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

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

May 12, 2015

Exemption No. 11557
Regulatory Docket No. FAA–2015–0431

Thomas F. Landecker
PO Box 363
The Sea Ranch, CA 95497

Dear Mr. Landecker:

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 February 18, 2015, you petitioned the Federal Aviation Administration (FAA) for an exemption. The exemption would allow the petitioner to operate an unmanned aircraft system (UAS) to conduct aerial photography and videography.

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. However, the FAA received one comment in support of the petition made to the docket.

Airworthiness Certification

The UAS proposed by the petitioner is a DJI Phantom 2 Vision+.

In accordance with the statutory criteria provided in Section 333 of Public Law 112−95 in reference to 49 U.S.C. § 44704, and in consideration of the size, weight, speed, and limited operating area associated with the aircraft and its operation, the Secretary of Transportation has determined that this aircraft meets the conditions of Section 333. Therefore, the FAA finds that relief from 14 CFR part 21, *Certification procedures for products and parts,*

Subpart H—Airworthiness Certificates, and any associated noise certification and testing requirements of part 36, is not necessary.

The Basis for Our Decision

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

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

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

Our Decision

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

Conditions and Limitations

In this grant of exemption, Mr. Thomas F. Landecker is hereafter referred to as the operator.

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

1. Operations authorized by this grant of exemption are limited to the DJI Phantom 2 Vision+ when weighing less than 55 pounds including payload. Proposed operations of any other aircraft will require a new petition or a petition to amend this exemption.

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

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

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

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

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

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

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

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

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

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

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

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

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

flight operations are considered nonparticipants, and the PIC must operate the UA with appropriate distance from nonparticipants in accordance with 14 CFR § 91.119.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

30. At least 3 days before aerial filming, the operator of the UAS affected by this exemption must submit a written Plan of Activities to the local Flight Standards District Office (FSDO) with jurisdiction over the area of proposed filming. The 3-day notification may be waived with the concurrence of the FSDO. The plan of activities must include at least the following:
    a. Dates and times for all flights;

b. Name and phone number of the operator for the UAS aerial filming conducted under this grant of exemption;
c. Name and phone number of the person responsible for the on-scene operation of the UAS;
d. Make, model, and serial or N−Number of UAS to be used;
e. Name and certificate number of UAS PICs involved in the aerial filming;
f. A statement that the operator has obtained permission from property owners and/or local officials to conduct the filming production event; the list of those who gave permission must be made available to the inspector upon request;
g. Signature of exemption holder or representative; and
h. A description of the flight activity, including maps or diagrams of any area, city, town, county, and/or state over which filming will be conducted and the altitudes essential to accomplish the operation.

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

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

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

Sincerely,

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

February 18, 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 of the Federal Aviation Regulations from 14 CFR: 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)

Dear Sir or Madam,

I, Thomas Landecker, am writing pursuant to the FAA Modernization and Reform Act of 2012 and the procedures contained within 14 C.F.R. 11, to request that I, Thomas Landecker, an owner and operator of small unmanned aircraft, be exempted from the Federal Aviation Regulations ("FARs") listed below so that I may operate my small ultra light weight unmanned aircraft system ("UAS") commercially in airspace regulated by the Federal Aviation Administration ("FAA"). As described herein I, Thomas Landecker, am a professional photographer within the State of California and an instrument rated private pilot. I own the DJI Phantom 2 Vision+ Unmanned Aircraft System (UAS) with the intent to shoot aerial photography and video footage of homes and properties for real estate marketing purposes, as well as other projects including geographical documentation and artistic work (following exemption and approval by the FAA). I have personally instilled safety protocols and controls to avoid and prevent public hazard, as well as manned aircraft hazards/catastrophe. I will conduct my operations in compliance with the protocols described herein or as otherwise established by the FAA. For the reasons stated below I, Thomas Landecker, respectfully request the grant of an exemption allowing me to operate my ultra light weight, remote controlled UAS commercially in the northern California coastal area (see attachment 1: Work_Area.pdf). I submit this application in accordance with the Reform Act, 112 P.L. 95 §§ 331-334, seeking relief from any currently applicable FARs operating to prevent my contemplated commercial photographic, cinematic, academic and other flight operations within the national airspace system. The Reform Act in Section 332 provides for such integration of civil unmanned aircraft systems into our national airspace system as it is in the public's interest to do so. My ultra light weight UAS meets the definition of "small unmanned aircraft" as defined in Section 331 and therefore the inte gration of my ultra light weight UAS is expressly contemplated by the Reform Act. I would like to operate my ultra light weight UAS prior to the time period by which the Reform Act requires the FAA to promulgate rules governing such craft.

I, Thomas Landecker, consider safety as foremost with each flight. My small unmanned aircraft is designed to hover in place via GPS and operate in less than a 24 kph (15 mph) wind. For safety I will not fly in winds exceeding 16 kph (10 mph). Built in safety systems include a GPS mode that allows my UAS to hover in place when radio controls are released. When pilot communication is lost the UAS is designed to slowly descend to the point of take off. My UAS is capable of vertical and horizontal operations, and I fly it within my visual line of sight (as PIC), and with a second visual observer with whom I can communicate verbally at all times. Utilizing battery power rather

than combustible fuels, flights generally last between ten (10) and twenty (20) minutes, with an altitude under four hundred (400) feet. I only begin a flight if (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 30% battery power remaining.

I. Contact Information:
Thomas F. Landecker
POB 363
The Sea Ranch, CA 95497
tel: 707.785.9737
cell: 415.864.8888
email: tl@tlandecker.com
Private Pilot Certificate # 3225586
Owner, Piper Archer #N8444S

II. The Specific Sections of Title 14 of the Code of Federal Regulations From Which Thomas Landecker Requests Exemption Are:

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)

III. The Extent of Relief Thomas Landecker Seeks and the Reason He Seeks Such Relief:

Sections 61.113(a) and (b) prescribe that
(a) 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; nor may that person, for compensation or hire, act as pilot in command of an aircraft.
(b) a private pilot may, for compensation or hire, act as pilot in command 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.

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA has found prior to operations the PIC must, at a minimum, hold a private pilot certificate, a third-class airman medical certificate, and the PIC must 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. Also prior to operations conducted for the purpose of aerial videography/cinematography and augmenting real estate listing videos (or similar operations), the PIC must have accumulated and logged, in a manner consistent with 14 CFR 61.51(b), a minimum

of 5 hours as UAS pilot operating the make and model of the UAS to be used in operations under the exemption; 5 hours make and model time may be included in the 10 hours of multi-rotor time prescribed above. The PIC must accomplish 3 take-offs and landings in the preceding 90 days (for currency purposes). I ask for the same exemption here.

Section 91.7(a) prescribes that no person may operate a civil aircraft unless it is in an airworthy condition.

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA granted relief from § 91.7(a), saying "the petitioner is still required to ensure that his 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" from the FAA. I ask for the same exemption here.

Section 91.119 (c) prescribes that, except when necessary for takeoff or landing, no person may operate an aircraft below the following altitudes 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.

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA found that relief from § 91.119(c) was warranted provided adherence to the procedures in the operating documents and the FAA's additional conditions and limitations (prior to conducting UAS operations, all persons not essential to flight operations (nonparticipating persons) must remain at appropriate distances. In open areas, this requires the UA to remain 500 feet from all persons other than essential flight personnel (i.e. PIC, VO, operator trainees or essential persons). The FAA has also considered the UA's maximum gross weight of approximately 3 pounds. If barriers or structures are present that can sufficiently protect nonparticipating persons from the UA or debris in the event of an accident, then the UA may operate closer than 500 feet to persons afforded such protection. The operator must also 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. When considering how to immediately cease operations, the primary concern is the safety of those nonparticipating persons. In addition, the FAA finds that operations may be conducted closer than 500 feet to vessels, vehicles and structures when the owner/controller of any such vessels, vehicles or structures grants permission for the operation and the PIC makes a safety assessment of the risk of operating closer to those objects and determines that it does not present an undue hazard) are followed. I ask for the same exemption here.

Section 91.121 requires, in pertinent part, 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."

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA found that considering the limited altitude of the proposed operations, relief from 14 CFR 91.121 was granted to the extent necessary to comply with the applicable conditions and limitations stated subsequently by the FAA. I ask for the same exemption here.

Section 91.151(a) prescribes that no person may begin a flight in an airplane under VFR condi-

tions 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.

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA granted relief from 14 CFR 91.151(a) with the condition that the PIC does not begin a flight unless (considering wind and forecast weather conditions) there is enough power to fly to the first point of intended landing and, assuming normal cruising speed, land the UA with 30% battery power remaining. I ask for the same exemption here.

Section 91.405(a) requires, in pertinent part, that an aircraft operator or owner shall have that aircraft inspected as prescribed in subpart E of the same part and shall, between required inspections, except as provided in paragraph (c) of the same section, have discrepancies repaired as prescribed in part 43 of the chapter.
Section 91.407(a)(1) prohibits, in pertinent part, any person from operating an aircraft that has undergone maintenance, preventive maintenance, rebuilding, or alteration unless it has been approved for return to service by a person authorized under § 43.7 of the same chapter.
Section 91.409(a) prescribes, in pertinent part, that no person may operate an aircraft unless, within the preceding 12 calendar months, it has
(1) had an annual inspection in accordance with part 43 and been approved for return to service by a person authorized under section 43.7, or
(2) had an inspection for the issuance of an airworthiness certificate in accordance with part 21 of this chapter.
Section 91.417(a) and (b) prescribes, in pertinent part, that—
(a) 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) of 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.5
(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 next 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.
(b) 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 section 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.

In Grant of Exemption No. 11138 (Douglas Trudeau) the FAA found that adherence to the petitioner's operating documents and the conditions and limitations the FAA set forth, describing the requirements for maintenance, inspection, and record keeping, were sufficient to ensure that safety is not adversely affected. Accordingly, the FAA found that exemption from 14 CFR 91.405(a), 91.407(a)(1), 91.409(a)(1) and (2), and 91.417(a) and (b) was warranted. I ask for the same exemptions here.

The FAA has recently released its proposal to change specific rules to allow the operation of UAS in the National Airspace System. These proposals would allow UAS flight within G airspace, which covers the entire area I am proposing to work within (see attachment 1: Work_Area.pdf). I would ask for an exemption that would allow me to work within G airspace as per the FAA's proposals. Failing that I suggest the following: Previously the FAA has imposed a blanket ban on commercial UAS flight within 5 NM of any airport reference point. Being the pilot of a small plane I understand and appreciate this, particularly as it relates to airports surrounded by flat terrain as it is in much of the country. However in the area along the northern California coast where I am proposing to fly my UAS, much (if not most) of the terrain is forested by trees of sizable height; for any plane flying at tree level a UAS is the least of their problems (see attachment: Houses_and_Trees.pdf). Additionally the main airports in this area are situated in deforested areas on the tops of ridges where the land falls away to a valley on one side and the ocean on the other (see attachments: CA51_Terrain.pdf, CA51_Trees.pdf, E55_Terrain.pdf, E55_Trees.pdf, Kritz.pdf, DeWilder.pdf). Allowing UAS flight by a knowledgable PIC who uses the trees and geology to stay safely below airport traffic would have no impact on that traffic. The Sea Ranch, where I live and plan to operate much of my commercial services is a small coastal community north of San Francisco, with a private airport (CA51) near it's south end, small public airport (E55) and medical helipad 7 NM up the coast in the neighboring community of Gualala, and a private airport (53CL) 4 NM further west. The airstrips are located in clear cut areas of forest on top of ridges with land decreasing in elevation on both sides of the runways. Additionally the air strips are surrounded by a forest of 75-100+ foot trees. I ask for the following flight restrictions in lieu of a total UAS ban within 5 NM of these airports:

1. No UAS flight in the immediate airport area as defined by the deforested area immediately surrounding the runway, taxiways and approaches.

2. Outside of the no fly area described in item 1, up to a distance of 2 nautical miles from the airport area: UAS flight allowed to a height no greater than any tree or structure within 200 feet of the UAS. This would impose no hazard or concern to air traffic.

3. Between 2 to 5 nautical miles from the air strip area: UAS flight allowed to a height of 200 ft. AGL. This would allow an increased ceiling as the terrain falls away from the airport. As all air traffic departing the air strip will be increasing elevation and all incoming traffic would be far above this level, this will have no effect to air traffic.

4. Beyond 5 nautical miles from the air strip UAS flight allowed to 400 ft. AGL as per the FAA's previously determined restrictions

(see attachment: Local_Detail.pfd)

IV. How Thomas Landecker's Request Will Benefit the Public As A Whole:

I am a professional photographer and an IFR rated private pilot living at The Sea Ranch CA, a coastal community internationally renowned for it's distinctive architecture (see attachment: Utopia_By_The_Sea.pdf). Recently I was approached by local real estate agents who expressed a need for aerial photographs and video to aid in their marketing of houses and properties on The Sea Ranch and surrounding communities. As word spread that I was considering entering this field I was also approached by board members of the historic Point Arena Lighthouse (www.pointarenalighthouse.com) for both promotional aerial footage of the lighthouse itself and video inspection of potential erosion from the ocean in areas only accessible by UAS. The Sea Ranch is also a prime location for destination weddings (http://searanchlodge.com/celebrate/weddings) and other events where safe and legal aerial photos and video would greatly enhance the experience. As has been previously been discussed by other exemption applicants to the FAA (e.g., Douglas Trudeau, Exemption 11138), the cost, safety and ecological advantages of a small battery powered UAS over a small plane are self evident. The primary benefit I would bring to the public is the safety my knowledge and working practices will bring to the area while allowing them to benefit from the great tool that the UAS is.

V. Reasons Why Thomas Landecker's Exemption Will Not Adversely Affect Safety Or How The Exemption Will Provide a Level of Safety At Least Equal To Existing Rule:

I am an instrument rated private pilot with a Piper Archer (N8444S) currently hangared at Sea Ranch (CA51), and for several years prior to that hangared at Ocean Ridge in Gualala (E55). As past president of The Sea Ranch Flying Society I am very familiar with local air traffic and safety issues and am extremely concerned with how the proliferation of Unmanned Aircraft Systems in the hands of non-pilots who are unfamiliar with local airspace could quickly lead to unintentional disaster. There is increasing pressure among the real estate community to utilize UAS photography, I have heard that several local agents are already flying unauthorized UA aircraft to photograph their listings and this is of great concern to me. My primary goal in going through this process is to offer the community a safe and legal means for obtaining the images they need. My proposal for limited, lower level airspace within 5 NM of airports has been well thought out from the perspective of an arriving or departing pilot and local air traffic: what I would not want to see and what would in fact be of no consequence. With my local knowledge and hand held aviation radio I am able to announce and monitor local traffic and avoid potential conflicts. I'm fearful that without access to this limited capability there would be "fly by night" operations by unqualified people putting others at great risk. The UA I use is the DJI Phantom 2 Vision Plus, already

approved by the FAA (Exemption 11138 to Douglas Trudeau, among others) as having appropriate safety features and safeguards. I will fly commercially no higher than 400 ft. AGL though the vast majority of flights will be 100 ft. AGL and less.
I only operate the UAS in VFR conditions (visibility greater than 3 statute miles), not less than 500 feet below or less than 2,000 feet horizontally from any cloud. On the ground I will post warning signs and only operate 500 feet from nonparticipating persons, vessels, vehicles and structures (unless barriers or structures are present that sufficiently protect nonparticipating persons from the UA and/or debris in the event of an accident). I will determine prior to, and continuously during flight that there is no undue hazard to essential persons, and cooperating vessels, vehicles or structures. All operations will be conducted over private or controlled-access property with permission from the land owner/controller or authorized representative. Permission from land owner/controller or authorized representative will be obtained for each flight to be conducted. Finally I bring to my UAS flying the same devotion to safety that I've learned and practice in my airplane flying: Complete familiarization with all aspects of any proposed flight and strict adherence to safety protocols, inspections, maintenance, rules and regulations.

VI. A Summary The FAA May Publish in the Federal Register:

Thomas Landecker is seeking exemption from the requirements of 14 C.F. R. 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). This exemption will permit Thomas Landecker to operate an Unmanned Aircraft System (UAS) for the purpose of commercial photography and video imaging in an area along the northern California coast.

In closing I, Thomas Landecker, believe that exemption from the above listed Title 14 CFRs is warranted and my requested working space near local airports should be allowed given my background as an instrument rated private pilot and my devotion to safety in the air and on the ground. Doing so would provide benefit to the local public both economically and educationally.

Thank you for your consideration.

Respectfully submitted,

Thomas F. Landecker

Attachments:
CA51_No_Fly.pdf
CA51_Terrain.pdf
CA51_Trees.pdf
DeWilder.pdf
E55_No_Fly.pdf
E55_Terrain.PDF
E55_Trees.pdf
Houses_and_Trees.pdf
Kritz.pdf
Local_Detail.pdf
Phantom_2_Vision_Plus_Disclaimer.pdf
Phantom_2_Vision_Plus_Pilot_Training_Guide_v1.1_en.pdf
Phantom_2_Vision_Plus_Quick_Start_Guide_en.pdf
Phantom_2_Vision_Plus_User_Manual_v1.8_en.pdf
Phantom_Checklist.pdf
Utopia_By_The_Sea.pdf
Work_Area.pdf