



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

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

September 15, 2015

Exemption No. 12852
Regulatory Docket No. FAA-2015-2668

Mr. Sayer Crompton
The Kroger Co.
1014 Vine Street
Cincinnati, OH 45202

Dear Mr. Crompton:

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 June 5, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of The Kroger Co. (hereinafter petitioner or operator) for an exemption. The petitioner requested to operate an unmanned aircraft system (UAS) to conduct aerial filming and photography of its facilities and hosted events.

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 is a DJI Inspire 1.

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 collection¹. 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, The Kroger Co. 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, The Kroger Co. 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 Inspire 1 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.nts.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 September 30, 2017, unless sooner superseded or rescinded.

Sincerely,

/s/

John S. Duncan

Director, Flight Standards Service

Enclosures

June 05, 2015

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

Re: Exemption Request Under Section 333 of the FAA Reform Act and
Part 11 of the Federal Aviation Regulations for Kroger Television, the internal media division of
The Kroger Co., under 200ft AGL.

Dear Sir or Madam:

Pursuant to §333 of the FAA Modernization and Reform Act of 2012 (the Reform Act) and 14 C.F.R. Part 11, The Kroger Co., hereby applies for an exemption from the listed Federal Aviation Regulations (FARs) to allow commercial operation of its sUASs under 200ft AGL by its internal media group, Kroger Television, for purposes of aerial filming and photography of its facilities and hosted events, so long as such operations are conducted within and under the conditions outlined herein or as may be established by the Federal Aviation Administration (FAA) as required by §333.

As described more fully below, the requested exemption would permit the operation of small, unmanned and multi-rotor aircraft under controlled conditions in airspace that is 1) contained 2) predetermined 3) has on-site safety personnel controlling access, and 4) would provide increased safety and enhancements to clients' business operations.

Operations under the exemption will be subject to strict requirements and conditions to ensure at least an equivalent level of safety to currently authorized operations using manned aircraft and under conditions as may be modified by the FAA as required by Section 333.

We are prepared to modify or amend any part of this request to satisfy the need for an equivalent level of safety. We look forward to working with your office. Please contact us at any time if you require additional information or clarification.

The name and address of the applicant is:

The Kroger Co. – Kroger Television
Attn: Sayer Crompton
Phone: (513) 762-1392
Email: sayer.crompton@kroger.com
1014 Vine Street
Cincinnati, OH 45202

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

- 14 C.F.R. Part 21
- 14 C.F.R. 45.23(b)
- 14 C.F.R. 61.113(a) & (b)
- 14 C.F.R. 61.133(a)
- 14 C.F.R. 91.7(b)
- 14 C.F.R. 91.9(b)(2)
- 14 C.F.R. 91.109(a)
- 14 C.F.R. 91.119
- 14 C.F.R. 91.151(a)
- 14 C.F.R. 91.203(a) & (b)
- 14 C.F.R. 91.405(a)
- 14 C.F.R. 91.407(a)(1)
- 14 C.F.R. 91.409(a)(2)
- 14 C.F.R. 91.417(a)

PUBLIC INTEREST AND HOW THE PUBLIC WILL BENEFIT

The exemption request will permit The Kroger Co.'s Kroger Television division to operate small unmanned aircraft systems(sUAS) commercially for the purpose of aerial filming and photography of its facilities and hosted events. The Kroger Co. seeks to benefit the public by using this platform to provide more in-depth training and communications to its associates regarding their facilities resulting in safer work environments and a better customer experience.

The Kroger Co.'s sUASs are battery powered and serve as a safe, efficient, and economical alternative to the manned aircraft traditionally utilized to obtain aerial imagery. By reducing the amount of manned aircraft needed to perform aerial acquisitions, an exemption allowing the use of a sUAS would reduce the amount of manned aircraft in the NAS, reduce noise and air pollution, as well as increase the safety of life and property in the air and on the ground.

Conducting aerial acquisitions with The Kroger Co.'s sUASs, instead of manned aircraft, will greatly benefit the public by drastically reducing the levels of air and noise pollution generated during traditional aerial survey flight operations.

PUBLIC SAFETY

The Kroger Co. respectfully submits that because this sUAS will be used in lieu of comparatively hazardous operations now conducted with fixed wing and rotary conventional aircraft, the FAA can have confidence that the operations will achieve at least an equivalent, if not greater, level of safety. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities under Section

333(c) of the Reform Act to “establish requirements for the safe operation of such aircraft systems in the national airspace system.”

Utilizing The Kroger Co.’s sUAS for aerial acquisitions will not have detrimental effects to the environment caused by operating a combustible fuel based, large scale manned aircraft.

Whether helping to protect the public, inspecting infrastructure or acquiring aerial imagery, sUASs provide real-time situational awareness, enabling better decision-making. Better decision-making saves lives and protects property.

PRIVACY

All flights will occur over private or controlled access property with the property owner’s or controlling authority’s prior consent and knowledge.

Aerial photography/filming will be of people who have also consented to being photographed or otherwise have agreed to be in the area where filming will take place.

Airworthiness of the Inspire

The DJI Inspire 1 is small, lightweight, and will operate at slow speeds, close to the ground, far from airports and in a low risk, low population environments. Approval of this exemption would thereby enhance safety and also fulfill the Secretary of Transportation’s (the FAA Administrator’s) responsibilities under Section 333(c) of the Reform Act to “establish requirements for the safe operation of such aircraft systems in the national airspace system.”

A critical element of the exemption application involves evidence of the airworthiness of the Inspire. The Kroger Co. believes that it is in compliance with the requirements of Order 8130.34C, Airworthiness Certification of Unmanned Aircraft Systems and Optionally Piloted Aircraft, in its use of system developed by DJI. The Inspire has a high degree of redundancy and numerous safety features, including:

- Return-to-home failsafe in the event of a loss of communications or low battery
- Configurable Geo-fenced limitations for area of operation and altitude
- Configurable limitations for vertical and horizontal speed
- High visibility lighting system
- Interactive on screen display for streaming real time systems data.

Mandatory Operating Conditions

Grant of the exemption to The Kroger Co.’s internal media division Kroger Television will be subject to the following mandatory conditions, which are based upon operating conditions set forth for operation of UAS by public entities pursuant to Certificates of Authorization, with additional restrictions:

- Operations to be conducted over private or controlled-access property.
- Permission from land owner/controller required before commencing any flight.
- Operations to occur during Visual Flight Rules Meteorological Conditions (VMC).
- Aircraft to remain within Visual Line of Sight (VLOS).
 - VLOS guaranteed with a cylinder of operation around operator of 1/2 nautical miles (NM).

- o Cylinder walls may be expanded by observer with ability to control aircraft.
- Operations to occur during daylight hours.
- Above Ground Level (AGL) altitude to be restricted to 500 feet and below.
- All operations conducted in vicinity of airport to remain more than 2.5 NM from centerline azimuth of runway centerline measured from runway thresholds. Unless otherwise approved by local airport authority and NOTAM'd as such
- Operator will file a NOTAM for each flight, as required.
- All required permissions and permits will be obtained from territorial, state, county or city jurisdictions, including local law enforcement, fire, or other appropriate governmental agencies.

Operator Requirements

The Kroger Co. respectfully proposes that operator requirements should take into account the characteristics of the particular UAS. Certain UASs, such as the DJI Inspire1, are characterized by a high degree of pre-programmed control and various built-in technical capabilities that limit the potential for operation outside of the operating conditions set forth above.

The Inspire has a semi-autonomous navigation and control system comprised of a Ground Control Station (GCS) and auto pilot system. Flights can be pre-programmed and operate with GPS guidance and may not require human intervention. Additional automated safety functions and safety enhancing features of the Inspire include the following:

- Auto-pilot detection of lost GPS or of insufficient satellites initiates an immediate vertical landing, unless overridden by pilot in command.
- Low power on the aircraft triggers escalating alarms at GCS at 35% and 10% levels.
- If the auto-pilot detects a lost-link to the GCS for longer than 30 seconds, return-to-home sequence initiates.
- Aircraft has an on-board failsafe that limits vertical speed to approximately 6 m/s (configurable).
- The aircraft, weighing less than 7 lbs., fully loaded, is constructed of composite material intended to absorb impact energy.
- The motors are driven by pulse width modulated signals, not analog signals.

Given these safety features, The Kroger Co. proposes that the operator and Inspire1 together are more than qualified to operate commercial flights while maintaining the highest level of safety standards.

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

LIST OF ATTACHMENTS

1. UAS Operational Limitations and Conditions
2. Pre Flight/Post Flight Checklist
3. DJI Inspire1, Operating Manual
4. DJI Inspire1, Maintenance Manual
5. DJI Inspire1, Safety Guidelines
6. DJI Inspire1 Quickstart Guide
7. DJI Inspire1 Intelligent Flight Battery Safety Guidelines

8. DJI Disclaimer and Warning document for Inspire1

APPENDIX A

EXEMPTION REQUEST AND EQUIVALENT LEVEL OF SAFETY SHOWINGS UNDER APPLICABLE RULES SUBJECT TO EXEMPTION

The Kroger Co. requests an exemption from the following regulations as well as any additional regulations that may technically apply to the operation of the Inspire:

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

The regulation provides:

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

The Inspire has no entrance to the cabin, cockpit, or pilot station on which the word “Experimental” can be placed. Given the size of the UAV, two-inch lettering will be impossible. The word “Experimental” will be placed on the forward fuselage in compliance with § 45.29(f).

The equivalent level of safety will be achieved by having the Inspire marked as required by § 45.29(f) where the pilot, observer, and others working with the UAV will see the identification of the UAS as “Experimental.” The FAA has issued the following exemptions to this regulation, Exemption Nos. 10700, 8738, 10167 and 10167A.

14 C.F.R. Part 21, Subpart H: Airworthiness Certificates 14 CFR § 91.203(a)(1)

Section 91.203(a)(1) requires all civil aircraft to have a certificate of airworthiness. Part 21, Subpart H, entitled Airworthiness Certificates, establishes the procedural requirements for the issuance of airworthiness certificates as required by FAR § 91.203(a)(1). Given the size of the aircraft (under 7lbs.) and the limited operating area associated with its utilization, it is unnecessary to go through the certificate of airworthiness process under Part 21 Subpart H to achieve or exceed current safety levels.

Such an exemption meets the requirements of an equivalent level of safety under Part 11 and Section 333 of the Reform Act. The Federal Aviation Act and Section 333 of the Reform Act both authorize the FAA to exempt aircraft from the requirement for an airworthiness certificate, upon consideration of the size, weight, speed, operational capability, and proximity to airports and populated areas of the UAS involved.

In this case, an analysis of these criteria demonstrates that the Inspire operated without an airworthiness certificate, under the conditions proposed herein, will be at least as safe, or safer, than a conventional aircraft (fixed wing or rotorcraft) with an airworthiness certificate. The Inspire weighs less than 7 lbs. fully loaded. It will not carry a pilot or passenger, will not carry flammable fuel, and will operate exclusively within an area pre-disclosed and in compliance with

conditions set forth herein. Operations under this exemption will be tightly controlled and monitored by both the operator, pursuant to the conditions set forth above, and by local public safety requirements. Receipt of the prior permission of the land owner, the size of the aircraft, the lack of flammable fuel, and the fact that the aircraft is carried to the location and not flown there all establish the equivalent level of safety. The Inspire construction with absorbent material provides at least an equivalent level of safety to that of such operations being conducted with conventional aircraft that would be orders-of-magnitude larger and would be carrying passengers, cargo, and flammable fuel.

14 C.F.R. § 61.113(a) & (b); 61.133(a): Private Pilot Privileges and Limitations; Pilot in Command; Commercial Pilot Privileges and Limitations.

Sections 61.113 (a) & (b) limit private pilots to non-commercial operations. 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 have a private pilot's license rather than a commercial pilot's license to operate this small UAS. Unlike a conventional aircraft that carries the pilot and passengers, the sUAS is remotely controlled with no living thing on board. The area of operation is controlled and restricted, and all flights are planned and coordinated in advance. The risks associated with the operation of the sUAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 when drafted, that allowing operations of the sUAS as requested with a private pilot or higher rating as the PIC exceeds the present level of safety achieved by 14 C.F.R. §61.113 (a) & (b)

14 C.F.R. § 91.7(a): Civil aircraft airworthiness.

This regulation requires that no person may operate a civil aircraft unless it is in airworthy condition. Should the exemption be granted allowing commercial operation of the Inspire without an airworthiness certificate, no standard will exist for airworthiness of the Inspire. Given the size of the aircraft and the requirements that have presumably already been met in the SAC approval process for the Inspire (for instance, the Inspire's Maintenance & Inspection Manual and Safety Checklist), an equivalent level of safety will be achieved by insuring compliance with the appropriate manuals prior to each flight.

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

The regulation provides:

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

Given the size and configuration of the Inspire, it has no ability or place to carry such a flight manual on the aircraft, not only because there is no pilot on board, but because there is no room or capacity to carry such an item on the aircraft.

The equivalent level of safety will be achieved by keeping the flight manual (see, e.g., User Guide, Exhibit 2) at the ground control point where the pilot flying the UAS will have immediate access to it. The FAA has issued the following exemptions to this regulation: Exemption Nos. 8607, 8737, 8738, 9299, 9299A, 9565, 9565B, 10167, 10167A, 10602, 32827, and 10700.

14 C.F.R. § 91.109(a) & 91.319(a)(1): Flight Instruction

These regulations provide that no person may operate a civil aircraft (except a manned free

balloon) that is being used for flight instruction unless that aircraft has fully functioning dual controls. The Inspire is a remotely piloted aircraft and by design, does not have fully functional dual controls. Flight control is accomplished through the use of a control box that communicates with the aircraft via radio communications. The flight plan is pre-programmed into the auto pilot before flight and only in unusual circumstances will the pilot input control functions to alter the pre-programmed flight. If instruction is accomplished through a training program, as set forth in Exhibit 2, an equivalent level of safety will be assured. The FAA has approved exemptions for flight training without fully functional dual controls for a number of aircraft and for flight instruction in experimental aircraft. See Exemption Nos. 5778K & 9862A. The equivalent level of safety will be achieved by the manufacturer providing the training as outlined, for example, in Exhibit 2 and through the use of experienced and qualified pilots familiar with the Inspire1.

14 CFR § 91.119: Minimum Safe Altitudes

Section 91.119 establishes safe altitudes for operation of civil aircraft. Specifically, 91.119(c) limits aircraft flying over areas other than congested areas to 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.

As set forth herein, the Inspire will never operate at higher than 200 feet AGL. Because aerial filming and photography of facilities must be captured at low altitudes to be beneficial in a training and communications environment, an exemption from Section 91.119(c) is needed.

The equivalent level of safety will be achieved given the size, weight, speed, and material with which the Inspire is built. Also, no flight will be taken without the permission of the land owner, if other than The Kroger Co., or those who control the land. Compared to aerial filming and photography operations conducted with aircraft or rotorcraft weighing far more than 7 lbs. and carrying flammable fuel, any risk associated with these operations will be far less than those currently allowed with conventional aircraft operating at or below 200 feet AGL. Indeed, the low-altitude operations of the UAS will maintain separation between these small- UAS operations and the operations of conventional aircraft that must comply with Section 91.119.

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

This regulation prohibits an individual from beginning “a flight in an airplane under VFR conditions unless (considering wind and forecast weather conditions) there is enough fuel to fly to the first point of intended landing and, assuming normal cruising speed – (1) During the day, to fly after that for at least 30 minutes; or (2) At night, to fly after that for at least 45 minutes.” The Inspire batteries provide approximately 20 minutes of powered flight. Without an exemption from § 14 CFR 91.151, the UAS’s flights would be limited to approximately 20 minutes in length. Given the limitations on its proposed operations and the location of those proposed operations, a longer time frame for flight in daylight VFR conditions is reasonable. The Kroger Co. believes that an exemption from 14 CFR § 91.151(a) is safe and within the scope of a prior exemption. See Exemption 10673 (allowing Lockheed Martin Corporation to operate without compliance with 91.151(a)). Operating the small UAS, without 30 minutes of reserve fuel does not engender the type of risks that Section 91.151(a) was meant to prevent given the size and speed at which the UAS operates. The fact that it carries no pilot, passenger, or cargo also enhances its safety. In the unlikely event that the Inspire1 should run out of fuel, it would simply land. Given its weight and construction material, the risks are less than contemplated by the current regulation. The Kroger Co. believes that an equivalent level of safety can be achieved by maintaining 25% battery reserve, which would be more than adequate to return the UAS to its

planned landing zone from anywhere in its operating area.

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

This regulation provides as follows:

(a)...no person may operate a civil aircraft unless it has...an appropriate and current airworthiness certificate.

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

The Inspire1 fully loaded weighs no more than 7 lbs. As such, there is no ability or place to carry certification and registration documents or to display them on the UAS. In addition, there is no pilot on board the aircraft.

An equivalent level of safety will be achieved by keeping these documents at the ground control point where the pilot flying the UAS will have immediate access to them. The FAA has issued numerous exemptions to this regulation. A representative sample of other exceptions includes Exemption Nos. 9565, 9665, 9789, 9789A, 9797, 9797A, 9816A, and 10700.

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

Section 91.405(a) requires that an aircraft operator or owner “shall have that aircraft inspected as prescribed in subpart E of this part and shall between required inspections, except as provided in paragraph (c) of this section, have discrepancies repaired as prescribed in part 43 of this chapter...” Section 91.407 similarly makes reference to requirements in Part 43; Section 91.409(a)(2) requires an annual inspection for the issuance of an airworthiness certificate. Section 91.417(a) requires the owner or operator to keep records showing certain maintenance work that has been accomplished by certificated mechanics, under Part 43, or licensed pilots and records of approval of the aircraft for return to service.

Maintenance of the Inspire will be accomplished by the owner/operator pursuant to the manuals, such provided by The Kroger Co. An equivalent level of safety will be achieved because the UAS is small in size, will operate only in restricted predetermined areas, and is not a complex mechanical device. As provided in the attached User Manual and the Safety Checklist, the operator of Inspire1 will ensure that the UAS is in working order prior to initiating flight, perform required maintenance, and keep a log of any maintenance that is performed. Moreover, the operator is the person most familiar with the aircraft and is best suited to maintain the aircraft in an airworthy condition and to ensure an equivalent level of safety.

APPENDIX B

SUMMARY OF EA SECTION 333 EXEMPTION REQUEST

Exemption numbers 11606, 11607, and 11558 are examples of the past granted exemptions using the Inspire1 for similar-purposed uses and as such, they should be taken into consideration. The Kroger Co. hereby provides pursuant to Part 11 a summary of its exemption application to allow commercial operation of the Inspire unmanned aircraft for the purpose of aerial filming and photography of its facilities and events. An exemption is requested from the following

regulations:

- 14 C.F.R. Part 21
- 14 C.F.R. 45.23(b)
- 14 C.F.R. 61.113(a) & (b)
- 14 C.F.R. 61.133(a)
- 14 C.F.R. 91.7(b)
- 14 C.F.R. 91.9(b)(2)
- 14 C.F.R. 91.109(a)
- 14 C.F.R. 91.119
- 14 C.F.R. 91.151(a)
- 14 C.F.R. 91.203(a) & (b)
- 14 C.F.R. 91.405(a)
- 14 C.F.R. 91.407(a)(1)
- 14 C.F.R. 91.409(a)(2)
- 14 C.F.R. 91.417(a)

THE APPLICABLE LEGAL STANDARD UNDER SECTION 333

The Kroger Co. submits that grant of this exemption application advances the Congressional mandate in Section 333 of the Reform Act to accelerate the introduction of sUASs into the NAS if it can be accomplished safely. This law directs the Secretary of Transportation to consider whether certain UASs may operate safely in the NAS before completion of the rulemaking required under Section 332 of the Reform Act. In making this determination, the Secretary is required to determine which types of UASs do not create a hazard to users of the NAS, the public, or pose a threat to national security in light of the following:

- The UAS's size, weight, speed, and operational capability;
- Operation of the UAS in close proximity to airports and populated areas; and
- Operation of the UAS within visual line of sight of the operator.

Reform Act §333(a)(1). If the Secretary determines that such vehicles “may operate safely in the national airspace system, the Secretary shall establish requirements for the safe operation of such aircraft in the national airspace system.” Id. §333(c).

The Federal Aviation Act expressly grants the FAA the authority to issue exemptions. This statutory authority, by its terms, includes exempting civil aircraft, as the term is defined under §40101 of the Act, from the requirement that all civil aircraft must have current airworthiness certificate and those regulations requiring commercial pilots to operate aircraft in commercial service:

The Administrator may grant an exemption from a requirement of a regulation prescribed under subsection (a) or (b) of this section or any of sections 44702-44716 of this title if the Administrator finds the exemption is in the public interest.

The grant of the requested exemption is in the public interest based on the clear direction in Section 333 of the Reform Act; the additional authority in the Federal Aviation Act, as amended; the strong equivalent level of safety surrounding the proposed operations; and the significant

public benefit, including enhanced safety and cost savings associated with use of sUASs for aerial videography/photography, the reduction or elimination of unregulated operators, and the safe integration of UASs. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

Conclusion

As set forth herein, The Kroger Co. seeks an exemption pursuant to 14 C.F.R. § 11.61 and Section 333 of the FAA Modernization and Reform Act of 2012 from the requirements of 14 CFR § 21; 61.113 (a) & (b); 61.133 (a); 91.7 (a); 91.9 (b); 91.109 (a); 91.119 (c); 91.121; 91.151 (a); 91.203; 91.405 (a); 91.407 (a) (1); 91.409 (a) (2); 91.417 (a) & (b), which will permit safe operation of the sUASs commercially, without an airworthiness certificate, for the limited purpose of conducting aerial filming and photography over small, defined operational areas of the United States.

Approval of the exemption allowing commercial operations of The Kroger Co.'s sUASs by Kroger Television will increase safety by permitting an operator to conduct a service safely by adhering to the prescribed guidelines. The exemption will also encourage the education of sUAS operators and the adoption of FAA guidelines and approval for commercial sUAS operations as pertains to The Kroger Co.'s employees. It will allow The Kroger Co. to provide a service that benefits the public and its associates. It benefits the public through a higher level of safety of sUAS operations and through a smooth integration of sUASs into the NAS. This assists the FAA with its mission of promoting aviation while preserving safety of aviators, the public, and property. The sUASs operated by The Kroger Co.'s internal media department, Kroger Television, satisfy the criteria set forth in §333 of the Reform Act—size, weight, speed, operating capabilities, operation within visual line of sight, and national security—and showing an equivalent level of safety to manned aircraft flights through appropriate pilot certification and safety focused standards of operation, providing more than adequate justification for the grant of the requested exemptions allowing commercial operations. By granting this Petition, the FAA Administrator will be fulfilling the Congressional mandate of the FAA Modernization and Reform Act of 2012, while also advancing the interests of the public, by allowing The Kroger Co. to safely, efficiently, and economically operate the sUASs commercially within the NAS.

Thank you for your review of this matter.

Respectfully,

A handwritten signature in black ink, appearing to read 'Sayer Crompton', with a long horizontal flourish extending to the right.

Sayer Crompton

The Kroger Co.

