

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

The U.S. Customs and Border Protection using a Predator B UAS(s) in support of their National Security Mission (b) (7)(E) UAS operational area.

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

Special Provisions are set forth and attached.

This certificate (2008-WSA-22) is effective from October 1, 2008, through September 30, 2009, 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 15, 2008

(Date)

Air Traffic Manager, Unmanned Aircraft Systems

(Title)

FAA Form 7711-1 (7-74)

2008-WSA-22

ISSUED TO: Department of Homeland Security (DHS), U.S. Customs and Border Protection (CBP)

DESCRIPTION: The U.S. Customs and Border Protection are using a Predator B Unmanned Aircraft System (UAS) in support of their National Security Mission (b) (7)(E). The complete UAS operational area is defined in attachment #1. Generally, CBP operations will be conducted in (b) (7)(E) (b) (7)(E) specifically defined in the (b) (7)(E) UAS operational area as defined in attachment #1.

DATES OF USE: This Certificate of Authorization (COA) is valid from October 1, 2008 through September 30, 2009 daily.

RENEWAL AND REVISIONS:

This COA supersedes all previously issued COAs concerning the (b) (7)(E). Should a renewal and/or revision become necessary, the proponent shall advise this office, in writing, no later than 60 days prior to the requested effective date.

OPERATIONAL AREA:

The CBP Predator B UAS operational area is defined in attachment #1. This operational area includes several sections of (b) (7)(E) and airspace for (b) (7)(E). (b) (7)(E) The CBP operational area that coincides with (b) (7)(E) is addressed in Letter(s) of Procedure (LOP) between CBP and the using agency(ies) assuming the responsibilities for the participating aircraft in those areas. Where such an agreement does not exist, procedures must be in place that affords CBP (b) (7)(E) use of the (b) (7)(E). These LOP's are attached (attachment #3) to this COA and are reviewed by the FAA prior to concurrent CBP UAS (b) (7)(E) in the UAS operational area. It is understood by all parties that because these LOPs are in place, ATC considers CBP a participating aircraft when in (b) (7)(E). ATC is not responsible (b) (7)(E) other participating aircraft or from (b) (7)(E) covered by the LOPs. This COA authorizes expanded operations (b) (7)(E) and (b) (7)(E) to the (b) (7)(E).

SPECIAL PROVISIONS:

1. All personnel connected with this UAS operation shall comply with the contents of this authorization and its special provisions.
2. The U.S. Customs and Border Protection, and/or its representatives, is responsible at all times for collision avoidance with non-participating aircraft and the safety of persons or property on the surface with respect to the UAS.
3. CBP operations shall be conducted under:
 - 3.1. (b) (7)(E)

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3.2. Instrument Flight Rules (IFR) while within the boundaries of the UAS operational area is defined in attachment #1.

4. Altitude Assignment:

4.1 The CBP UAS shall be assigned (b) (7)(E) while operating within the UAS operational area defined in attachment #1. Outside of restricted airspace, CBP (b) (7)(E) operate at altitudes in (b) (7)(E) airspace.

4.2 Attitude Assignments other than (b) (7)(E)

4.2.1 ATC may assign and the UAS pilot may request/accept an altitude other than (b) (7)(E) when:

4.2.1.1 The UAS flight will remain in (b) (7)(E) airspace, (b) (7)(E) altitudes and

4.2.1.2 The UAS flight will (b) (7)(E) (b) (7)(E) or

4.2.1.3 CBP has obtained approval from the appropriate using agency(ies) for operations at other than (b) (7)(E)

*An altitude change request from CBP to ATC that will take them into (b) (7)(E) indicates prior approval has been obtained from the appropriate using agency(ies).

5. ATC clearances into the UAS operational area as defined in attachment #1 constitute authority for the CBP UAS to fly any course within that (b) (7)(E) at the discretion of CBP, unless otherwise instructed by ATC. (b) (7)(E)

will be afforded CBP UAS participating in national security missions to the extent that this (b) (7)(E) the UAS operational areas, derogate safety or conflict with using agency procedures and/or agreements. The pilot (b) (7)(E)

(b) (7)(E) of the UAS operational area as defined in attachment #1 and receive an amended ATC clearance (b) (7)(E)

ATC shall approve such requests as expeditiously as possible. The CBP pilot in command (PIC) (b) (7)(E) in the UAS operational area as defined in attachment #1 or (b) (7)(E)

(b) (7)(E) Operations in (b) (7)(E) authorized when (b) (7)(E) (b) (7)(E)

The CBP PIC has the sole responsibility to (b) (7)(E)

(b) (7)(E) the activation of the above mentioned (b) (7)(E) areas. The CBP PIC (b) (7)(E) ATC in sufficient time to clear those areas before (b) (7)(E)

6. The following requirements pertain to operations in airspace under the jurisdiction of Marine Corp Air Station Yuma (NYL) CERAP:

6.1. (b) (7)(E) shall be appropriately scheduled and activated for all flights IAW MCAS Yuma Range Scheduling policies. DSN (b) (7)(E) or commercial (b) (7)(E)

6.2. CBP shall (b) (7)(E)

(b) (7)(E) estimated time of arrival, requested airspace, (b) (7)(E) and duration of mission. FAX: (b) (7)(E)

- 6.3. Unless otherwise coordinated and approved by MCAS Yuma CERAP, all flights will operate (b) (7)(E)
- 6.4. CBP shall comply with agreements outlined in the Intra-Agency Letter of Procedure established with the USMC while operating in (b) (7)(E)
- 6.5. CBP PIC (b) (7)(E) communication is established and an ATC clearance to proceed (b) (7)(E) (b) (7)(E) is issued by MCAS Yuma CERAP.
- 6.6. CBP PIC (b) (7)(E) MCAS Yuma CERAP (b) (7)(E) (b) (7)(E)
- 6.7. When cleared by MCAS Yuma CERAP, PIC (b) (7)(E) Operations outside the (b) (7)(E)
- 6.8. CBP CIP may request (b) (7)(E) from MCAS Yuma CERAP. A (b) (7)(E) authorizes the PIC to maneuver in the (b) (7)(E)
- 6.9. CBP shall file all flight plans (b) (7)(E) prior to flight using (b) (7)(E) (b) (7)(E) be filed.
 - 6.9.1. (b) (7)(E)
 - 6.9.2. (b) (7)(E)

7. ATC Frequency Assignments: Primary/Secondary

MCAS Yuma CERAP: (b) (7)(E) primary (b) (7)(E) secondary

- 8. Lost Link/Lost Communications (attachment #2): The UA must be provided with a (b) (7)(E) in the event of a lost link. The intent is to ensure airborne operations are predictable in the event of Lost Link. CBP shall provide the specific procedures (b) (7)(E) that will be utilized in the event of lost link with the UAS. CBP shall provide the specific procedures (b) (7)(E) that will be utilized in the event of lost communications between the UAS pilot and ATC. (b) (7)(E) descriptions are contained in attachment #1.

8.1. Loss of Command Link:

- 8.1.1. (b) (7)(E)
- 8.1.2. (b) (7)(E)

8.1.3. (b) (7)(E) [Redacted]

8.1.4. (b) (7)(E) [Redacted]

8.2. Lost Communications between Pilot and ATC: (b) (7)(E) [Redacted]

9. Emergency Procedures:

9.1. Emergency: loss of a critical system, engine and/or electrical failure. Aircraft (b) (7)(E) and comply with FAR 91. Pilot (b) (7)(E) [Redacted]

9.2. (b) (7)(E) [Redacted]

10. (b) (7)(E) [Redacted]

11. (b) (7)(E) [Redacted]

11.1. (b) (7)(E) [Redacted]

11.2. (b) (7)(E) [Redacted] To the extent consistent with the safety of the (b) (7)(E) identified in paragraph 24, below.

11.3. During hours that (b) (7)(E) the following procedures will be followed for (b) (7)(E)

11.3.1. Departure: (b) (7)(E) will depart (b) (7)(E) The (b) (7)(E) during the entire duration (b) (7)(E) The UAS can expect (b) (7)(E) contact is established (b) (7)(E)

11.3.2. (b) (7)(E) [Redacted]

(b) (7)(E)

(b) (7)(E)

11.3.3. This route should be included in the flight plans filed (b) (7)(E) with the UAS in accordance with the provisions of this COA. Once the UAS has entered (b) (7)(E) airspace (b) (7)(E)

12. 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.

13. Carrying, dropping Objects/Hazardous Materials outside of (b) (7)(E) is prohibited.

14. Aircraft and Operations Requirements:

- 14.1. When operating (b) (7)(E) the UA pilot-in-command must ensure the following:
 - 14.1.1. An ATC clearance has been filed, obtained and followed.
 - 14.1.1.1. The UA is equipped with an operating mode (b) (7)(E) (mode (b) (7)(E) preferred) transponder.
 - 14.1.1.2. Direct two-way radio communication between the UA pilot and ATC shall be maintained. Communication relay through the UA is preferred.
 - 14.1.2. If operating on other than an instrument ATC clearance, the UA pilot-in-command must ensure the following:
 - 14.1.2.1. Pre-coordination with ATC has been accomplished.
 - 14.1.2.2. The UA is equipped with an operating mode C (mode S preferred) transponder.
 - 14.1.2.3.
 - 14.1.2.4. Direct two-way radio communication between the UA pilot and ATC shall be maintained, unless specified by Air Traffic.
- 14.2. Positional information shall be provided (b) (7)(E)
- 14.3. Below (b) (7)(E) airspace outside (b) (7)(E) will be conducted in (b) (7)(E)

Visual observers must be used and remain within 2 and ½ nautical mile laterally and 3000 feet vertically to exercise see-and-avoid responsibilities required by 14 CFR 91.113, *Right-of-Way Rules: Except Water Operations*.

Pilot/observers must not operate the CBP UAS at a distance beyond that at which see-and-avoid responsibilities can be exercised. The visual observers may be either ground based or in a chase aircraft. The observer(s) must keep the UAS in sight at all times.

- 14.3.1. (b) (7)(E) [REDACTED]
- 14.3.1.3. For operations that will depart or arrive between Sunset and Sunrise, the Ground Observer must be in place (b) (7)(E) [REDACTED]
- 14.3.1.4. All ground observers shall undergo additional training (b) (7)(E) [REDACTED]
- 14.3.1.5. The UA (b) (7)(E) [REDACTED] airspace during launch or recovery operations.

15. The UA position lights and anti-collision (b) (7)(E) [REDACTED]
16. (b) (7)(E) [REDACTED]
17. Flight Termination. CBP shall provide the specific procedures by as defined in attachment #1 (b) (7)(E) [REDACTED] and the FAA assumes no responsibility for the selection, approval, or acceptability of (b) (7)(E) [REDACTED] (Attachment #2)
18. Observer Qualifications. 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 at a minimum rules and responsibilities described in 14 CFR 91.111, Operating Near Other Aircraft, and 14 CFR 91.113, Right-of-Way Rules.
19. Onboard Cameras/Sensors. In general, onboard cameras that are positioned to observe targets on the ground are of little use in detecting airborne operations for the

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purpose of deconfliction. Therefore, optical systems may not be considered as the sole mitigation in see and avoid risk assessment.

20. Pilot/Observer Medical Standards. Pilots and observers must have in their possession a current (b) (7)(E) airman medical certificate that has been issued under 14 CFR 67, Medical Standards And Certification. 14 CFR 91.17, Alcohol or Drugs, applies to both UA pilots and observers.

21. Pilot Qualifications.

- 21.1. Pilots must have an understanding of Federal Aviation Regulations applicable to the airspace where the UA will operate.
- 21.2. When the UA is operating with an IFR ATC clearance, the UA pilot must have a current manned instrument rating in the appropriate category and class(Per FAR Part 61.57), FAA or Military Equivalent.
- 21.3. Pilots flying UA on other than instrument flight plans must pass the required knowledge test for a private pilot certificate as stated in 14 CFR 61.105, Aeronautical Knowledge, (or military equivalent).
- 21.4. Recent Flight Experience. Pilots shall 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. Instrument experience is similarly defined as six qualified proficiency events in the preceding six calendar months. An instrument proficiency event is defined as an event requiring the pilot to exercise instrument flight skills unique to the UA in which proficiency is maintained.
- 21.5. Equivalent military flight and medical certifications and training are acceptable in all cases.

22. Pilot Responsibilities.

- 22.1. Pilots are responsible for a thorough preflight inspection of the UA.
- 22.2. 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.
- 22.3. The UA pilot shall 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.

23. Pilot/Observer Task Limitations.

- 23.1. (b) (7)(E)
- 23.2. A qualified observer must assist the UA pilot when his aircraft is being provided collision avoidance by visual observation.

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24. Radar/Sensor Observer. The radar/sensor operator must be thoroughly familiar with and possess operational experience with the equipment being utilized for observation and detection of other aircraft for collision avoidance purposes. The CBP shall utilize the Air Marine Operations Center (AMOC), whose responsibilities shall include monitoring the (b) (7)(E) UAS operational area as defined in attachment #1, segment the UAS is operating in, notifying the PIC of (b) (7)(E) UAS operational area as defined in attachment #1 boundaries. This coordination between the AMOC and PIC will be accomplished on (b) (7)(E)
25. Flight Planning Requirements: CBP will file an IFR flight plan (b) (7)(E) When CBP filed flight plans will (b) (7)(E) this indicates all coordination has been accomplished with the appropriate using agency(ies).
26. Coordination: CBP shall contact (b) (7)(E) The CBP pilot shall advise ATC of the initial UAS operational segment as defined in attachment #1. CBP shall provide a phone number for ATC to immediately contact the PIC should radio communications be lost.
27. (b) (7)(E)
28. There will only be (b) (7)(E)

INCIDENT / ACCIDENT REPORTING: The following information is required to document unusual occurrences associated with Unmanned Aircraft Systems activities in the National Air Space System.

- The proponent for the COA shall provide the following information to donald.e.grampp@faa.gov on a monthly/annual basis (Note: reporting is not required until the first flight occurs. Then reporting must continue on a monthly/annual basis even when no flights are executed):
 - Number of flights conducted under this COA.
 - Pilot duty time per flight.
 - Unusual equipment malfunctions (hardware/software).
 - Deviations from ATC instructions.
 - Operational/coordination issues.
 - All periods of Loss of Communications.

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- The following shall be submitted via email or phone (202-385-4542, cell 443-569-1732) to Donald.E.Grampp@faa.gov within 24 hours:
 - All accidents or incidents involving UAS activities
 - Deviations from the “Special Provisions” contained in the COA

This COA does not, in itself, waive any Federal Aviation Regulation (FAR), state law, or local ordinance. Should the proposed operation conflict with any state law or local ordinance, or require permission of local authorities or property owners, it is the U.S. Customs and Border Protection’s responsibility to resolve the matter. (b) (7)(E)

The U.S. Customs and Border Protection are hereby authorized to operate UAS operational area as defined in attachment 1.

ATTACHMENT: # 1

(b) (7)(E) Operational Area, Perimeter Descriptions

Full UAS Operational area as defined as Waypoints (1) thru (40) to point of beginning (1). Points (2) thru (17) along the **(b) (7)(E)** of the AOR are coincidental with **(b) (7)(E)**

Waypoint	Latitude	Longitude	Waypoint	Latitude	Longitude	Waypoint	Latitude	Longitude
1	(b) (7)(E)		21	(b) (7)(E)		41	(b) (7)(E)	
2			22			42		
3			23			43		
4			24			44		
5			25			45		
6			26			46		
7			27			47		
8			28			48		
9			29			49		
10			30			50		
11			31			51		
12			32			52		
13			33			53		
14			34			54		
15			35			55		
16			36			56		
17			37			57		
18			38			58		
19			39			59		
20			40			60		

Segment Perimeters:

(b) (7)(E) [redacted]
[redacted] to point of beginning

(b) (7)(E) [redacted]
[redacted]
to point of beginning

(b) (7)(E) [redacted]
[redacted]
point of beginning

(b) (7) [redacted]
(7) [redacted]
to point of beginning

(b) (7) [redacted]
(E) [redacted]
[redacted] to point of beginning.

(b) (7) [redacted]
(E) [redacted]
[redacted] to point of beginning

(b) (7) [redacted]
(E) [redacted]
[redacted] to point of beginning.

(b) (7) [redacted]
(E) [redacted]
[redacted] to point of beginning

(b) (7)(E) [redacted]
[redacted] to point of beginning

(b) [redacted]
(7)(E) [redacted]
to point of beginning

(b) (7) [redacted]
(E) [redacted]
[redacted] to point of beginning

(b) (7)
(E) [redacted] to
point of beginning

(b)
(7)(E) [redacted] to point of beginning

(b)
(7)
(E) [redacted] to point of beginning

(b)
(7)(E) [redacted] to point of beginning

(b) (7)(E)	(b) (7)(E)	(b) (7)(E)		(b) (7)(E)
(b) (7)(E)				

(b)(7)(E), Redacted information is an image

