

Listing of "2006-AHQ-3-COA CBP" (Page 1)

Name	Kind
COA 2006-AHQ-3-COA	Folder
AIRCRAFT_SYSTEM.doc	Word 97 (.doc) Document
AIRCRAFT_SYSTEM_OTHER.doc	Word 97 (.doc) Document
COMMUNICATIONS.doc	Word 97 (.doc) Document
CONTROL_STATION.doc	Word 97 (.doc) Document
ELEC_SYSTEMS.doc	Word 97 (.doc) Document
LAUNCH_RECOVERY.doc	Word 97 (.doc) Document
LOST_COMMUNICATION.doc	Word 97 (.doc) Document
LOST_LINK_MISSION.doc	Word 97 (.doc) Document
NAS_OPERATIONAL.doc	Word 97 (.doc) Document
NO_CERTIFICATE.doc	Word 97 (.doc) Document
TSO.doc	Word 97 (.doc) Document
VISUAL_OBSERVERS.doc	Word 97 (.doc) Document
COA.xls	Microsoft Excel 97-2004 worksheet
EMERGENCY_PROCEDURE.doc	Word 97 (.doc) Document

**CBP Air & Marine
COA Request**

- **AIRCRAFT SYSTEM**
 - **Description of Aircraft System**
 - **CBP operates General Atomics' Predator B/MQ-9 UAS**
 - **1 MQ-9 UAS system consists of**
 - **MQ-9, modified to CBP's specification**
 - **Ground Control Station (GCS)**
 - **Associated XXXXXXXX Exemption 7(e) radios**
 - **Satellite tracking device (SATRACK)**
 - **XXXXXXXX Exemption 7(e) radio back-up**
 - **XXXXXXXX Exemption 7(e)**

**CBP Air & Marine
COA Request**

- **AIRCRAFT SYSTEM:**
 - **Communications:**
 - **MQ-9/Predator B equipped with Exemption (b)(7)(E), and Exemption (b)(7)(E) radios. Exemption (b)(7)(E) satellite link provides a back-up radio.**

**CBP Air & Marine
COA Request**

- **AIRCRAFT SYSTEM:**
 - **Control Station:**
 - **MQ-9/Predator B will operate via a GCS using Exemption (b)(7)(E) band. A back-up Exemption (b)(7)(E) is on site also.**

**CBP Air & Marine
COA Request**

- **ELECTRONIC SURVEILLANCE/DETECTION CAPABILITY**
 - **Onboard Aircraft**
 - **Raytheon Exemption (b)(7)(E) EO/IR turret camera providing Exemption (b)(7)(E) air to air capability.**
 - **Nose forward looking EO/IR camera with Exemption (b)(7)(E) field of view**
 - **Satellite tracking device**
 - **Exemption (b)(7)(E) transponder**

**CBP Air & Marine
COA Request**

- **PERFORMANCE CHARACTERISTICS**
 - **Launch and Recovery**
 - **Currently CBP's MQ-9/Predator B UAS will operate from Exemption (b)(7)(E) The MQ-9 will be launched and recovered via the Ground Control Station (GCS) utilizing Exemption (b)(7)(E) band allocated frequency. Exemption (b)(7)(E)**
 - **Trained visual/ground observers will be utilized during launch and recovery procedures.**
 - **The trained visual/ground observers are Exemption (b)(7)(E) to the GCS and direct communications with the UAS pilot.**

**CBP Air & Marine
COA Request**

- **PROCEDURES:**

- **Lost Communication Procedures:**

- **In the event of Lost Communications between the UAS PIC and ATC the PIC Exemption (b)(7)(E)**

- **Exemption (b)(7)(E)**

- **Exemption (b)(7)(E)**

- **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**

- **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**

- **Exemption (b)(7)(E)**

- **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**

- **XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX**

- **Exemption (b)(7)(E)**

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- **Exemption (b)(7)(E)**

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- **Exemption (b)(7)(E)**

- **Exemption (b)(7)(E)**

- **Exemption (b)(7)(E)**

**CBP Air & Marine
COA Request**

- **ELECTRONIC SURVEILLANCE/DETECTION CAPABILITY**
 - **Ground Based**
 - **CBP's Air and Marine Operation Center (AMOC) will monitor the flight of the MQ-9 during the entire flight and provide advisories to the MQ-9 PIC and communicate Exemption (b)(7)(E) when appropriate.**
 - **Exemption (b)(7)(E)**
XX
 - **Exemption (b)(7)(E)**
 - **Exemption (b)(7)(E)**
 - **Exemption (b)(7)(E)**

**Customs and Border Protection
Process Used to Determine Airworthiness
Of the Predator-B / MQ-9 UAS**

- ✓ **Baseline with USAF MQ-9 configuration (MIL-HDBK-516) & FAR 23 for structure.**
- ✓ **UAS is a Public Aircraft**

**CBP Air & Marine
COA Request**

- **AIRCRAFT SYSTEM:**
 - **Certified Components (TSO):**
 - **Exemption (b)(7)(E) Transponder**
 - **Exemption (b)(7)(E) Radio**
 - **Exemption (b)(7)(E) Transponder**
 - **Exemption (b)(7)(E) radio head**
 - **Exemption (b)(7)(E)**

**CBP Air & Marine
COA Request**

- VISUAL SURVEILLANCE/DETECTION CAPABILITY
 - Visual Observer
 - Airborne based Exemption (b)(7)(E)
 - Two-way communications Exemption (b)(7)(E) will be established between the UAS PIC and the observer Exemption (b)(7)(E)
 - The observer will NOT be the PIC Exemption (b)(7)(E)
 - Observers are trained to the same standard as the pilot with regard to “see and avoid” procedures and techniques
 - Exemption (b)(7)(E)
XX
 - Ground Based
 - Visual Observers will utilize the 2 mile and at or below 3,000’ criteria
 - The Visual Observers are Exemption (b)(7)(E) to into the GCS with direct communications with the UAS PIC. If this fails, two-way radio communications is available.
 - The ratio of UAS to Visual Observer will be one-to-one
 - The Visual observers are trained to be familiar with the MQ-9 and to be proactive in making evasive maneuver calls.
 - Visual observation form one or more ground sites
 - Exemption (b)(7)(E) visual observers are utilized for operating at Exemption (b)(7)(E)
 - Forward or side looking cameras
 - Nose mounted forward looking EO/IR, Exemption (b)(7)(E) field of view camera.
 - Raytheon Exemption (b)(7)(E) EO/IR turret camera with Exemption (b)(7)(E) air to air viewing/scanning capability.

CBP Air & Marine
COA Request

- PROCEDURES

- Emergency Procedures

- Flight Termination Procedures

- Emergency; unable to return to base

- In the event of Flight Termination, the PIC
Exemption (b)(7)(E)

- XX
 - XX

- Note: As with manned aircraft operations, the UAS
may not be able to proceed in a controlled fashion
to the Flight Termination Location.*

- In the event of Flight Termination, the PIC shall
immediately inform ATC of the following:

- Exemption (b)(7)(E)
 - Exemption (b)(7)(E)

- Flight Termination locations within the specific AOR Segments:

- Exemption (b)(7)(E)

- Exemption (b)(7)(E)

- XXXXXXXXXXXXX Exemption (b)(7)(E)

- XXXXXXXXXXXXX Exemption (b)(7)(E)

- XXXXXXXXXXXXX Exemption (b)(7)(E)

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- XXXXXXXXXXXXX Exemption (b)(7)(E)