

DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

CERTIFICATE OF WAIVER OR AUTHORIZATION

ISSUED TO

Customs and Border Protection

ADDRESS

1300 Pennsylvania Ave. NW
Room 6.4A
Washington D.C. 20229

This certificate is issued for the operations specifically described hereinafter. No person shall conduct any operation pursuant to the authority of this certificate except in accordance with the standard and special provisions contained in this certificate, and such other requirements of the Federal Aviation Regulations not specifically waived by this certificate.

OPERATIONS AUTHORIZED

See Attached Special Provisions.

LIST OF WAIVED REGULATIONS BY SECTION AND TITLE

STANDARD PROVISIONS

1. A copy of the application made for this certificate shall be attached and become a part hereof.
2. This certificate shall be presented for inspection upon the request of any authorized representative of the Federal Aviation Administration, or of any State or municipal official charged with the duty of enforcing local laws or regulations.
3. The holder of this certificate shall be responsible for the strict observance of the terms and provisions contained herein.
4. This certificate is nontransferable.

Note-This certificate constitutes a waiver of those Federal rules or regulations specifically referred to above. It does not constitute a waiver of any State law or local ordinance.

SPECIAL PROVISIONS

Attachment #1: General Provisions Nos. One to Seventeen inclusive are set forth and attached.

Attachment #2: Special Operating Provisions Nos. One to Nine inclusive must be signed by the Federal Aviation Administration and attached prior to operations commencing.

This certificate (2008-WSA-52) Emergency Disaster Relief – Predator) is effective from August 31, 2008, through September 7, 2008, and is subject to cancellation at any time upon notice by the Administrator or his/her authorized representative.

BY DIRECTION OF THE ADMINISTRATOR



FAA Headquarters, AJR-36
(Region)

Ardyth Williams
(Signature)

August 31, 2008
(Date)

Air Traffic Manager, Unmanned Aircraft Systems
(Title)

ISSUED TO: Customs and Border Protection

ADDRESS: 1300 Pennsylvania Ave. NW
Room 6.4A
Washington D.C. 20229

NAME: Federal Aviation Administration (FAA) Certificate of Authorization (COA) for the Customs and Border Protection (CBP) Predator Unmanned Aircraft System (UAS) Predator.

DESCRIPTION: Operation of the UAS is in direct support of disaster relief. This COA is in response to a request from CBP.

This COA is for UAS pre and post-storm surveillance and support above the geographic dimensions of a Disaster Relief Temporary Flight Restriction (TFR) issued in accordance with 14 CFR 91.137.

DATES OF USE: This (2008-WSA-52) COA is valid for an effective period coinciding with the Disaster Relief TFR or by specific written authorization.

GENERAL PROVISIONS:

1. All personnel connected with this UAS operation must comply with the contents of this authorization and its special provisions.
2. CBP is responsible at all times for collision avoidance with participating and non-participating aircraft and the safety of persons or property on the surface with respect to the UAS.
3. The Unmanned Aircraft (UA) shall be equipped with an operating mode (mode preferred) transponder and it shall be activated at all times during flight.
4. Airworthiness Certification: UA must be shown to be airworthy to conduct flight operations in the NAS. Because of the assigned Homeland Security Defense requirement for CBP, the FAA may approve an application for a COA that, under normal circumstances, does not otherwise conform to the FAA's UAS operational guidelines.
5. (b) (7)(E)
 - a. All portions of this mission involving (b) (7)(E)
 - b. (b) (7)(E)
 - c. (b) (7)(E)

- d. (b) (7)(E) will be used for all departure and arrival operations (b) (7)(E) is not operational.
6. Communications Requirements: Any visual observer, radar monitor, or sensor operator charged with providing collision avoidance for the UA must have direct communication with the UA pilot.
7. Dropping Objects/Hazardous Materials: UA are not authorized to drop objects or carry hazardous material without specific authorization.
8. Lost Link Procedures: (b) (7)(E)
Lost Link procedures will be in accordance with Attachment 1.
9. Emergency Procedures: In all cases the safety of NAS users, persons and property on the ground will be ensured at all times. (b) (7)(E)
- a. (b) (7)(E)
b. (b) (7)(E)
c. (b) (7)(E)
d. (b) (7)(E)
e. (b) (7)(E)
10. Pilot Qualifications: The intent of this paragraph is to ensure that UA pilots interacting with ATC have sufficient expertise to perform that task readily.
- a. Pilots must have an understanding of Federal Aviation Regulations applicable to the airspace where the UA will operate.
- b. If the UA is operating on an instrument flight plan, the UA pilot must have a current FAA Instrument Rating, or military equivalent.
- c. Pilots flying UA on other than instrument flight plans must pass the required knowledge test for a private pilot certificate (or military equivalent) as stated in 14 CFR 61.105, Aeronautical Knowledge, for all operations beyond visual line-of-sight.
- d. Recent Flight Experience. Pilots will not act as a pilot-in-command unless they have had three qualified proficiency events within the preceding 90 days. The term qualified proficiency event is a necessarily broad term because of the diversity of UA types and control systems. A qualified event is an event requiring the pilot to exercise the training and skills unique to the UA in which proficiency is maintained.

11. Pilot Responsibilities:
 - a. Pilots are responsible for a thorough preflight inspection of the UA.
 - b. Flight operations will not be undertaken unless the UA is airworthy. The airworthiness provisions of 14 CFR 91.7, Civil Aircraft Airworthiness, or military equivalent apply.
 - c. One pilot-in-command (PIC) must be designated at all times and is responsible for the safety of the UA and persons and property along the UA flight path.
 - d. The UA pilot will be held accountable for controlling his aircraft to the same responsible standards as the pilot of a manned aircraft. The provisions of 14 CFR 91.13, Careless and Reckless Operation, apply to UA pilots.
12. Pilot/Observer Task Limitations: Pilots and observers must (b) (7)(E)
13. Visual Observers (VO) Responsibilities: Observers must have been provided with sufficient training to communicate clearly to the pilot any turning instructions required to stay clear of conflicting traffic. Observers will receive training on rules and responsibilities described in 14 CFR 91.111, *Operating Near Other Aircraft*, and 14 CFR 91.113, *Right-of-Way Rules*.
 - a. At no time will visual observers conduct their duties more than 2 1/2 miles laterally and 3,000 feet vertically from the UA.
 - b. When using aids to vision, such as binoculars, field glasses, or telephoto television, visual observers must use caution to ensure that the UA remains within required lateral and vertical limits of the observer, in accordance with current FAA Policy throughout the duration of flight.
14. Radar/Sensor Observer: The radar/sensor operator must be thoroughly familiar with, possess operational experience and be operationally proficient with the equipment being utilized for observation and detection of other aircraft for collision avoidance purposes.
15. Pilot/Observer Medical Standards: Pilots and observers must have in their possession a current second class (or higher) airman medical certificate that has been issued under 14 CFR 67, Medical Standards and Certification, or DOD equivalent. 14 CFR 91.17, Alcohol or Drugs, applies to both UA pilots and observers.
16. All Pilots and Visual Observers involved with this operation must be familiar with the Airspace Control Plan (ACP), Airspace Control Order (ACO), and Special Instructions (SPINS) as appropriate.
17. Equivalent military flight and medical certifications and training are acceptable in all cases.

Attachment #2 Special Operational Provisions to FAA Form 7711-1

1. Departures/Arrival at (b) (7)(E)
 - a. Departures/Arrivals from (b) (7)(E) will be conducted in accordance with COA# 2009-WSA-22 and the current LOA between CBP and the (b) (7)(E)
 - b. If departure/arrivals occur (b) (7)(E)
2. Transit from (b) (7)(E)
 - a. (b) (7)(E)
 - b. Transit between (b) (7)(E)
 - c. Transit route will be (b) (7)(E)
 - d. Transit procedures will be in accordance with attachment 2.
3. Operations during (b) (7)(E)
 - a. (b) (7)(E)
 - b. (b) (7)(E)
 - c. (b) (7)(E)
 - d. (b) (7)(E)
4. Area of Operations:
 - a. Departure/Arrival Location (Home Base) of UA:
 - (1) All departure/arrival operations (b) (7)(E)
 - (a) On arrivals ground observer may be used once the UA is in sight of the ground observers and it (UA) is also is within 2,5 NM and 3,000 feet from the observer's position.
 - (b) On departures ground observers may be used until the UA reaches a maximum of 2,5 NM and 3,000 feet from the observers positio (b) (7)(E)
 - (2) All operations within the (b) (7)(E) airspace shall be conducted in (b) (7)(E) accordance with CFR 14 Part 91 and in compliance (b) (7)(E)
 - (3) For the purpose of see-and-avoid, visual observers must be utilized at all times when the UA (b) (7)(E)

airspace. The visual observers must remain within 2.5 miles laterally and/or 3,000 feet vertically of the UA during all operations. Pilots must not operate the Predator at a distance beyond that at which see-and-avoid responsibilities can be exercised by the observer. The observer(s) must keep the UA in sight at all times. CBP must ensure that the proper numbers of visual observers are in place to allow compliance with any departure/arrival options that (b) (7)(E) may use. The UA operator will not request special handling in order to meet the observer requirements.

- (4) If a visual observer detects conflicting traffic that has not been issued by ATC, the observer shall immediately inform the PIC. The PIC is responsible to coordinate with ATC prior to executing any maneuvers to clear the traffic unless the PIC and/or observer believe a collision is imminent. The intent of this provision is to clarify and reiterate that only (b) (7)(E) is authorized to separate, sequence, and control aircraft in the (b) (7)(E) airspace. It is not intended to be so rigidly applied as to derogate the safety of flight.

- (5) Operations are (b) (7)(E)

Note: Obtaining authorization to operate at the DoD airport is the sole responsibility of CBP.

b. Ingress/Egress Flight Path:

- (1) The UAS is authorized to fly to/from the UAS home base, (b) (7)(E)

(2) Ingress/Egress Procedures:

- (a) The departure is as follows:

(b) (7)(E)

(b) (7)(E)

- (b) The Arrivals are as follows:

(b) (7)(E)

(b) (7)(E)

- (3) (b) (7)(E)

Note: CBP will operate at (b) (7)(E) depending on direction of flight.

5. UAS Route of Flight During Disaster Relief Support: CBP will provide the FAA with a planned route of flight for mission support (b) (7)(E)

6. ATC Procedures (per type of airspace, impact, etc): (b) (7)(E) will be applied in (b) (7)(E) Airspace. For wake turbulence the predator will be considered a small aircraft.
- a. Communications:
- (1) CBP POC: See Attachment 3
 - (2) FAA HQ POC: Primary: Ardyth Williams 202-497-7688, email: Ardyth.Williams@faa.gov
Doug Davis 202-345-0164, email: Kenneth.D.Davis@faa.gov
Secondary: John Page 202-329-5271, email: John.Page@faa.gov
 - (3) (b) (7)(E)
 - (4) (b) (7)(E)
 - (5) (b) (7)(E)
- b. Authorization Period: Authorization is based on the understanding that CBP is supporting ongoing National Disaster relief efforts, as reflected by the existence of TFRs in accordance with 14 CFR 91.137A(1).
7. The following provisions apply to all operations outside of restricted and/or warning area airspace:
- a. Instantaneous two-way radio communication shall be maintained with ATC.
- b. Operations to include lost link procedures (b) (7)(E)
8. Due to the limitations of UAS, the following ATC procedures (b) (7)(E)
- a. (b) (7)(E)
- b. (b) (7)(E)
- c. (b) (7)(E)

NOTE: The intent of this provision is to remind all responsible personnel that UA
(b) (7)(E)
It is not intended to disrupt the normal arriving and departing flow of other traffic. (b) (7)(E)
(b) (7)(E) may impose more, but not less, restrictive procedures to ensure separation and segregation of manned and unmanned aircraft provided those procedures do not violate existing federal regulations or other provisions of this COA.

9. NOTAM: A (b) (7)(E) Notice to Airman (b) (7)(E)

- Name and Address of the Using Facility

- Location, Altitude or the operating Area
- Time and nature of the activity

NOTE: (b) (7)(E)



Operational Approval

A handwritten signature in dark ink, appearing to read "A. J. M. Williams", is written above a horizontal line.

(Signature)

Air Traffic Manager, Unmanned Aircraft Systems

(Title)

31 August 2008

(Date)

FLIGHT TERMINATION, LOST LINK & LOST COMMUNICATION PROCEDURES

Event	Flight Termination	Lost Link	Loss Communications
Conditions	-Emergency situation -Unable to sustain flight and RTB	- Emergency Situation - Loss of command uplink, downlink, or both links between the ground control station and the UA	-Loss of radio communications between the PIC & ATC (b) (7)(E)
Procedures	<p>In the event of Flight Termination, the PIC (b) (7)(E)</p> <p><i>NOTE As with manned operations, the UA may not be able to proceed in a controlled fashion to the Flight Termination Location.</i></p> <p>Inform ATC of the following as soon as possible:</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p>	<p>In the event of a Lost Link condition, the PIC (b) (7)(E)</p> <p>Inform ATC of the following as soon as possible:</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E) the PIC shall coordinate with ATC (and AMOC as required (b) (7)(E)</p> <p>(b) (7)(E)</p>	<p>In the event of loss of radio communications between the PIC and the ATC, the PIC (b) (7)(E)</p> <p>(b) (7)(E)</p> <p>(b) (7)(E)</p>

CBP UAS Transit Chase Plane Procedures

All aircraft (b) (7)(E)

The Chase aircraft (b) (7)(E)

(b) (7)(E)

(b) (7)(C), (b) (6)

(b) (7)(C), (b) (6)

CBP UAS Phone Listing

(b) (7)(C), (b) (6)

(b) (7)(C), (b) (6)

(b) (7)(C), (b) (6)

(b) (7)(C), (b) (6)

(b) (7)(C), (b) (6)

AMOC Systems

(b) (7)(C), (b) (6)

UAS Launch & Recovery Operations

(b) (7)(b) (7)(C),

UAS Mission Control Element

(b) (7)(C), (b) (6)

(Admin)

(b) (7)(C), (b) (6)

CBP UAS Flight Following

AMOC SUP: (b) (7)(C), (b) (6)