



Federal Aviation
Administration

Fact Sheet – Unmanned Aircraft Systems (UAS)

For Immediate Release

December 14, 2012

Contact: Les Dorr or Alison Duquette

Phone: (202) 267-3883

Unmanned Aircraft Systems (UAS) come in a variety of shapes and sizes and serve diverse purposes. They may have a wingspan as large as a Boeing 737 or smaller than a radio-controlled model airplane. Regardless of size, the responsibility to fly safely applies equally to manned and unmanned aircraft operations.

Because they are inherently different from manned aircraft, introducing UAS into the nation's airspace is challenging for both the FAA and aviation community. UAS must be integrated into a National Airspace System (NAS) that is evolving from ground-based navigation aids to a GPS-based system in NextGen. Safe integration of UAS involves gaining a better understanding of operational issues, such as training requirements, operational specifications and technology considerations.

The FAA's Role: Safety

Safety is the FAA's top mission, and the agency maintains the world's safest aviation system. As a provider of air traffic control services, the FAA also must ensure the safety and efficiency of the nation's entire airspace.

The FAA first authorized use of unmanned aircraft in the NAS in 1990. Since then, the agency has authorized limited use of UAS for important missions in the public interest, such as firefighting, disaster relief, search and rescue, law enforcement, border patrol, military training and testing and evaluation. Today, UAS perform border and port surveillance by the Department of Homeland Security, help with scientific research and environmental monitoring by NASA and NOAA, support public safety by law enforcement agencies, help state universities conduct research, and support various other missions for public (government) entities.

Unmanned aircraft are flying now in the national airspace system under very controlled conditions. Operations potentially range from ground level to above 50,000 feet, depending on the specific type of aircraft. However, UAS operations are currently not authorized in Class B airspace, which exists over major urban areas and contains the highest density of manned aircraft in the National Airspace System.

There are currently two ways to get FAA approval to operate a UAS. The first is to obtain an experimental airworthiness certificate for private sector (civil) aircraft to do research and development, training and flight demonstrations. The second is to obtain a Certificate of Waiver or Authorization (COA) for public aircraft. Routine operation of UAS over densely-populated areas is prohibited.

Civil UAS

Obtaining an experimental airworthiness certificate for a particular UAS is currently the only way civil operators of unmanned aircraft are accessing the NAS. Experimental certificate regulations preclude carrying people or property for compensation or hire, but do allow operations for research and development, flight and sales demonstrations and crew training. The FAA is working with civilian operators to collect technical and operational data that will help refine the UAS airworthiness certification process. The agency is currently developing a future path for safe integration of civil UAS into the NAS as part of NextGen implementation.

Public UAS

COAs are available to public entities that want to fly a UAS in civil airspace. Common uses today include law enforcement, firefighting, border patrol, disaster relief, search and rescue, military training, and other government operational missions.

Applicants make their request through an online process and the FAA evaluates the proposed operation to see if it can be conducted safely.

The COA allows an operator to use a defined block of airspace and includes special provisions unique to the proposed operation. For instance, a COA may require flying only under Visual Flight Rules (VFR) and/or only during daylight hours. COAs usually are issued for a specific period—up to two years in many cases.

Most COAs require coordination with an appropriate air traffic control facility and may require a transponder on the UAS to operate in certain types of airspace.

Because UAS technology cannot currently comply with “see and avoid” rules that apply to all aircraft, a visual observer or an accompanying “chase plane” must maintain visual contact with the UAS and serve as its “eyes” when operating outside airspace restricted from other users.

COAs Issued:

2009	146
2010	298
2011	313

There were 345 COAs active at the end of November 2012.

Streamlining the Process

The FAA has been working with its government partners to streamline COA procedures. In 2009, the FAA, NASA and the Departments of Defense and Homeland Security formed a UAS Executive Committee, or “ExCom” to address UAS integration issues. The ExCom established a working group that developed suggestions to expedite the COA process and increase transparency.

For new applications from public users, the FAA has an on-line process that ensures paperwork is complete and ready to be assessed. Today, the average time to issue an authorization for non-emergency operations is less than 60 days, and the renewal period is two years. The agency has expedited procedures in place to grant one-time COAs for time-sensitive emergency missions, such as disaster relief and humanitarian efforts.

Model Aircraft

Recreational use of airspace by model aircraft is covered by FAA Advisory Circular 91-57, which generally limits operations to below 400 feet above ground level and away from airports and air traffic. In 2007, the FAA clarified that AC 91-57 only applies to modelers, and specifically excludes individuals or companies flying model aircraft for business purposes.

The FAA guidance is available at: http://www.faa.gov/documentLibrary/media/Advisory_Circular/91-57.pdf

Operation and Certification Standards

Integrating UAS into the nation’s airspace presents both opportunities and challenges. However, everything the FAA does is focused on ensuring the safety of the nation’s aviation system. New policies, procedures and approval processes will address the increasing desire by civilian operators to fly UAS in the NAS. Developing and implementing new UAS standards and guidance is a long-term effort.

The FAA chartered a UAS Aviation Rulemaking Committee in 2011 to develop inputs and recommendations on appropriate operational procedures, regulatory standards and policies before allowing routine UAS access to the nation’s airspace.

The FAA has asked RTCA – organized in 1935 as the Radio Technical Commission for Aeronautics, a group that facilitates expert advice to the agency on technical issues – to work with industry to assist in the development of UAS standards.

RTCA’s technical group will address how UAS will handle communication, command and control and how they will “sense and avoid” other aircraft.

The FAA continues to work closely with its international aviation counterparts to harmonize standards, policies, procedures and regulatory requirements.

UAS Test Sites

In the FAA Modernization and Reform Act of 2012, Congress directed the FAA to establish a program to integrate UAS into the national airspace system at six test ranges. The designation and operation of test sites will be a tool for testing all aspects of UAS integration. Some facets of test site selection and operation include:

- Safe designation of airspace for integrated manned and unmanned flight operations in the national airspace system

- Development of certification standards and air traffic requirements for unmanned flight operations

- Coordinating with and leveraging the resources of NASA and the Department of Defense

- Addressing both civil and public unmanned aircraft systems

- Ensuring that the program is coordinated with the Next Generation Air Transportation System

Ensuring the safety of unmanned aircraft systems and related navigation procedures before they are integrated into the national airspace system

The FAA will next ask for proposals to manage these sites; however, the agency is evaluating options for appropriately addressing privacy concerns regarding the expanded use of UAS. The FAA is working to move forward with the proposals for the six test sites as quickly as possible.

Small Unmanned Aircraft

Small unmanned aircraft (sUAS) are likely to grow most quickly in civil and commercial operations because of their versatility and relatively low initial cost and operating expenses. The FAA is working on a proposed rule governing the use of a wide range of small civil unmanned aircraft systems.

The 2012 reauthorization bill also directed the FAA to “allow a government public safety agency to operate unmanned aircraft weighing 4.4 pounds or less” under certain restrictions. The bill specified these UAS must be flown within the line of sight of the operator, less than 400 feet above the ground, during daylight conditions, inside Class G (uncontrolled) airspace and more than five miles from any airport or other location with aviation activities.

Prior to the congressional action, the FAA and the Justice Department had been working on an agreement to streamline the COA process for law enforcement – an agreement that also meets the mandate. Initially, law enforcement organizations will receive a COA for training and performance evaluation. When the organization has shown proficiency in flying its UAS, it will receive an operational COA. The agreement expands the allowable UAS weight up to 25 pounds.

A New Office for New Technology

In 2012, the FAA established the Unmanned Aircraft Systems Integration Office to provide a one-stop portal for civil and public use UAS in U.S. airspace. This office is developing a comprehensive plan to integrate and establish operational and certification requirements for UAS. It will also oversee and coordinate UAS research and development.

Over more than 50 years, the FAA has a proven track record of introducing new technology and aircraft safely into the NAS. The agency will successfully meet the challenges posed by UAS technology in a thoughtful, careful manner that ensures safety and addresses privacy issues while promoting economic growth.

For more information: <http://www.faa.gov/about/initiatives/uas/> (<http://www.faa.gov/about/initiatives/uas/>)

COA

information: http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/
(http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/)

Civil UAS certification: <http://www.faa.gov/documentLibrary/media/Order/8130.34A.pdf>

(<http://www.faa.gov/documentLibrary/media/Order/8130.34A.pdf>)

###

This page can be viewed online at: http://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=14153

AC 91-57

DATE June 9, 1981

ADVISORY CIRCULAR



DEPARTMENT OF TRANSPORTATION
Federal Aviation Administration
Washington, D.C.

Subject: MODEL AIRCRAFT OPERATING STANDARDS

1. PURPOSE. This advisory circular outlines, and encourages voluntary compliance with, safety standards for model aircraft operators.
2. BACKGROUND. Modelers, generally, are concerned about safety and do exercise good **judgement** when flying model aircraft. However, **model aircraft** can at times pose a hazard to full-scale aircraft in flight and to **persons and** property on the surface. Compliance with the following standards will help reduce the potential for that hazard and create a good neighbor environment with affected communities and airspace users.
3. OPERATING STANDARDS.
 - a. Select an operating site that is of sufficient distance from populated areas. The selected site should be away from noise sensitive areas such as parks, schools, hospitals, churches, etc.
 - b. Do not operate model aircraft in the presence of spectators until the aircraft is successfully flight tested and proven airworthy.
 - c. Do not fly model aircraft higher than 400 feet above the surface. When flying aircraft within 3 miles of an airport, notify the airport operator, or when an air traffic facility is located at the airport, notify the control tower, or flight service station.
 - d. Give right of way to, and avoid flying in the proximity of, full-scale aircraft. Use observers to help if possible.
 - e. Do not hesitate to ask for assistance from any airport traffic control tower or flight service station concerning compliance with these standards.


R. J. VAN VUREN
Director, Air Traffic Service

Initiated by: AAT-220