

**IN THE MATTER OF THE PETITION FOR EXEMPTION OF:
STRAWBERRY PRODUCTIONS LLC
DBA; FLYING BERRY PRODUCTIONS
FOR AN EXEMPTION SEEKING RELIEF FROM THE REQUIRMENTS
OF
TITLE 14 OF THE CODE OF FEDERAL REGULATIONS
SECTIONS 61.113 (a) and (b); 91.7 (a); 91.119 (c); 91.121;
91.151 (a); 91.405 (a); 91.407 (a) (1); 91.409 (a) (1) and (2); 91.417 (a) and (b)**

Submitted on 1/23/2015

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Table of Contents

Summary	3
Introduction to Petitioner	3
The UAV Phantom II	3
Basis for Petition	4
A. Name and Address of Petitioner	4
B. The Specific Sections of 14 C.F.R. From Which Strawberry Productions LLC Seeks Exemption	4
C. The Extent Of Relief That Strawberry Productions LLC Seeks	8
D. The Reasons Why Granting Strawberry Productions LLC Request Would Be In The Public's Interest	12
E. The Reason Why Granting The Exemption Would Not Adversely Affect Safety...	13
F. Additional Information	14
G. Summary to be Published in Federal Register	15
Conclusion	15

SUMMARY

STRAWBERRY PRODUCTIONS LLC, which is Doing Business As (DBA) Flying Berry Productions, seeks exemptions from Title 14, Code of Federal Regulations §§ 61.113 (a) and (b), 91.7 (a), 91.119, 91.121, 91.151 (a), 91.405 (a), 91.407 (a)(1), 91.409 (a)(1) and (2), 91.417 (a) and (b) to operate a DJI PHANTOM II UAS. This exemption will allow Strawberry Productions LLC to operate an Unmanned Aerial Vehicle commercially for the purpose of conducting aerial videography and photography in the real estate and construction markets of Florida and Southern Georgia. These images and videos will provide community awareness and geospatial understanding.

INTRODUCTION TO PETITIONER

STAWBERRY PRODUCTIONS LLC, is a real estate videography and photography company specializing in producing high quality results for clients who want digital displays of MLS listings. STRAWBERRY PRODUCTIONS LLC seeks relief to use a Phantom II quad-copter to commercially capture video of listings while working on private property. STRAWBERRY PRODUCTIONS LLC will utilize a Visual Observer (V.O.) while maintaining Visual Line of Sight (V.L.O.S.) between the quad-copter and a UAV operator who will have a current private pilots license.

The UAV PHANTOM II

The DJI Phantom II is a quad-rotor Unmanned Aircraft System (UAS) weighing less than 3 pounds. The Phantom II UAS that STRAWBERRY PRODUCTIONS LLC will be responsible for also utilizes a mobile ground station. The UAS features a safety Return to Home function that in the event of a signal loss, the

UAS will return to a preset position and land. The Return to Home feature can also be triggered manually. PHANTOM 2 uses a 2.4GHz RC system. To avoid communication interference, STRAWBERRY PRODUCTIONS LLC will not use other 2.4GHz devices (including 2.4G Wi-Fi or 2.4G wireless video transmission module) except the 2.4G Bluetooth and 2.4G Datalink. The Phantom II can fly at approximately 30kts. Flying Berry Productions has no need to operate at a speed greater than 10kts. The Phantom II is powered by a single Lipo battery. This battery gives the Phantom II an approximate 15 minutes worth of flight time with its attached payload of a Go Pro HERO 3+ camera and the associated gimbal that connects the camera to the quad-copter.

BASIS FOR PETITION

STRAWBERRY PRODUCTIONS LLC pursuant to the provisions of the Federal Aviation Regulations (14 C.F.R. § 11.61) and the FAA Modernization and Reform Act of 2012, Section 333, Special Rules for Certain Unmanned Aircraft Systems, hereby petitions the Administrator to operate the DJI PHANTOM II UAS within the National Airspace System, and for an exemption from the requirements of 14 C.F.R. §§ 61.113 (a) and (b), 91.7 (a), 91.119, 91.121, 91.151 (a), 91.405 (a), 91.407 (a)(1), 91.409 (a)(1) and (2), 91.417 (a) and (b).

A. Name and Address of The Petitioner

STRAWBERRY PRODUCTIONS LLC

23939 Crescent Parke Court

Fernandina Beach, FL. 23034

flyingberryproductions@gmail.com

B. STRAWBERRY PRODUCTIONS LLC Requests Relief from the Following Sections of 14 C.F.R.

1. Sections 61.113, entitled *Private pilot privileges and limitations: Pilot in Command*, Subsections (a) and (b) prescribed the following, in part:
 - (a) No person who holds a private pilot certificate may act as a pilot in command (PIC) of an aircraft that is carrying passengers or property for compensation or hire; nor may that person, for compensation or hire, act as PIC of an aircraft.
 - (b) A private pilot may, for compensation or hire, act as PIC of an aircraft in connection with any business or employment if –
 - (1) The flight is only incidental to that business or employment and
 - (2) The aircraft does not carry passengers or property for compensation or hire.

2. Section 91.7, entitled *Civil airworthiness*, subsection (a), states the following:
 - (a) No person may operate a civil aircraft unless it is in an airworthy condition.

3. Section 91.119, entitled *Minimum Safe Altitudes: General*

Except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes:

 - (a) Anywhere, An altitude allowing, if a power unit fails, an emergency landing without undue hazard to persons or property on the surface.
 - (b) Over congested areas. An altitude of 1000 feet above the highest obstacle within a horizontal radius of 2000 feet of the aircraft.
 - (c) Over other than congested areas. An altitude of 500 feet above the surface, except over open water or sparsely populated areas. In those cases, the aircraft may not be operated closer than 500 feet to any person, vessel, vehicle or structure.
 - (d) Helicopters, powered parachutes, and weight-shift-control aircraft. If the operation is conducted without hazard to persons or property on the surface—

- (1) A helicopter may be operated at less than the minimums prescribed in paragraph (b) or (c) of this section, provided each person operating the helicopter complies with any routes or altitudes specifically prescribed for helicopters by the FAA; and
 - (2) A powered parachute or weight-Shift-Control aircraft may be operated at less than the minimums prescribed in paragraph © of this section.
4. Section 91.121, entitled *Altimeter Settings*, subsection (a), states the following, in relevant part:
- (a) Each person operating an aircraft shall maintain the cruising altitude of flight level of that aircraft, as the case may be, by reference to an altimeter that is set, when operating—
 - (1) Below 18,000 feet MSL, to—
 - (i) The current reported altimeter setting of a station along the route and within 100 nautical miles of the aircraft;
 - (ii) If there is not station within the area prescribed in paragraph (a)(1)(i) of this section, the current reported altimeter setting of an appropriate available station; or
 - (iii) In the case of an aircraft not equipped with a radio, the elevation of the departure airport or an appropriate altimeter setting available before departure;
5. Section 91.151, entitled *Fuel requirements for flight in VFR conditions*, subsection (b), states the following:
- (b) No person may begin a flight in a rotorcraft 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, to fly after that for at least 20 minutes.
6. Section 91.405, entitled *Maintenance required*, subsection (a) stated the following:
- Each Owner or Operator of an Aircraft-
- (a) Shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspection, except as provided in

paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter.

7. Section 91.407(a)(1), entitled *Operation after maintenance, preventive maintenance, rebuilding, or alteration*, subsections (a)(1), states the following:
 - (a) No person may operate any aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless—
 - (1) It has been approved for return to service by a person authorized under §43.7 of this chapter.

8. Section 91.409, entitled *Inspections*, subsection (a), states the following:
 - (a) Except as provided in paragraph (c) of this section, no person may operate an aircraft unless, within the preceding 12 calendar months, it has had—
 - (1) An annual inspection in accordance with part 43 of this chapter and has been approved for return to service by a person authorized by § 43.7 of this chapter; or
 - (2) An inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.

9. Section 91.417, entitled *Maintenance Records*, subsections (a) and (b), state the following:
 - (a) Except for work performed in accordance with §§ 91.411 and 91.413, each registered owner or operator shall keep the following records for the periods specified in paragraph (b) of this section:
 - (1) Records of the maintenance, preventive maintenance, and alteration and records of the 100-hour, annual, progressive, and other required or approved inspections, as appropriate, for each aircraft (including the airframe) and each engine, propeller, rotor, and appliance of an aircraft. The records must include—

- (i) A description (or reference to data acceptable to the Administrator) or the work performed; and
- (ii) The date of completion of the work performed; and
- (iii) The signature, and certificate number of the person approving the aircraft for return to service

(2) Records containing the following information:

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

C. The Extent Of Relief That STRAWBERRY PRODUCTIONS LLC Seeks

1. Extent of Relief that Strawberry Productions LLC Seeks Regarding Section 61.113 (a) and (b) *Private Pilot Privileges and Limitations*

Relief from Section 61.113 (a) and (b) is requested to allow a Pilot in Command holding a current Private Pilots Certificate to operate the Strawberry Productions Phantom II. The flight would be complimented by a Visual Observer who, along with the pilot, will maintain Visual Line of Sight with the Phantom II at all times. All operations conducted will be incidental to Strawberry Production's business. The Phantom II is not able to carry passengers.

2. Extent of Relief that Strawberry Productions seeks in Regards to Section 91.7(a) *Civil Aircraft Airworthiness*

Relief from Section 91.7(a) is requested to allow Strawberry Productions to determine airworthiness of the Phantom II. As part of this determination the following will be adhered to:

- a. Prior to the Phantom II's flight the PIC will inspect the UA to ensure it is in a condition that will be conducive for a safe flight. The ground control station will be included in the above inspection.
- b. Strawberry Productions will follow the DJI Phantom II's aircraft/component, maintenance, overhaul, replacement, inspection and life limit requirements.
- c. Strawberry Productions will comply with all DJI manufacturer Safety Bulletins.

3. Extent of Relief that Strawberry Productions seeks in Regards to Section 91.119 *Minimum Safe Altitudes General*

Relief from 91.119 is requested to allow Strawberry Productions to operate the Phantom II at altitudes not to exceed 400' AGL over private property at a distance at or greater than 5NM from the nearest airport as depicted on current Aeronautical Charts. Strawberry Productions also wishes to be granted exemption to operate at an altitude not greater than 50' AGL (below tree level) between 1NM and 5NM from the nearest airport as depicted on current Aeronautical Charts.

Strawberry Productions will adhere to the following in order to maintain an acceptable level of safety associated with operations over private property:

- (a) Strawberry Productions will display signs in the immediate vicinity of operations stating: "Aerial Photography In Progress. Use Caution."
- (b) Strawberry Productions will not allow the Phantom II to operate at a speed greater than 10kts.
- (c) Strawberry Productions will require the UAS operator (PIC) to be fully trained on the Phantom II by adhering to the recommendations contained within the Phantom II's operating manual.
- (d) Strawberry Production's UAS operator (PIC) will have accumulated and logged, in a manner consistent with 14 CFR 61.51(b), a minimum of 25 hours of total time as a UAS rotorcraft pilot including at least 10 hours logged as a UAS pilot with a multi-rotor UAS. In addition the operator will have logged a minimum of 5 hours as a UAS pilot operating the make and model UAS that Flying Berry Production operates.
- (e) Strawberry Production's UAS operator (PIC) will be familiar with and able to manually institute the Phantom II's Return to Home (RTH) feature. This feature aborts a flight operation and automatically returns the UAS to a predetermined GPS safe point.
- (f) Strawberry Production's UAS operator (PIC) will not operate over private property without first finding a suitable alternate landing spot on the property.
- (g) Strawberry Production's UAS operator (PIC) will abort the flight in the event of unpredicted obstacles or emergencies in accordance with the operating documents.

- (h) Strawberry Productions will utilize a two man flight team consisting of the Pilot in Command (PIC) and a Visual Observer (VO). This team will maintain visual line of sight with the Phantom II at all times and remain within hearing of one another.
- (i) Strawberry Productions will not permit flight around vessels, vehicles and structures without permission from the owner.

4. Extent of Relief that Strawberry Productions Seeks in Regards to Section 91.121 *Altimeter Settings*

Relief from 91.121 is requested because the Phantom II utilizes electronic GPS with a barometric sensor.

In order to maintain an equal level of safety that 91.121 requires, the PIC of the Strawberry Productions UAS will abort the flight in the events that the UA loses communications with the GPS signal.

5. Extent of Relief that Strawberry Productions Seeks in Regards to Section 91.151(b) *Fuel Requirements for Flight in VFR Conditions*

Relief from 91.151(b) is requested to the extent that allows Strawberry Productions to operate the Phantom II up to a point (considering wind and forecast weather conditions) that there is enough power to fly at normal cruising speed to the intended landing point and land the UA with 30% battery power remaining.

6. Extent of Relief that Strawberry Productions Seeks in Regards to Sections 91.405(a), 91.407(a)(1), 91.409(a)(1), and (a)(2), 91.417(a) and (b) *These are all associated a with Airworthiness certificate*

Relief from 91.405(a), 91.407(a)(1), and (a)(2), And 91.417(a) and (b) is requested to the extent that allows Strawberry Productions to operate the Phantom II Quad-Copter as necessary. These sections are all related to airworthiness certificates of aircraft. There is not currently an

airworthiness certificate for small UAS's. Strawberry Productions would comply in full to any conditions and limitations that the Administrator would place in order to receive an approved Grant of Exemption.

D. THE REASONS WHY GRANTING THE EXEMPTION WOULD BE IN THE PUBLICS INTEREST

- 1) Aerial photography lends a unique perspective to the viewer. The angles of capture show areas that are not able to be seen by an earthbound photographer. This type of photography has been used for some time by real estate agencies and construction firms. Unfortunately though, it is often cost prohibitive for small business. The expensive fees demanded by traditional aerial photography outfits has often given large firms an advantage. With a Grant of Exemption from the Administrator, Strawberry Productions can be of immense benefit to small business by providing affordable aerial photography.

- 2) The granted use of aerial photography by Strawberry Productions would assist the public by allowing them to form a geospatial perspective and academic understanding of the area surrounding the subject of their interests. This would certainly help the clients of Strawberry Productions garner business and therefor would directly have a positive effect upon the economy.

- 3) The risk associated with UAS aerial photography is less than the risk associated with traditional aerial photography. The UAS that Strawberry Productions incorporates weighs less than 3lbs. This UAS is also fueled by a single battery. The amount of damage that may occur in the event of an incident or accident is substantially less than that which may occur in the event of an incident or accident involving the traditional form of aerial photography. Traditional aerial real estate photographers rely upon full size aircraft operating a low altitudes and with a full load of

combustible fuel. Responsible UAS operations are inherently in the public's interest.

E. The Reason Why Granting The Exemption Would Not Adversely Affect Safety.

Strawberry Production's high level of professionalism and desire to set the standard for successful and safe UAS real estate operations squarely coalesces with the FAA's safety mission. In addition, Strawberry Productions will strictly follow the conditions and limitations of the FAA Grant. Some procedures that Strawberry Productions has or will have in place include:

- a) Standard Operating Procedures (SOP); which will include a pre-flight checklist, airworthiness inspection by the Pilot in Command, signage depicting a notice of aerial photography in progress, and NOTAMS issued 48 hours in advance of a flight.
- b) During flight operations, Strawberry Productions will utilize a two person team consisting of the Pilot in Command and a Visual Observer. All operations will remain within line of sight of the UAS team.
- c) The UAS will at all times have the GPS Return to Home safety feature activated. In the event of a "loss of signal" or if the Pilot in Command deems it necessary the UAS will return to a preset position and land.
- d) In the event that the aerial photography safety zone is violated, the Pilot in Command will abort the mission and return to the safe landing zone.
- e) Strawberry Productions will only operate the UAS over private property with the permission of the property owner and will stay a safe distance away from vehicles, structures and people.

- f) As Federal guidelines are developed, Strawberry Productions will stay up to date and within compliance of all changes.

F. Additional Information

This Petition is made pursuant to the FAA Modernization and Reform Act of 2012 (FMRA) Section 333, which directs the Secretary of Transportation to determine if certain UAS may operate safely in the NAS. Strawberry Productions commitment to being at the forefront of the rapidly emerging UAS commercial use sector is second only to their commitment to operating responsibly. Flying Berry Production's owner, Edward Hanson, is a graduate of Embry-Riddle Aeronautical University. Mr. Hanson holds a private/instrument single engine land certificate and will be the primary Pilot in Command of the Phantom II UAS that Strawberry Productions will use in the Real Estate/Construction markets. This added investment of not only being the Pilot in Command but also the owner of the company, gives Strawberry Productions a commitment to safety and excellence that will lead it to becoming the flag bearer for small business UAS use.

Strawberry Productions will obtain an Air Traffic Organization (ATO) issued Certificate of Waiver or Authorization (COA) prior to conducting any operations under this grant of exemption.

All aircraft operated by Strawberry Productions, in accordance with this exemption, will be identified by serial number and registered in accordance with 14 CFR part 47. Flying Berry Productions will comply with making November markings in accordance with 14 CFR part 45, Subpart C. The November markings placed upon the Strawberry Productions Phantom II UAS will be as large as practical.

Attached are the Operating Manual and Quick Start Manual that are used in conjunction with the Strawberry Productions Standard Operating Procedures.

G. Summary to be Printed in Federal Register

Strawberry Productions LLC requests exemption from TITLE 14 OF THE CODE OF FEDERAL REGULATIONS SECTIONS 61.113 (a) and (b); 91.7 (a); 91.119 (c); 91.121; 91.151 (a); 91.405 (a); 91.407 (a) (1); 91.409 (a) (1) and (2); 91.417 (a) and (b). Flying Berry Productions requests relief from these sections from the FAA Administrator per the intentions of the FAA Modernization and Reform Act of 2012 so that Strawberry Productions LLC can produce photography and video for clients within the real estate and construction markets.

CONCLUSION

As set forth herein, Strawberry Productions LLC seeks an exemption pursuant to 14 C.F.R. § 11.61 and Section 333 of the FAA Modernization and Reform Act of 2012 (FMRA), which will permit safe operation of the DJI Phantom II UAS commercially within the Real Estate and Construction markets. The Administrator will be assisting small business by granting this petition. In accordance with the FAA Modernization and Reform Act of 2012, Flying Berry Productions respectfully requests that the FAA Administrator grants this petition for exemption from TITLE 14 OF THE CODE OF FEDERAL REGULATIONS SECTIONS 61.113 (a) and (b); 91.7 (a); 91.119 (c); 91.121; 91.151 (a); 91.405 (a); 91.407 (a) (1); 91.409 (a) (1) and (2); 91.417 (a) and (b)

