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

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

August 3, 2015

Exemption No. 12286
Regulatory Docket No. FAA–2015–2089

Mr. Joseph LaCola
Chief Engineer
Top Cat Engineering, LLC
3270 Royal Boulevard
Commerce Township, MI 48382

Dear Mr. LaCola:

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 posted to the public docket on June 11, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Top Cat Engineering, LLC (hereinafter petitioner or operator) for an exemption. The petitioner requested 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.

Airworthiness Certification

The UAS proposed by the petitioner are a DJI Flame Wheel F450 and DJI Flame Wheel F550.

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

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

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

Our Decision

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

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

Conditions and Limitations

In this grant of exemption, Top Cat Engineering, LLC 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 Flame Wheel F450 and DJI Flame Wheel F550 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 August 31, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

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U. S. Department of Transportation
Docket Management System
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Re: Request for Exemption Per PL 112-95 §333 from §§14 CFR 61.113(a) and (b), 14 CFR 91.103, 14 CFR 91.109, 14 CFR 91.119, 14 CFR 91.121, 14 CFR 91.151(a), 14 CFR 91.405(a), 14 CFR 91.407(a)(1), 14 CFR 91.409(a)(2), 14 CFR 91.417(a) and (b)

Dear Sir or Madam:

Please consider this a request for an exemption of the above applicable sections of title 14 CFR for Top Cat Engineering, L.L.C. for the purpose of conducting commercial aerial operations with its small Unmanned Aircraft System. These operations include aerial photography, advertising and engineering development of potential products and systems for sUAS.

The specific section or sections of 14 CFR from which we seek an exemption

Top Cat Engineering, LLC requests exemption from the following applicable regulations, pursuant to the Administrator's authority to grant exemptions contained in 49 U.S.C. § 106(f), 40113, and 44701:

14 CFR 21 Part H
14 CFR 61.113(a) and (b),
14 CFR 91.103,
14 CFR 91.109,
14 CFR 91.119,
14 CFR 91.121,
14 CFR 91.151(a),
14 CFR 91.405(a),
14 CFR 91.407(a)(1),
14 CFR 91.409(a)(2),
14 CFR 91.417(a) and (b)

Top Cat EngineeringLLC's background

Top Cat Engineering LLC intends to engage in aerial photography for private and public events as well as agricultural applications. Top Cat Engineering LLC intends to conduct video and photography for commercial business and promotional purposes. This effort is intended to promote the sUAS and UAV industry to the general public as a safe and beneficial resource.

The engineering activities that Top Cat Engineering LLC is engaged in are engineering development targeted for the sUAS industry. The development includes but may not be limited to; flight planning and guidance subsystems, obstacle avoidance systems, collision avoidance /control and mitigation, and simple working machines designed to be deployed and/or delivered by sUAS.

Top Cat engineering aspires to develop UAS solution that go beyond the current perception of UAV. Jobs such as concierge services, delivery of goods to remote locations, spreading of insecticide and fertilizer to areas not readily accessible and too confining for conventional aircraft.

Description of aircraft and systems operated by Top Cat Engineering LLC

Currently Top Cat Engineering operates variations of the DJI Flame Wheel 450 and 550 multi rotor copter utilizing DJI NAZA-M and 3DR Pixhawk control systems. This system is readily available for purchase and is assembled by the purchaser. The manufacturer includes assembly manuals and system setup procedures with the system. The maximum speed of the UAV is 80 Kph. The power source is a Lithium Polymer battery between 11.4v to 16 v nominal and up to 8000mah charge capacity. The maximum takeoff weight will be no greater than 35 lbs.

Top Cat Engineering LLC's proposal for conducting flight operations

Top Cat Engineering LLC intends to conduct Multi-rotor operations for the purpose of aerial photography, advertisement and promotion as well as prototype ancillary systems development.

The aircraft is capable of flying a pre programmed flight path which can be overridden at anytime by the PIC (pilot in command). The aircraft is equipped with failsafe features that return the aircraft to a predetermined point within the controlled area and land in the event of lost radio communication. The aircraft's control system also features an altitude limiting and operational distance limiting capability which can be preprogrammed and customized for each flight operation. The aircraft's control system incorporates a low battery warning which will

automatically land UAV in the event that battery voltage falls below a pre determined threshold.

The control of the UAV will be through a Radio Transmitter and Receiver that is manufactured by Futaba operating on the 2.4ghz spectrum.
The Futaba 8J radio system is FCC approved.

The following protocols will be implemented for each flight:

1. Flights will be operated within line of sight of a pilot and/or visual observer (VO).
2. Flights will be terminated at or before the automatic battery low voltage signals 25% battery power reserve. Actual data for flight endurance will be compiled for each aircraft battery configuration prior to the aircraft being deployed for service. Such data will be used to limit flights more accurately than the voltage alert can provide.
3. Flights will be operated at an altitude of no more than 400 feet AGL and within the bounds of a controlled perimeter.
4. Minimum crew for each operation will consist of the pilot in command and a visual observer (VO) who has been trained in accordance with Top Cat Engineering protocol.
5. The operator of the controls and flight planner/coordinator will be an FAA licensed airman with at least a private pilot certificate and hold at least a third class medical certificate.
6. The UAS will only operate within a pre defined controlled area. This area will be secured prior to the flight operation. This area will be clearly marked either with temporary caution signs or barrier tape.
7. If the property over which the flight is to be conducted is privately owned, the property owner's permission to conduct the flight will be obtained prior to the flight operation to be conducted.
8. The VO will be required to complete training in accordance with Top Cat Engineering procedure.
9. Observer and pilot will at all times be able to communicate by voice.
10. All required permissions and permits will be obtained from state, county or city jurisdictions, including local law enforcement or appropriate governmental agencies.

11. The PIC must possess at least a private pilot certificate and at least a current third-class medical certificate. The PIC will 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.
12. Prior to each flight the DJI Flame wheel will be tested in accordance with the NAZA setup manual and Top Cat Engineering procedure for preflight check. This will include but will not be limited to preprogramming of the altitude and distance limiting feature; test of the battery low voltage warning; and a test of the failsafe system.
13. The operator will obtain the consent of all persons involved in the operation and ensure that only consenting persons will be allowed within 30 feet of the flight operation. This radius may be reduced further based upon an equivalent level of safety determination with the advanced permission of the relevant FSDO.
14. Operators will maintain the UAV system in a condition for safe operation, and conduct a pre-flight inspection prior to each flight so as to ensure that the UAS, control station, data link equipment, payload, and support equipment are in a condition for safe operation and in a configuration appropriate for the purpose of the intended flight.
15. In certain cases and particular operations there may exist the requirement to submit an application of waver. The operator will file an FAA Form 7711-1, or its equivalent, as modified in light of the requested exemption, with the appropriate Flight Standards District Office.

The extent of relief sought by Top Cat Engineering LLC and the reason relief is sought

The following section will describe the extent of relief Top Cat Engineering LLC seeks in each section of 14 C.F.R. requested, as well as reasons why the exemption would not adversely affect safety or how the exemption would provide a level of safety at least equal to the existing rule:

14 C.F.R. 21 Part H: Airworthiness certificate

Part 21 Subpart H prescribes procedural requirements for the issue of airworthiness certificates. Top Cat Engineering LLC requests exemption from this subpart to operate the DJI flame wheel 440 without the requirement for an airworthiness certificate. This position is based on the proposed UAS being limited in its current scope of capability, weight, speed, and operating envelope. The UAV carries no passengers or flammable materials such as gasoline or jet fuel. The UAV will be operated within visual line of site. It is for the preceding reasons that Top Cat

Engineering LLC maintains that an airworthiness certificate is not necessary to ensure an equivalent level of safety to manned aircraft operations. (This request is similar in all material aspects to request for same in grant of exemption for Troy Built Models number 11493 Regulatory Docket No. FAA–2015–0315)

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

Because the UAS will not carry a pilot or passengers, the proposed operations can achieve the equivalent level of safety of current operations by requiring the PIC operating the aircraft to possess a private pilot's certificate to operate this small UAV. The Pilot in Command will possess, at minimum, a private pilot's certificate, meet applicable recent flight experience requirements and hold at least a third class medical certificate. The Visual Observer will be trained in accordance with the Top Cat Engineering's visual observers training protocol. Top Cat Engineering LLC requests exemption from 14 C.F.R. § 61.113(a) and (b) to allow Top Cat Engineering to commercially operate the DJI flame wheel UAS while being operated by persons holding private pilot certificates.(This request is similar in all material aspects to request for same in grant of exemption for Troy Built Models number 11493 Regulatory Docket No. FAA–2015–0315 & Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894)

14 CFR 91.103: Pre Flight action

All of Top Cat Engineering LLC's flights will be conducted in VFR conditions. No takeoff and landing distances are published for the DJI Flame Wheel. An equivalent level of safety will be provided by the PIC obtaining all pertinent weather information from an official FAA weather source. In addition a pre flight briefing will be conducted prior to any operation in accordance with the operations manual. This briefing will include a review of all factors affecting the flight including an examination of the secured operation envelop and any aerial obstacles that might affect the intended flight paths.(This request is similar in all material aspects to request for same in grant of exemption for Troy Built Models number 11493 Regulatory Docket No. FAA–2015–0315)

14 CFR 91.109: Flight instruction

Flight Instruction (14 CFR 91.109), No pilot or passengers will be carried aboard. (This request is similar in all material aspects to request for same in grant of exemption for Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894)

14 CFR 91.119: Minimum safe altitudes

Top Cat Engineering LLC requests exemption to 14 CFR 91.119 because the UAV will operate at altitudes up to but not exceeding 400 feet AGL within a specifically

defined area. At no time will the UAV be operated directly over a person. In The event flight takes place over public lands, such as a park, wild life refuge Top Cat Engineering LLC will obtain permission to operate. The UAV is capable of an emergency landing in a vertical manner and requires no runway or horizontal landing area in the event of such an emergency. In this way Top Cat Engineering LLC maintains that an equivalent or greater level of safety will be achieved. (This request is similar in all material aspects to request for same in grant of exemption for Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894)

14 CFR 91.121: Altimeter settings

Top Cat Engineering LLC seeks an exemption from CFR 91.121 because the DJI Flame wheel with NAZA controller does not have a barometric altimeter, but rather an imbedded GPS based altitude reporting system. The UAV altitude limiting feature will be programmed to remain below an altitude appropriate for the flight and one in which the visual observer can maintain line of site At no time will the UAV be allowed to operate any higher than 400 feet AGL. In this way Top Cat Engineering maintains that an equivalent or greater level of safety will be achieved. (This request is similar in all material aspects to request for same in grant of exemption for Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894 & High Adveture Air Inc. number 11461 Regulatory Docket No. FAA-2015-0270)

14 CFR 91.151(a): Fuel requirements

Top Cat Engineering LLC, seeks exemption from 14 CFR 91.151(a). The sUAS is powered by a battery, which provides up to 30 minutes of powered flight. Because of the absence of flammable operating fluids, a sUAS would not pose the same level of risk as a conventional aircraft. All participants in safe operating perimeter have been informed and educated, and have indicated consent. All Top Cat Engineering LLC PICs will terminate flights when remaining battery power level reaches 25 %.(this request is similar in all material aspects to request for same in grant of exemption for Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894)

14 C.F.R. 91.405(a); 14 C.F.R. 91.407(a)(1) & (2); 14 C.F.R. 91.409(a)(1) & (2); 14 C.F.R. 91.417(a) & (b): Maintenance and Inspections

An exemption is requested as these sections requires the aircraft be inspected in accordance with Part 43 and is needed as these sections apply only to aircraft with an airworthiness certificate. An equivalent level of safety will be achieved by the Pilot in Command following the Top Cat Engineering LLC operations manual as well as the DJI User's Manuals. The operator will ensure that the UAS is in working order prior to each flight and maintain a detailed log of maintenance performed. The operator is the person most familiar with the aircraft and can provide the equivalent level of safety as intended by the rule. The DJI Flame wheel Flight Log will be

provided separately on request. (This request is similar in all material aspects to request for same in grant of exemption for Troy Built Models number 11493 Regulatory Docket No. FAA–2015–0315 & Aeirus Flight LLC number 11240 Regulatory Docket No. FAA-2014-0894)

The reasons why granting Top Cat Engineering LLC 's request would be in the public interest

By granting this exemption request Top Cat Engineering LLC will provide the service of aerial photography, video and advertising to the general public and commercial enterprise that would benefit greatly from these services. These services would normally be cost prohibitive utilizing traditional methods. These services when performed in accordance with the safety measures outlined above would pose less harm to the general public than traditional manned aircraft.

By granting this exemption Top Cat Engineering LLC will be able to perform critical development of UAS systems and ancillary systems that will allow safer conduct of certain jobs such as power line inspection, roof inspection and insecticide delivery in a much safer and economically advantageous manner.

By granting this exemption Top Cat Engineering LLC will be allowed to demonstrate UAS aircraft capability, systems capability and potential applications to the general public. This will enable Top Cat Engineering LLC to introduce UAV and UAS to the general public in a safe and professional manner.

Summary that can be printed in the public register

Petitioner: **Top Cat Engineering LLC Seeks relief from the following sections of 14 C.F.R.:**

14 CFR 21 Part H
14 CFR 61.113(a) and (b),
14 CFR 91.103,
14 CFR 91.109,
14 CFR 91.119,
14 CFR 91.121,
14 CFR 91.151(a),
14 CFR 91.405(a),
14 CFR 91.407(a)(1),
14 CFR 91.409(a)(2),
14 CFR 91.417(a) and (b)

Description of Relief Sought:

Petitioner seeks relief from the requirements to conduct commercial small unmanned aircraft systems (sUAS) operations subject to operating procedures that meet or exceed those that FAA requires for similar operations.

Any additional information, views or arguments available to support your request:

Please see the introduction to this exemption request.

If you want to exercise the privileges of your exemption outside of the United States, and the reason why you need to do so*:*

The commercial, demonstrations and development operations described in this exemption request will be conducted wholly within the United States.

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 to grant Top Cat Engineering LLCs, requested exemption, allowing for Top Cat Engineering LLCs UAS commercial operations for the purpose of photography, video and promotional demonstration pursuant to the FOM and POHs.

Attachments:
NAZA for Multirotor user manual
Futaba 8J user manual
Gadget station GoPro Gimbal guide
F450 User Manual v2.1
F550 User Manual v1.8

Confidential manuals are available upon request.

Sincerely

Joseph LaCola
Chief Engineer
Top Cat Engineering L.L.C.