



Federal Aviation Administration

Memorandum

Date: March 28, 2011

From: Dean E. Fulmer, Acting Manager, Unmanned Aircraft Systems, AJV-13 

To: Manager, Operations Support Group, Western Service Area

Subject: Department of Homeland Security, Customs and Border Protection (CBP) – Certificate of Waiver or Authorization (2009-WSA-71) Change

Include this change page as part of the Certificate of Waiver or Authorization referenced above. This change is valid from March 28, 2011 until September 30, 2011.

1. Under Safety Provisions, remove requirements of entire section and replace with:

Unmanned Aircraft (UA) have no on-board pilot to perform see-and-avoid responsibilities, and therefore, when operating outside of restricted areas, special provisions must be made to ensure an equivalent level of safety exists for operations had a pilot been on board. In accordance with 14 CFR Part 91, General Operating and Flight Rules, Subpart J-Waivers, 91.903, Policy and Procedures, the following provisions provide acceptable mitigation of 14 CFR Part 91.111/113 and must be complied with:

- For the purpose of see-and-avoid, visual observers must be utilized at all times except in Class A airspace, restricted areas, and warning areas. The observers may either be ground based or in a chase plane. If the chase aircraft is operating more than 100ft above/below and or ½ nm laterally, of the UA, the chase aircraft PIC will advise the controlling ATC facility.
- In order to comply with the see and avoid requirements of Title 14 of the Code of Federal Regulations sections 91.113 and 91.111, the pilot-in-command and visual observers must be able to see the aircraft and the surrounding airspace throughout the entire flight; and be able to determine the aircraft's altitude, flight path and proximity to traffic and other hazards (terrain, weather, structures) sufficiently to exercise effective control of the aircraft to give right-of-way to other aircraft, and to prevent the aircraft from creating a collision hazard.
- UAS pilots will ensure there is a safe operating distance between manned and unmanned aircraft at all times in accordance with 14 CFR 91.111, *Operating Near Other Aircraft*, and 14 CFR 91.113, *Right-of-Way Rules*. Cloud clearances and VFR visibilities for Class E airspace will be used regardless of class of airspace. Additionally, UAS operations are advised to operate well clear of all known manned aircraft operations.
- The dropping or spraying of aircraft stores, or carrying of hazardous materials (included ordnance) outside of active Restricted, Prohibited, or Warning Areas is prohibited unless specifically authorized in the Special Provisions of this COA.

2. Replace Special Provision #2 with the following:

All operations outside of Warning areas, Restricted areas, and (b) (7)(E) airspace (b) (7)(E) (b) (7)(E) and in compliance with Title 14 of the Code of Federal Regulations (CFR) section 91.155, *Basic VFR Weather Minimums*. (b) (7)(E)

3. Replace Special Provision #5 with the following:

In order to comply with the see and avoid requirements of Title 14 of the Code of Federal Regulations sections 91.113 and 91.111 and as required under Safety Provisions of this COA, the pilot-in-command and visual observers must be able to see the aircraft and the surrounding airspace throughout the entire flight; and be able to determine the aircraft's altitude, flight path and proximity to traffic and other hazards (terrain, weather, structures) sufficiently to exercise effective control of the aircraft to give right-of-way to other aircraft, and to prevent the aircraft from creating a collision hazard.

4. Combine current Special Provisions # 6 and 7 (comprising a new Special Provision #6) to read:

Launch and recovery of the UA shall be accomplished (b) (7)(E) the (b) (7)(E) airspace is active and (b) (7)(E) airspace is active. Climb and descent transitions to/from (b) (7)(E) airspace shall take place (b) (7)(E)

5. Add **new** Special Provision #7:

When (b) (7)(E) (b) (7)(E) is authorized to provide 14 CFR Part 91.111 and 91.113 responsibility. When a (b) (7)(E) (b) (7)(E) is utilized the requirements contained in Special Provision # 6 are not required. (b) (7)(E) operations shall comply with Special Provision # 13 and visual observer requirements previously identified in this COA (b) (7)(E)

6. Modify Special Provision # 13, (b) (7)(E) to read:

- a. (b) (7)(E) must not concurrently perform either observer or UA pilot duties along with (b) (7)(E)
- b. Observers (b) (7)(E) must keep visual contact with the UA at all times. To the extent consistent with the safety of the (b) (7)(E) be operated within the visual observer requirements previously identified in this COA.
- c. CBP shall employ (b) (7)(E)
- d. CBP announce (b) (7)(E) the local traffic pattern. If any known non-cooperative traffic is within 5NM of the airport (information acquired thru the (b) (7)(E) radar, visual sighting or CTAF (b) (7)(E)
- e. During hours (b) (7)(E) the following procedures will be followed for (b) (7)(E)
 - 1) Departure: (b) (7)(E)

2) (b) (7)(E)

(b) (7)(E) This route should be included in the flight plans filed for (b) (7)(E)

3) The (b) (7)(E) with the UAS in accordance with the provisions of this COA. (b) (7)(E)

4) Arrival: (b) (7)(E)

f. (b) (7)(E)

1) Radar observation at the (b) (7)(E) (b) (7)(E)

2) (b) (7)(E) shall provide top priority to any UAS that is below (b) (7)(E) airspace and (b) (7)(E) airspace until reaching (b) (7)(E) Airspace.

3) (b) (7)(E) shall provide traffic information to the UA (b) (7)(E) (b) (7)(E)

7. Add provision to Special Provision # 20:

g. (b) (7)(E) operations are authorized in support of national security activities found in the (b) (7)(E) Letter of Agreement, titled (b) (7)(E) Operations, dated (b) (7)(E) During these operations CBP shall adhere to lost link procedures contained in Attachment 5 (see attached).

8. Replace Special Provision (b) (7)(E) with the following:

21. (b) (7)(E) are those operations that occur during the (b) (7)(E) restriction does not apply if the following criteria are met:

- a) UAS launch and recovery operations (b) (7)(E)
- b) (b) (7)(E)
- c) (b) (7)(E)
- d) For operations that will depart or arrive (b) (7)(E) the Ground Observer must be in place (b) (7)(E)

- e) All ground observers shall undergo additional training (b) (7)(E) [redacted]
- f) The UA (b) (7)(E) [redacted]
- g) The UA (b) (7)(E) [redacted]
- h) In the event that the UA departs or return (b) (7)(E) [redacted]

9. Modify Attachment 4, the Flight Termination Point (FTP) for (b) (7)(E) to:

(b) (7)(E) FTP – (b) (7)(E)

If you have any questions please contact Ardyth Williams at 202-497-7688, email Ardyth.Williams@faa.gov or Jon Semanek at 202-385-4644, email Jon.Semanek@faa.gov

Attachment 5 (b) (7) Lost Link procedures in support of operations found in the (b) (7)(E) subject US
(b) (7)(E) Operations

(b) (7)(E) operations are authorized to support current operational needs. All associated lost link procedures are detailed in attachment #3.

a. (b) (7)(E)

b. Coordination requirements (b) (7)(E)

CBP Special Mission (b) (7)(E) Lost Link: On Departure

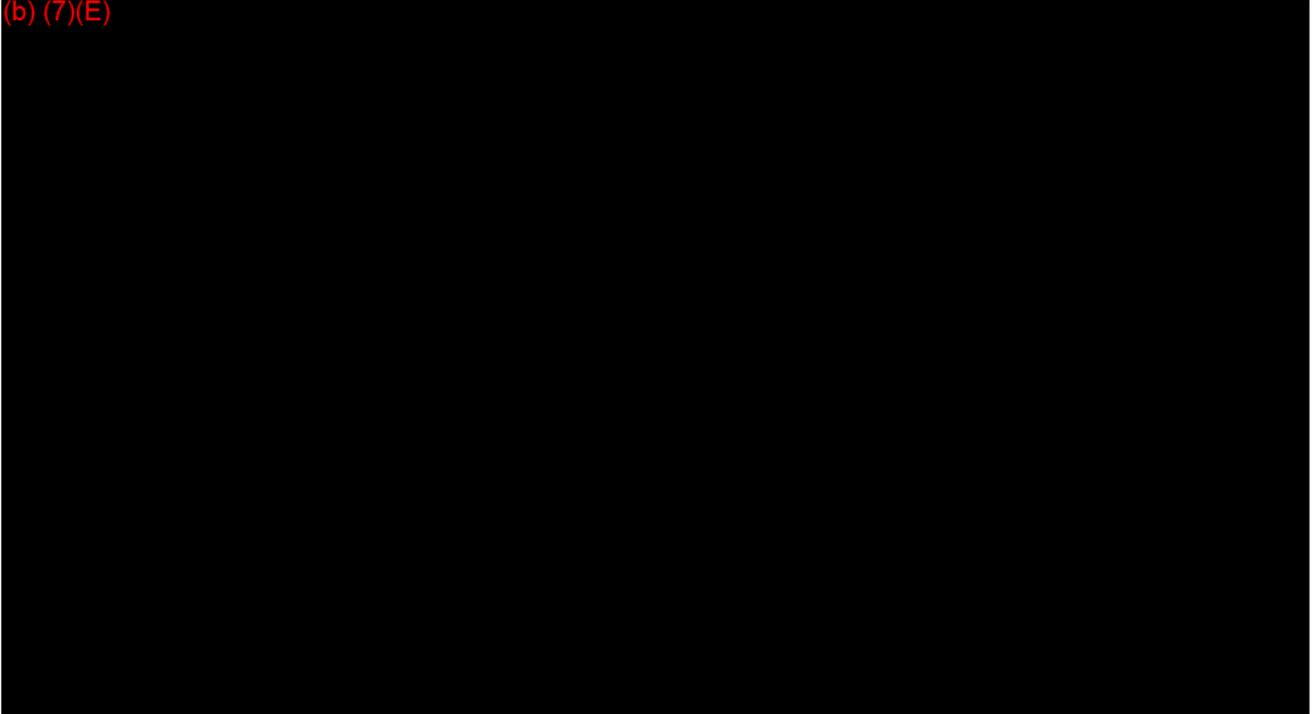
(b) (7)(E)

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Attachment 5 (b) (7) Lost Link procedures in support of operations found in the (b) (7)(E) subject US
(b) (7)(E) Operations

CBP Special Mission (b) (7) Lost Link:
(b) (7)(E) in Op Area, (b) (7)(E) airspace
(b) (7)(E) Enroute” or “On Station”

(b) (7)(E)



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Attachment 5 (b) (7)(E) Lost Link procedures in support of operations found in the (b) (7)(E) subject (b) (7)(E) Operations

CBP Special Mission (b) (7)(F) Lost Link:
(b) (7)(E) in Op Area (b) (7)(E) airspace
(b) (7)(E) "On Station" at AOR

(b) (7)(E)

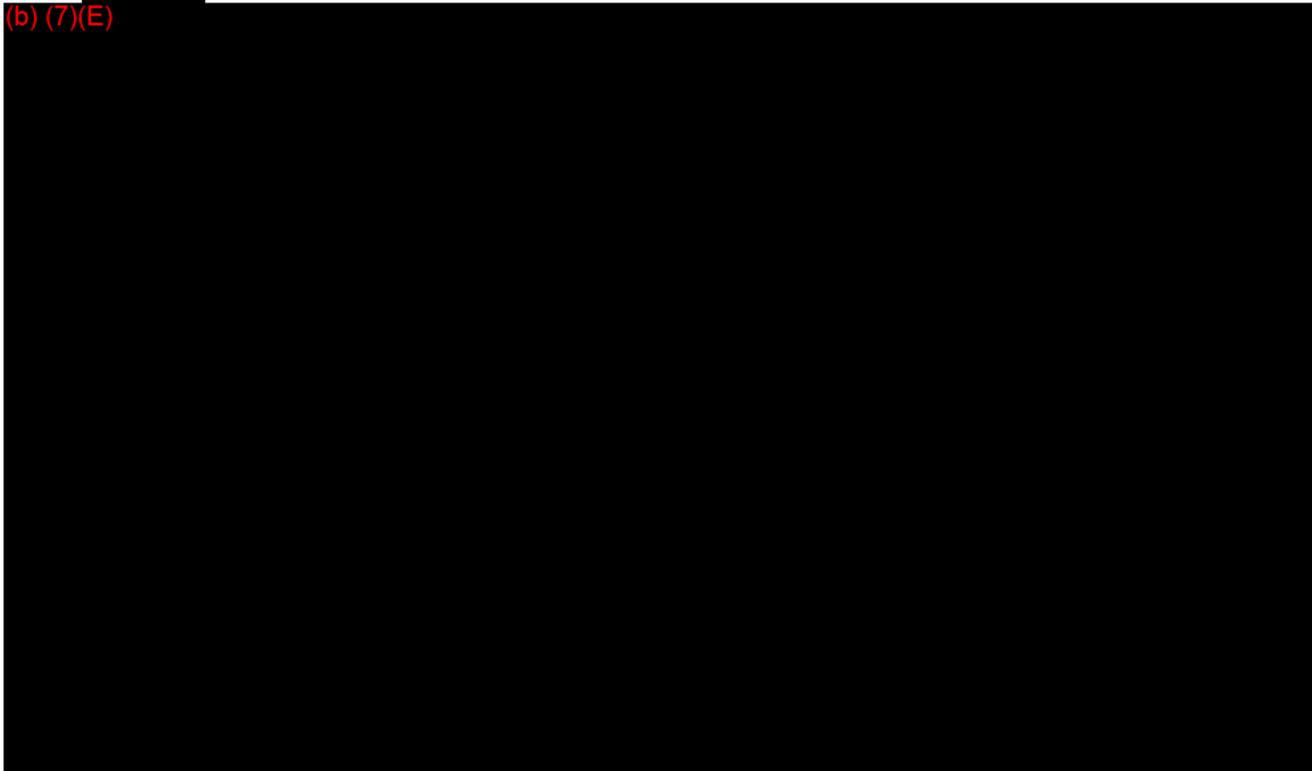


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Attachment 5 (b) (7)(E) Lost Link procedures in support of operations found in the (b) (7)(E) subject US
(b) (7)(E) Operations

CBP Special Mission (b) (7) Lost Link:
(b) (7)(E) in Op Area, (b) (7)(E) airspace
(b) (7)(E) "Enroute" to AOR
(b) (7)(E) "On Station" at AOR

(b) (7)(E)

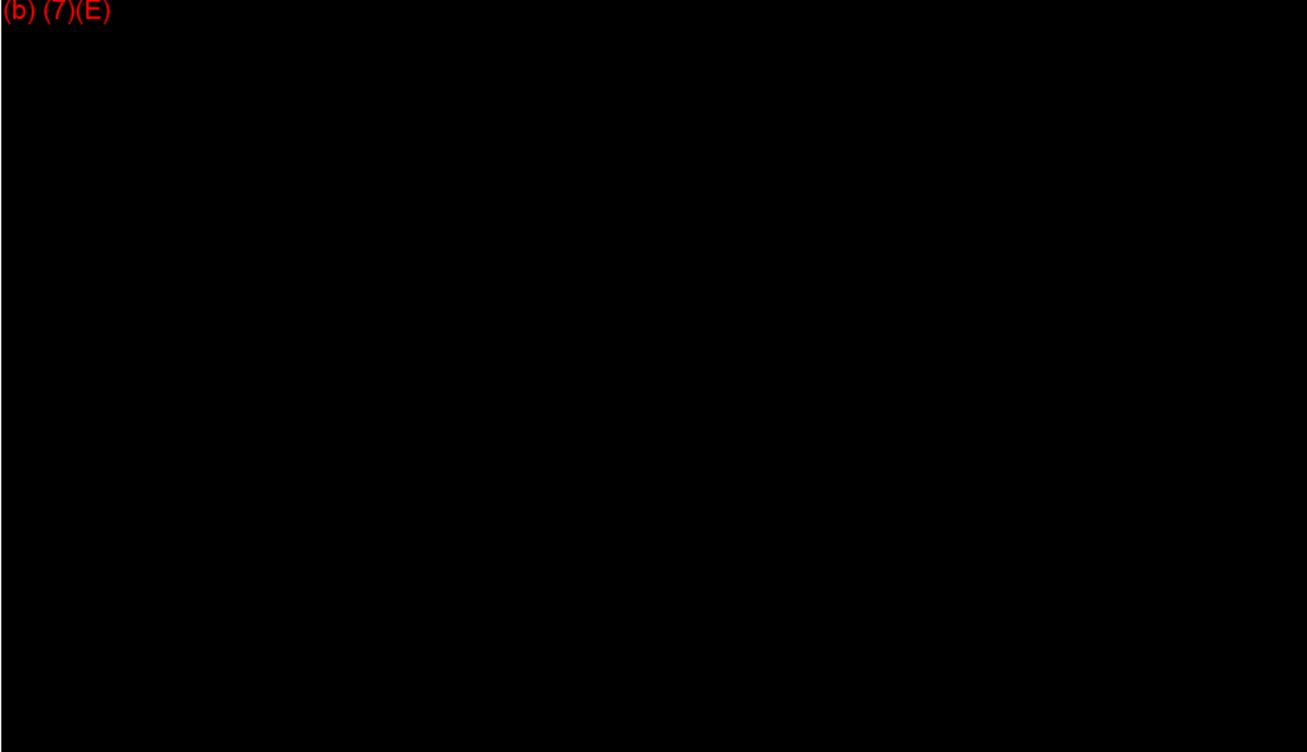


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Attachment 5 (b) (7)(E) Lost Link procedures in support of operations found in the (b) (7)(E) subject (b) (7)(E) Operations

CBP Special Mission (b) (7)(F) Lost Link:
(b) (7)(E) in Op Area (b) (7)(E) airspace
(b) (7)(E) Recovering” (b) (7)(E)
(b) (7)(E) On Station” at AOR

(b) (7)(E)



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Attachment 5 (b) (7)(E) Lost Link procedures in support of operations found in the (b) (7)(E) subject (b) (7)(E) Operations

(b) (7)(E) Lost Link

On Departure

(b) (7)(E)

Departure phase of flight ends when A/C leaves the (b) (7)(E)

(b) (7)(E)

(b) (7)(E) Lost Link

A/C remain on course (b) (7)(E)

(b) (7)(E) Lost Link

(b) (7)(E) Enroute Aircraft
A/C remain (b) (7)(E)

(b) (7)(E) On Station Aircraft
A/C remain (b) (7)(E)

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Attachment 5 (b) (7)(E) Lost Link procedures in support of operations found in the (b) (7)(E) subject US
(b) (7)(E) Operations

(b) (7)(E) On Station Aircraft

A/C remain (b) (7)(E)

If the aircraft goes lost lin (b) (7)(E)

If the aircraft goes lost link (b) (7)(E)

If the aircraft goes lost lin (b) (7)(E)

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