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

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

July 23, 2015

Exemption No. 11775A
Regulatory Docket No. FAA-2015-0579

Mr. Brad Meier
Aerial Edge, Inc.
3908 Meridian Avenue North
Seattle, WA 98103

Dear Mr. Meier:

This letter is to inform you that we have granted your petition for an amendment. It explains the basis for our decision, describes its effect, and lists any changes to the original conditions and limitations.

By letter dated February 5, 2015, you petitioned the Federal Aviation Administration (FAA) on behalf of Aerial Edge, Inc. (hereinafter petitioner or operator) to operate the Cinestar 8 (AE001, AE002, AE003, AE004) and Cinestar 6 (AE005 and AE006) to perform aerial data collection and closed-set motion picture and filming. In the June 8, 2015 decision letter, the FAA was unable to approve the Cinestar 6 (AE005 and AE006). The FAA is now prepared to act on that request.

The FAA has determined that good cause exists for not publishing a summary of the petition in the Federal Register because the requested amendment to the exemption would not set a precedent, and any delay in acting on this petition would be detrimental to the petitioner. The unmanned aircraft authorized in the original grant are comparable in type, size, weight, speed and operating capabilities to those in this petition.

Airworthiness Certification

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, C*ertification procedures for products and parts, Subpart H—Airworthiness Certificates*, and any associated noise certification and testing requirements of part 36, is not necessary.

Our Decision

The FAA has determined that the justification for the issuance of Exemption No. 11775 remains valid and is in the public interest. Therefore, under the authority contained in 49 U.S.C. 106(f), 40113, and 44701, delegated to me by the Administrator, the operator is granted an amendment to add new aircraft to its UAS operations.

The operator shall add this amendment to its original exemption.

Conditions and Limitations

All conditions and limitations within Grant of Exemption No. 11775 remain in effect except as follows. Condition No. 1 has been updated to reflect the additional aircraft.

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 Cinestar 8 (AE001, AE002, AE003, AE004) and Cinestar 6 (AE005 and AE006) 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.

This exemption terminates on June 30, 2017, unless sooner superseded or rescinded.

Sincerely,

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

Enclosures

Aerial Edge, Inc.
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February 5 2015

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

Re: Exemption Request Section 333 of the FAA Reform Act and Part 11 of the Federal Aviation Regulations from 14 CFR Parts 61.113 (a) & (b), 91.119 (c), 91.151(a), 91.405 (a), 91.407 (a) (1), 91.409 (a) (2), and 91.417 (a) & (b)

Dear Sir or Madam:

Pursuant to Section 333 of the FAA Modernization and Reform Act of 2012 and 14 CFR Part 11, Aerial Edge, Inc, an operator of Unmanned Aircraft Systems, hereby applies for the exemption of certain Federal Aviation Regulations during photography and filming commercial operations for use in the television and motion picture industry.

As described more fully below, the requested exemption would permit the operation of small, unmanned and relatively inexpensive sUAS under controlled conditions in airspace that is 1) limited 2) predetermined 3) controlled as to access and 4) would provide safety enhancements to the already safe operations in the film and television industry presently using conventional aircraft. Approval of this exemption would thereby enhance safety and fulfill the Secretary of Transportation's (the FAA Administrator's) responsibilities to "...establish requirements for the safe operation of such aircraft systems in the national airspace system." Section 333(c) of the Reform Act.

The name and address of the applicant is:

Aerial Edge
Attn:Brad Meier
Ph:+1 334 444 5103
Email: brad.a.meier@gmail.com
Address: 3908 Meridian Ave N Seattle WA 98103

Regulations from which the exemption is requested:

14 CFR §61.113 (a) and (b)
14 CFR §91.119 (c)
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)

This exemption application is expressly submitted to fulfill Congress' goal in passing Section 333(a) through (c) of the Reform Act. This law directs the Secretary of Transportation to consider whether certain unmanned aircraft systems may operate safely in the national airspace system (NAS) before completion of the rule-making required under Section 332 of the Reform Act.

Aerial Edge, Inc sUASs are rotorcraft, weighting 55 or fewer lbs. including payload. Under normal conditions they operate at a speed of no more than 50 knots, have the capability to hover or move in the vertical and horizontal plane simultaneously. They will operate only in line of sight and only within the sterile area described in the Motion Picture and Television Operations Manual, confidential and attached. Such operations will insure that the sUAS will "not create a hazard to users of the national airspace system or the public."

Given the small size of the sUASs involved and the restricted sterile environment within which they will operate, the applicant falls squarely within that zone of safety (an equivalent level of safety) in which Congress envisioned that the FAA must, by exemption, allow commercial operations of UASs to commence immediately. Also due to the size of the UASs and the restricted areas in which the relevant sUASs will operate, approval of the application presents no national security issue. Given the clear direction in Section 333 of the Reform Act, the authority contained 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, reduction in environmental impacts, including reduced emissions associated with allowing UASs for movie and television operations, the grant of the requested exemptions is in the public interest. Accordingly, the applicant respectfully requests that the FAA grant the requested exemption without delay.

Aircraft and Equivalent Level of Safety

The limitations proposed by Aerial Edge provide for at least an equivalent or even higher level of safety to operations under the current regulatory structure. These limitations and conditions to which Aerial Edge agrees to be bound when conducting commercial operations under a FAA issued exemption and further detailed in the operations manual:

- The sUAS will weigh less than 55 lbs.
- Flights will be operated within line of sight of a pilot and observer.
- Maximum total flight time for each operational flight will be 30 minutes. Flights will be terminated at 25% battery power reserve should that occur prior to the 30 minute limit.
- Flights will be operated at an altitude of no more than 400 feet AGL
- Minimum crew for each operation will consist of the sUAS Pilot, the Visual Observer, and the Camera Operator.
- sUAS pilot will be an FAA licensed airman with at least a private pilot's certificate and third class medical.
- The UAS will only operate within a confined "Operational Border" as defined in the operations manual.
- A briefing will be conducted in regard to the planned sUAS operations prior to each day's production activities. It will be mandatory that all personnel who will be performing duties within the boundaries of the safety perimeter be present for this briefing.
- The operator will ensure that no persons are allowed within 500 feet of the area except those consenting to be involved and necessary for the filming production. This provision may be

reduced to no less than 200 feet if it would not adversely affect safety and the Administrator has approved it.
- The operator will submit a written Plan of Activities to the FSDO three days before the proposed shoot as required by the operations manual.
- Pilot will have been trained in operation of UAS and current information on the particular UAS to be operated as required by the operations manual.
- Visual Observer will be trained through procedures outlined in the operations manual
- Observer and pilot will at all times be able to communicate by voice.
- If the sUAS loses communications or loses its GPS signal, the UAS will have capability to return to a pre-determined location within the Security Perimeter and land.
- The sUAS will have the capability to abort a flight in case of unpredicted obstacles or emergencies.

Details of Regulations for which Aerial Edge requests Exemption

14 CFR §61.113 (a) and (b): Private Pilot Privileges and Limitations: Pilot in Command

Sections 61.113 (a) and (b) limit private pilots to non-commercial operations. Because the UAS aircraft operated by Aerial Edge 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 a small UAS. Unlike a conventional manned aircraft, a UAS is remotely controlled by a ground-based operator. The operational area is controlled and restricted, and all flights are planned and coordinated in advance. The level of safety exceeds that provided by a single individual holding a commercial pilot's certificate operating a conventional aircraft. The risks associated with the use of a UAS are so diminished from the level of risk associated with commercial operations contemplated by Part 61 allowing UAS use by a private pilot as the PIC exceeds the present level of safety sought by 14 C.F.R. §61.113 (a) and (b).

14 CFR §91.119(c): Minimum Safe Altitudes

Section 91.119 (c) prescribes that "*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." Relief is sought from Section 91.119 (c) with respect to those participating persons, vehicles, and structures directly involved in the performance of the actual filming. This is consistent with relief typically provided to manned operations in FAA Order 8900.1 V3,C8,S1 Issue of a Certificate of Waiver for Motion Picture and Television Filming by which the Aerial Edge intends to adhere to. The MPTOM further details the guidelines to be followed regarding operational safety and the safety of participating and non-participating persons and property.

14 CFR §91.151(a): Fuel Requirements for Flight in VFR Conditions

Aerial Edge seeks exemption from the requirements of Section 91.151 (a). Given the limitations on the UAS's proposed flight area and its proposed operations within a predetermined location, a longer time frame for flight in daylight VFR conditions is reasonable.

Furthermore, operating the UAS in a tightly controlled area where only participating personnel will be involved, less than 30 minutes of reserve power does not engender the type of risk that §91.151(a) was intended to address.

UAS aircraft operated by Aerial Edge are battery powered. Current battery technology limits the available total flight time to that of less than the 30 minute reserve prescribed in this Part. As technology advances, however, the available total flight time will increase. Therefore, flight time will be limited to no longer than 30 minutes or 25% remaining battery power, whichever occurs first.

14 CFR §91.405(a): Maintenance Required, §91.407(a)1: Operation After Maintenance, Preventive Maintenance, Rebuilding, or Alteration, §91.409(a)(2): Inspections, §91.417(a) and (b): Maintenance Records

Given that these sections and Part 43 referred to in these sections apply only to aircraft with an airworthiness certificate, these sections will not apply to the applicant. Maintenance will be accomplished by the operator pursuant to the operations manual. An equivalent level of safety will be achieved because the UASs are limited in size, will carry a small payload and operate only in restricted areas for limited periods of time. If mechanical issues arise, the UAS can land immediately and will be operating from no higher than 400 feet AGL. As provided in the Operations Manual, the operator will ensure that the UAS is in working order prior to flight, perform any required maintenance, and keep a log of any maintenance performed. Moreover, the operator is the person most familiar with the UAS and best suited to maintain it in an airworthy condition and provide the equivalent level of safety.

Federal Register Summary

Pursuant to 14 C.F.R. Part 11, the following summary is provided for publication in the Federal Register, should it be determined that publication is needed:

Applicant seeks an exemption from the following rules:
14 CFR Parts 61.113 (a) & (b), 91.119 (c), 91.151(a), 91.405 (a), 91.407 (a) (1), 91.409 (a) (2), and 91.417 (a) & (b) to operate commercially a small unmanned vehicle (55lbs or less) in motion picture and television operations.

Approval of exemptions allowing commercial operations of sUASs in the film industry will enhance safety by reducing risk. Conventional film operations, using jet or piston power aircraft, operate at extremely low altitudes just feet from the subject being filmed and in extreme proximity to people and structures; and present the risks associated with vehicles that weigh in the neighborhood of 4,000lbs., carrying large amounts of jet A or other fuel. Such aircraft must fly to and from the film location. In contrast, a sUAS weighing fewer than 55 lbs. and powered by batteries eliminates virtually all of that risk given the reduced mass and lack of combustible fuel carried on board. The sUAS is carried, not flown to film sets. The sUAS will carry no passengers or crew and, therefore, will not expose them to the risks associated with manned aircraft flights.

The operation of small UASs, weighting less than 55 lbs., conducted in the strict conditions outlined above, will provide an equivalent level of safety supporting the grant of the exemptions requested herein. These lightweight aircraft operate at slow speeds, close to the ground, and in a sterile environment and, as a result, are far safer than conventional operations conducted with turbine helicopters operating in close proximity to the ground and people.

Privacy
All flights will occur over private or controlled access property with the property owner's prior consent and knowledge. Filming will be of people who have also consented to being filmed or otherwise have agreed to be in the area where filming will take place.

Satisfaction of the criteria provided in Section 333 of the Reform Act of 2012--size, weight, speed, operating capabilities, proximity to airports and populated areas and operation within visual line of sight and national security – provide more than adequate justification for the grant of the requested exemptions allowing commercial operation of applicant's UAS in the motion picture and television industry pursuant to the Manual appended hereto.

Sincerely,

Brad Meier