

**COPY**



# Federal Aviation Administration

## Memorandum

Date: **AUG 18 2008**

To: See Distribution List

From: David W. Hempe, Manager, Aircraft Engineering Division, AIR-100 *DW*  
 Frank Paskiewicz Manager, Production and Airworthiness Division, AIR-200 *FA* *JA*  
 Carol E. Giles, Manager, Aircraft Maintenance Division, AFS-300 *CE* *GD*

Prepared by : Kenneth D. Davis, Manager, Unmanned Aircraft Branch, AIR-160

Subject: Unmanned Aircraft Systems (UAS) Certification Status, Optionally Piloted Aircraft, and Accidents involving UAS

This memorandum provides an update on the status of the efforts within Federal Aviation Administration (FAA) Aviation Safety (AVS) to allow Unmanned Aircraft Systems (UAS) to operate in the National Airspace System (NAS) as well as highlights concerns of new issues.

Some important changes since the last memorandum (attached) are: the development and publication by AIR-200 of FAA Order 8130.34 that describes the process for issuing Experimental Airworthiness Certificates to UAS; and the Unmanned Aircraft Program Office (UAPO), AIR-160, has updated and released a revision to the AFS-400 Interim Policy Guidance, 04-01, which is now titled Interim Operational Approval Guidance 08-01.

A new topic of concern is the Optionally Piloted Aircraft (OPA). OPA are considered unmanned aircraft whenever they are being controlled from outside the aircraft, even if there is a pilot on board at the time. This includes type certificated aircraft with UAS equipment installed and experimental aircraft operated using UAS equipment. Installation of UAS equipment or technologies in Type Certified aircraft constitutes an extensive change in the design requiring investigation for special conditions and equivalent level of safety. Furthermore, the Supplemental Type Certification (STC) process is not appropriate for the installation/approval of UAS equipment or technologies in Type Certificated aircraft. As you recall, designees or delegated organizations are not authorized to issue special airworthiness certificates in the experimental category to UAS, therefore designees may not issue certificates to OPA, that are using UAS equipment/technology, until specific guidance is developed to allow for this.

In addition, the UAPO is the focal point for all UAS incident/accident reporting. Incident and accident reports, required by the Operating Limitations issued along with the Experimental Airworthiness Certificates, are collected and used by the UAPO to enhance UAS safety. Individual incidents/accidents and trends are analyzed by the UAPO to examine operational procedures

and risk mitigation strategies, evaluate system reliability and maintenance, and support future airworthiness requirements. The UAPO will coordinate accident investigation activities with the Office of Accident Investigation (AAI) and the National Transportation Safety Board (NTSB) as required.

Thank you for your cooperation and support as we continue in this exciting new regulatory challenge in civil aviation. If there are any questions, please contact James Sizemore, AIR-160, Richard Posey, AIR-230 or Phillip Potter, AFS-350.

Attachments:

UAS Points of Contact

UAS Certification Status Memorandum dated November 15, 2006

Distribution:

Director, Aircraft Certification Service

Director, Flight Standards Service

Manager, Brussels Aircraft Certification Staff, AEU-IOO

All Aircraft Certification Directorate Managers

All Aircraft Certification Offices

All Manufacturing Inspection Offices

All Manufacturing Inspection District/Satellite Offices

All Certificate Management Offices/Units

All Flight Standards/Certificate Holding District Offices

Manager, Aircraft Maintenance Division, AFS-300

Manager, Flight Technologies and Procedures Division, AFS-400

Manager, General Aviation and Commercial Division, AFS-800

## UAS Points of Contact

### Directorate Points of Contact:

Transport Airplane Directorate: Robert Jones, (425) 227-1234, [robert.c.jones@faa.gov](mailto:robert.c.jones@faa.gov)

Small Airplane Directorate: Gunnar Berg, (816) 329-4141, [gunnar.berg@faa.gov](mailto:gunnar.berg@faa.gov)

Rotorcraft Directorate: Chinh Vuong, (817) 222-5116, [chinh.vuong@faa.gov](mailto:chinh.vuong@faa.gov)

Engine and Propeller Directorate: Jorge Fernandez, (781) 238-7748, [jorge.fernandez@faa.gov](mailto:jorge.fernandez@faa.gov)

### AIR Headquarters Points of Contact:

AIR-160: Bruce Tarbert, Team Lead, UAS NAS Integration  
(202) 385-4677, [bruce.tarbert@faa.gov](mailto:bruce.tarbert@faa.gov)

AIR-160: James Sizemore, Team Lead, UAS Airworthiness and Systems Engineering  
(202) 385-4631, [james.sizemore@faa.gov](mailto:james.sizemore@faa.gov)

AIR-230: Richard Posey, Lead, UAS Experimental Certification Policy  
(202) 267-9538, [richard.posey@faa.gov](mailto:richard.posey@faa.gov)

AFS-350: Phillip Potter, Lead, UAS Maintenance Policy  
(202) 385-4569, [phillip.potter@faa.gov](mailto:phillip.potter@faa.gov)

AFS-430: Marcello Mirabelli, UAS Operations Policy  
(202) 385-4610, [marcello.mirabelli@faa.gov](mailto:marcello.mirabelli@faa.gov)



## Federal Aviation Administration

---

# Memorandum

Date: November 15, 2006

From: Manager, Aircraft Engineering Division, AIR-100 *sgmc*  
Manager, Production and Airworthiness Division, AIR-200 *APP*

To: SEE DISTRIBUTION

Prepared by: James Sizemore, AIR-160, (202) 385-4631 or [james.sizemore@faa.gov](mailto:james.sizemore@faa.gov)  
Richard Posey, AIR-230, (202) 267-9538 or [richard.posey@faa.gov](mailto:richard.posey@faa.gov)

Subject: Unmanned Aircraft Systems (UAS) Certification Status

---

This memorandum provides an update on the status of the efforts within AVS to allow Unmanned Aircraft Systems (UAS) to operate in the National Airspace System (NAS). In 2005, AIR-200 took the first step and began accepting applications for Special Airworthiness Certificates in the Experimental category for UAS. This activity is based on one of the strategies identified in the Administrator's Flight Plan for, "implementing technologies and systems that will help pilots operate aircraft as safely as possible." AIR-200 issued memorandums on June 17, 2005 and July 11, 2005 announcing this activity and AVS has subsequently issued 4 Experimental Certificates since August 2005.

The decision to manage UAS activity from FAA Headquarters is to gain experience with applicants that will allow us to develop policy and procedures for Aviation Safety Inspectors (ASI) and potentially for designees. AIR-200 has developed a draft order that describes the process for issuing Experimental Certificates to UAS and will prototype its use in FY 2007. All requests for an Experimental Certificate are processed by a team established within Headquarters composed of subject matter experts from AIR-100, AIR-200, AFS-400 and the Air Traffic Organization. Applicants are required to meet criteria established in a UAS unique Program Letter and Safety Checklist. AIR-200 works directly with the Manufacturing Inspection Offices, Manufacturing Inspection District/Satellite Office, or Certificate Management Offices/Units and Flight Standards District Offices to develop and finalize operating limitations, and issue Experimental Certificates. Program Letters or applications received by field offices should be referred to AIR-200.

The Unmanned Aircraft Program Office, AIR-160, was established in February 2006, and is the focal point for all AVS UAS activity, including any proposed certification projects that may be presented to ACO's. As such, all proposed UAS type certification projects must be worked within the appropriate Directorate, as well as coordinated with AIR-160.

There has been vigorous activity in industry exploring the endless possibilities that UAS bring to aviation. There are many new and novel issues to be addressed as UAS are considered for integration into the NAS. As these issues are unique to UAS and may differ substantially from manned aircraft operations and systems, they will require consideration and special attention while this area of aviation matures. At a minimum, the certification and introduction of these systems must not degrade the current level of safety within the NAS.

AIR-100 recently requested a point of contact (POC) from each Directorate to be the focal point to assist in the development of UAS specific policies, procedures, and potential regulations. These representatives will serve as the principle member for each directorate, to include associated field activities, in the development of necessary resources and milestones needed to accomplish programmatic tasks. These projects are significant, and early program coordination between the ACO Engineer and the Directorate POC is essential. As soon as practical after the project application, the ACO Engineer must notify and promptly forward the certification project notifications and associated certification plans to the Directorate POC. The Directorate POCs are responsible for ensuring coordination of these projects with AIR-160. In addition, as members of the Headquarters Team, it is anticipated that the Directorate POCs will participate in safety reviews with applicants for Experimental Certificates.

**The list of the Directorate POC's are as follows:**

Transport Airplane Directorate: Steve Edgar,  
(425) 277 - 2025, [steve.edgar@faa.gov](mailto:steve.edgar@faa.gov)

Small Airplane Directorate: Gunnar Berg and Greg Davison,  
(816) 329 - 4141, [gunnar.berg@faa.gov](mailto:gunnar.berg@faa.gov)  
(816) 329 - 4130, [gregory.davison@faa.gov](mailto:gregory.davison@faa.gov)

Rotorcraft Directorate: Chinh Vuong,  
(817) 222 - 5116, [chinh.vuong@faa.gov](mailto:chinh.vuong@faa.gov)

Engine and Propellor Directorate: Jeorge Fernandez,  
(781) 238 - 7748, [jeorge.fernandez@faa.gov](mailto:jeorge.fernandez@faa.gov)

**The AIR Headquarters POC's are as follows:**

AIR-110 Victor Powell, Lead UAS Policy  
(202) 267 - 9564, [victor.powell@faa.gov](mailto:victor.powell@faa.gov)

AIR-160 James Sizemore, Team Lead, UAS Airworthiness and Systems Engineering  
(202) 385 - 4631, [james.sizemore@faa.gov](mailto:james.sizemore@faa.gov)

AIR-200 Richard Posey, Lead UAS Experimental Certification Policy  
(202) 267 - 9538, [richard.posey@faa.gov](mailto:richard.posey@faa.gov)

Thank you for your cooperation and support as we continue in this exciting new regulatory challenge in civil aviation. If there are any questions, please contact James Sizemore, AIR-160, and Richard Posey, AIR-230.

Distribution:

Director, Aircraft Certification Service  
Director, Flight Standards Service  
Manager, Brussels Aircraft Certification Staff, AEU-100  
All Aircraft Certification Directorate Managers  
All Aircraft Certification Offices  
All Manufacturing Inspection Offices  
All Manufacturing Inspection District/Satellite Offices  
All Certificate Management Offices/Units  
All Flight Standards/Certificate Holding District Offices  
Manager, Aircraft Maintenance Division, AFS-300  
Manager, Flight Technologies and Procedures Division, AFS-400  
Manager, General Aviation and Commercial Division, AFS-800