot with a similar UAS type (single blade or multirotor). Prior documented flight experience that was obtained in compliance with applicable regulations may satisfy this requirement. Training, proficiency, and experience-building flights can also be conducted under this grant of exemption to accomplish the required flight cycles and flight time. During training, proficiency, and experience-building flights, all persons not essential for flight operations are considered non-participants, and the PIC must operate the UA with appropriate distance from non-participants in accordance with 14 C.P.R.§ 91.119.
- 12. Prior to operations conducted for the purpose of motion picture filming, the PIC must have accumulated and logged, in a manner consistent with 14 C.P.R. § 61.51 (b), a minimum of five hours as UAS pilot operating the make and model of UAS to be utilized for operations under the exemption and three take-offs and three landings in the preceding 90 days. During training, proficiency, experience-building, and take-off and landing currency 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.P.R.§ 91.119.
- 13. Prior to operations conducted for the purpose of motion picture filming, the PIC and visual observer (VO) must have successfully completed a qualification process, as outlined in the operator's manual. The test has been developed by the operator and shall be implemented by a qualified person designated at the sole discretion of the operator. A record of completion of this qualification process must be documented and made available to the Administrator upon request.

- 14. Prior to operations conducted for the purpose of motion picture filming, a flight demonstration, administered by an operator-approved and qualified pilot must be successfully completed and documented. This documentation must be available for review upon request by the Administrator. Because the knowledge and airmanship test qualifications have been developed by the operator, the petitioner will conduct these tests in accordance with the operator's manual.
- 15. The UA may not be operated directly over any person, except authorized and consenting production personnel, below an altitude that is hazardous to persons or property on the surface in the event of a UAS failure or emergency.
- 16. Regarding the distance from participating persons, the operator's manual has safety mitigations for authorized and consenting production personnel. At all times, those persons must be essential to the closed-set film operations. Because these procedures are specific to participating persons, no further FSDO or Aviation Safety Inspector (ASI) approval is necessary for reductions to the distances specified in the petitioner's manuals. This is consistent with the manned aircraft procedures described in FAA Order 8900.1, V3, C8, S1 Issue a Certificate of Waiver for Motion Picture and Television Filming.
- 17. Regarding distance from non-participating persons, the operator must ensure that no persons are allowed within 500 feet of the area 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 non-participating 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, SI.
- 18. If the UA loses communications or loses its GPS signal, the UA must return to a predetermined location within the security perimeter and land or be recovered in accordance with the operator's manual.
- 19. The UA must abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operator's manual.
- 20. Each UA operation must be completed within 30 minutes flight time or with 25% battery power remaining, whichever occurs first.
- 21. 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.
- 22. All aircraft operated in accordance with this exemption must be registered in accordance with 14 C.P.R. part 47.

- 23. The operator has developed procedures to document and maintain a record of the UA maintenance, preventative maintenance, alterations, status of replacement/overhaul component parts, and the total time in service of the UA.
- 24. Each UA must comply with all manufacturer Safety Bulletins and firmware updates.
- 25. The operator has developed UA technician qualification criteria and they are included in the operator's manual.
- 26. The preflight inspection accounts for all discrepancies, i.e. inoperable components, items, or equipment, not covered in the relevant preflight inspection sections of the operator's manual.
- 27. The radio frequency spectrum used for operation and control of the UA complies with the Federal Communications Commission (FCC) or other appropriate government oversight agency requirements.
- 28. At least three days before scheduled 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 requirements for a plan of activities and a sample form are in the operator's manual.
- 29. 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.
- 30. 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.).
- 31. UA 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). Flights under special visual flight rules (SVFR) are not authorized
 - 32. The UA cannot be operated by the PIC from any moving device or vehicle.
- 33. 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.
- 34. The UA may not operate in Class B, C, or D airspace without written approval from the FAA. The UA may not operate within 5 nautical miles of the geographic center of a nontowered 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.

35. Any 1) incident, 2) accident, or 3) flight operation that transgresses the lateral or vertical boundaries of the operational area as defined by the applicable COA must be reported to the Federal Aviation Administration's (FAA) 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. Further flight operations may not be conducted until the incident, accident, or transgression is reviewed by AFS-80 and authorization to resume operations is provided.

Unless otherwise specified by the Administrator, the PIC, and operator must comply with all applicable parts of 14 C.F.R. including, but not limited to, parts 45, 47, 61, and 91.

Privacy. All flights will occur over private or controlled access property with the property owner's prior consent and knowledge. Inspection will be in areas where the owners will have consented to the inspections or otherwise have agreed to allow the UAS and the operator to be in the area where inspection will take place.

National Security. No national security issue is raised by the grant of this exemption. Given the size, load carrying capacity, speed at which it operates, and the fact that it carries no explosives or other dangerous materials, the sUAS poses no threat to national security.

In summary, CPI seeks an exemption from the FARs set forth in Appendix A to operate commercially a small unmanned vehicle (55 lbs. or less) in aerial photography for the motion picture and television industry for scripted closed set filming. Approval of this exemption for commercial aerial survey operations will enhance safety by reducing risk. Conventional operations, using jet or piston powered aircraft, operate at extremely low altitudes just feet from the subject being inspected and in extreme proximity to people and structures. Such manned operations present the risks associated with vehicles that weigh in excess of 6,000 lbs., carrying large amounts of jet A or other fuel. Such aircraft must fly to and from the project location. In contrast, a sUAS weighing fewer than six lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The sUAS is carried to the target area and not flown. The sUAS will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights.

The operation of small UASs, weighing less than 55 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein. These lightweight aircraft operate at slow speeds, close to the ground, and in areas that are under the control of the customer. As a result, they are far safer than conventional operations conducted with manned aircraft operating in close proximity to the ground and people. 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 applicant's UAS for the Purposes outlined herein and are consistent with exemptions already granted, including Exemptions 11062 through 11067, 11080, 11109 through 11112, and 11114.

Sincerely,

Timothy M. Ravich, Esq. Counsel for Certified Productions, Inc.

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Cc: Frank Arant, Certified Productions, Inc.

APPENDIX A

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 14 C.F.R. § 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.

The UAS to be operated hereunder is less than 55 lbs. fully loaded, carries neither a pilot nor passenger, carries no explosive materials or flammable liquid fuels, and operates exclusively within a secured and designated area. Unlike other civil aircraft, operations under this exemption will be tightly controlled and monitored by both the operator and under the requirements and in compliance with local public safety requirements. These safety enhancements provide a greater degree of safety to the public and property owners than conventional operations conducted with airworthiness certificates issued under 14 C.F.R. Part 21, Subpart H.

Lastly, application of these same criteria demonstrates that there is no credible threat to national security posed by the UAS, due to its size, speed of operation, location of operation, lack of explosive materials or flammable liquid fuels, and inability to carry a substantial external load.

14 C.F.R. § 45.23 (b). Marking of the Aircraft

The regulation requires: When marks include only the Roman capital letter "N" and the registration number is displayed on limited, restricted or light-sport category aircraft or experimental or provisionally certificated aircraft, the operator must also display on that aircraft near each entrance to the cabin, cockpit, or pilot station, in letters not less than 2 inches nor more than 6 inches high, the words "limited," "restricted," "light-sport," "experimental," or "provisional," as applicable.

Even though the UAS will have no airworthiness certificate, an exemption may be needed as the UAS will have no entrance to the cabin, cockpit or pilot station on which a registration mark can be placed. Given the size of the UAS, two-inch lettering will be impossible. In case, applicant will place markings on the UAS as large as practicable under 14 C.F.R. §45.29 (f).

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

Pursuant to 14 CFR § 61.113 (a) & (b), no person who holds a private pilot certificate may act as a pilot in command of an aircraft that is carrying passengers or property for compensation or hire.

The proposed UAS operations may achieve an equivalent level of safety as achieved by current Regulations because the applicant's UAS do not carry any pilots or passengers nor property. The risks attendant to the operation of UAS is far less than the risk levels inherent in the commercial activities outlined in 14 CFR 61. The PIC of the UAS will be, or be under the direct supervision of, a FAA Certificated Private Pilot with current Third Class or higher medical certificate. It is believed that the operation and limitations set forth in the operations manuals will equate to the safe operation of the UAS.

14 C.F.R. §91.7(a): Civil Aircraft Airworthiness.

The regulation requires that no person may operate a civil aircraft unless it is in airworthy condition.

As there will be no airworthiness certificate issued for the aircraft, should this exemption be granted, no FAA regulatory standard will exist for determining airworthiness. Given the size of the aircraft for maintenance and use of safety checklists prior to each flight, an equivalent level of safety will be provided.

14 C.F.R. § 91.9 (b) (2): Civil Aircraft Flight Manual in the Aircraft.

Section 91.9 (b) (2) provides: No person may operate a U.S.-registered civil aircraft ... (2) For which an Airplane or Rotorcraft Flight Manual is not required by § 21.5 of this chapter, unless there is available in the aircraft a current approved airplane or Rotorcraft Flight Manual, approved manual material, markings, and placards, or any combination thereof.

The UAS, given its size and configuration has no ability or place to carry such a flight manual on the aircraft, not only because there is no pilot on board, but because there is no room or capacity to carry such an item on the aircraft. The equivalent level of safety will be maintained by keeping the flight manual at the ground control point where the pilot flying the UAS will have immediate access to it.

14 C.F.R. § 91.103: Preflight Action.

This regulation requires each pilot in command to take certain actions before flight to insure the safety of flight.

As FAA approved rotorcraft flight manuals will not be provided for the aircraft an exemption will be needed. The PIC will take all actions as stated in the operations manual for normal procedures including but not limited to reviewing weather, flight battery requirements, landing and takeoff distances and aircraft performance data before initiation of flight.

14 C.F.R. § 91.109: Flight Instruction.

Section 91.103 provides that no person may operate a civil aircraft (except a manned free balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls.

UAS and remotely piloted aircraft, by their design do not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. The equivalent level of safety is provided by the fact that neither a pilot nor passengers will be carried in the aircraft and by the size and speed of the aircraft.

14 C.F.R. § 91.119: Minimum Safe Altitudes.

Section 91.119 establishes safe altitudes for operation of civil aircraft. Section 91.119 (d) allows helicopters to be operated at less than the minimums prescribed, provided the person operating the helicopter complies with any route or altitudes prescribed for helicopters by the FAA. As this exemption is for a UAS that is a helicopter and the exemption requests authority to operate at altitudes up to 400 AGL, or not more than 200 above an elevated platform from which filming is planned, an exemption may be needed to allow such operations. As set forth herein, the UAS will never operate at higher than 400 AGL with the exception that in circumstances where the UAS is used to survey or photograph a structure whose height exceeds 400 feet AGL, the UAS will not be operated more than 200 feet above the highest point on the structure. It will however be operated in a restricted area with security perimeter, where buildings and people will not be exposed to operations without their pre-obtained consent.

The equivalent level of safety will be achieved given the size, weight, and speed of the UAS as well as the location where it is operated. No flight will be taken without the permission of the property owner or local officials. Because of the advance notice to the property owner and participants in the filming activity, all affected individuals will be aware of the planned flight operations. Compared to flight operations with aircraft or rotorcraft weighting far more than the maximum 55lbs. proposed herein and the lack of flammable fuel, any risk associated with these operations is far less than those presently presented with conventional aircraft operating at or below 500 AGL. In addition, the low-altitude operations of the UAS will ensure separation between these UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

14 C.F.R. § 91.121 Altimeter Settings.

This regulation requires each person operating an aircraft to maintain cruising altitude by reference to an altimeter that is set "...to the elevation of the departure airport or an appropriate altimeter setting available before departure."

As the UAS may not have a barometric altimeter, but instead a GPS altitude read out, an U.S. exemption may be needed. An equivalent level of safety will be achieved by the operator,

pursuant to the safety check list and live flight data monitoring, confirming the altitude of the launch site shown on the GPS altitude indicator before flight.

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

Section 91.151 (a) 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 intended 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 applicant believes that an exemption from 14 C.F.R. § 91.151(a) falls within the scope of prior exemptions. Operating the UAS in a tightly controlled area where only people and property owners or official representatives who have signed waivers will be allowed does not engender the type of risks that Section 91.151(a) was intended to alleviate given the size and speed of the small UAS. The applicant believes that an equivalent level of safety can be achieved by limiting flights to 30 minutes or 25% of battery power — whichever happens first. This restriction would be more than adequate to return the UAS to its planned landing zone from anywhere in its limited operating area.

14 C.F.R. § 91.203 (a) and (b): Carrying Civil Aircraft Certification and Registration

The regulation provides in pertinent part:

Except as provided in § 91.715, no person may operate a civil aircraft unless it has within it the following:

An appropriate and current airworthiness certificate.

No person may operate a civil aircraft unless the airworthiness certificate required by paragraph (a) of this section or a special flight authorization issued under § 91.715 is displayed at the cabin or cockpit entrance so that it is legible to passengers or crew.

The UAS fully loaded weighs well under the proposed 55-lb limit and is operated without an onboard pilot. As such, there is no ability or place to carry certification and registration documents or to display them on the UAS. An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UAS will have immediate access to them, to the extent they are applicable to the UAS.

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

These regulations require that an aircraft operator or owner "shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter...," and others shall inspect or maintain the aircraft in compliance with Part 43.

Given that these sections and Part 43 apply only to aircraft with an airworthiness certificate, these sections will not apply to the applicant. Maintenance will be accomplished by the operator

pursuant to the flight manual and operating handbook. An equivalent level of safety will be achieved because the UAS is very limited in size and will carry a small payload and operate only in restricted areas for a limited period of time.

If mechanical issues arise the UAS can land immediately and will be operating from no higher than 400 feet AGL. 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 performed. Moreover, the operator is the person most familiar with the aircraft and best suited to maintain the aircraft in an airworthy condition to provide the equivalent level of safety.

APPENDIX B

SUMMARY OF CPI SECTION 333 EXEMPTION REQUEST

For publication in the *Federal Register*, CPI hereby provides pursuant to Part 11 a summary of its exemption application to allow commercial operation of the DJI S1000, DJI Inspire 1, and DJI Phantom 3 unmanned aircraft in to conduct aerial photography for the motion picture and television industry for scripted closed set filming. An exemption is requested from the following regulations:

The regulations from which the exemption is requested are as follows:

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14 C.F.R. Part 21, Subpart H
14 C.F.R. § 45.23(b);
14 C.F.R. § 61.113(a) & (b);
14 C.F.R. § 61.133(a);
14 C.F.R. § 91.7(a);
14 C.F.R. § 91.9(b)(2);
14.C.F.R. § 91.103;
14 C.F.R. § 109;
14 C.F.R. § 91.119(c);
14 C.F.R. § 91.121;
14 C.F.R. § 91.151(a);
14 CFR § 91.203 (a) & (b);
14 C.F.R. § 91.405(a);
14 C.F.R. § 91.407(a)(1);
14 C.F.R. § 91.409(a)(2); and
14 C.F.R. § 91.417(a) & (b)
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Please contact me at travich@ravichlawfirm.com or at 305-213-1223 with any questions.

Best regards,

Timothy M. Ravich

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