

## FOREWORD

# U.S. Federal Aviation Administration



## Progress on the Safe Integration of Unmanned Aircraft Systems

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«First, do no harm,» an underlying point of medicine's Hippocratic oath, is how the Federal Aviation Administration (FAA) is continuing the approach to the integration of unmanned aircraft in civil airspace.

FAA's Aviation Safety organization has a long tradition of supporting aviation's growth through its steadfast commitment to the safe introduction of new aircraft and operations. The result of this commitment is clear: The safety of air transportation in the United States is unparalleled. Our citizens enjoy the safest form of long distance travel. In turn, the traveling public expects us to do our part to maintain these high safety standards.

The development and use of unmanned aircraft systems (UAS) is one of the next big steps forward in aviation's evolution. As it has done throughout its history, FAA is working across government, industry, and around the globe to ensure the safety of these aircraft.

We are making measurable progress to reach our goal of assuring the safe integration of UAS. As an early step, we established an Unmanned Aircraft Program Office in February 2006. Its purpose: The safe integration of UAS into the National Airspace System (NAS). Earlier this year, the program office issued an update to the unmanned aircraft interim guidance document known as AFS 05-01. Now titled «Interim Operational Approval Guidance 08-01,» and posted on the program office Web site at [www.faa.gov/uas](http://www.faa.gov/uas), the guidance document is a great tool to educate the public about how FAA is currently handling the operation of civil and public unmanned aircraft in the NAS.

In the meantime, we need more experience with unmanned aircraft. This is why FAA developed interim measures that allow a measured, safe approach for the operation of unmanned aircraft in civil airspace. Today, there are several ways for unmanned aircraft to enter civil airspace.

One method for the operation of unmanned aircraft in civil airspace is the Certificate of Authorization (COA) process. We work closely with FAA's Air Traffic Organization to authorize limited governmental unmanned aircraft operations in the NAS by granting a COA. We carefully evaluate each governmental agency request to ensure safety while supporting the needs of applicant. The objective is to issue a COA with terms that ensure an equivalent level of safety as manned aircraft. Usually, this requires making sure the unmanned aircraft does not operate over a populated area and that the aircraft is constantly observed, either by someone in a manned aircraft or someone on the ground. Currently, we routinely process more than 100 COAs per year.

In addition, the September 2007 finalization of an FAA/ Department of Defense (DoD) Memorandum of Agreement authorizes increased access to the Department of Defense on a broader scale without a Certificate of Authorization/ Waiver.

Another way for an unmanned aircraft to operate in civil airspace is through obtaining an Experimental Airworthiness Certificate. As of early 2008, our Aircraft Certification Service had issued 28 of these certificates, which require the manufacturer to demonstrate that its aircraft can operate safely within an assigned flight test area and cause no harm to the public. These requests provide an opportunity to work collaboratively with manufacturers and to collect valuable technical and operational data that help us as we move forward. Furthermore, FAA is moving to address the demand of certain UAS manufacturers and operators by establishing an Aviation Rulemaking Committee for small UAS. This committee is leading the effort to develop draft regulation for the commercial operation of lightweight UAS.

In addition, we will gain valuable information and experience is through the Cooperative Research and Development Agreement the FAA signed earlier this year with New Mexico State University (NMSU) to create the university's UAS Flight Test Center to be used for government and private research as well as for development and testing of unmanned systems. This center will provide valuable information for guidance in establishing standard UAS regulations.

The safe integration of unmanned aircraft in civil airspace is a major endeavor and underscores the importance of global cooperation. It will require a great deal of work, much interaction, and the best available information to support the best — and safest — decisions. The safe integration of UAS will require involvement across government and industry, and most importantly, we must harmonize efforts with our international colleagues. There is a great amount of work being done around the globe on UAS. We are strongly encouraged that EUROCAE, EUROCONTROL, EASA, and ICAO are working with us in this effort.

As we look at the host of issues, the scope of operations, and the range of unmanned aircraft missions, it is clear this segment of aviation demands standards and oversight. Working with our international counterparts, the FAA is committed to do no harm as it addresses their safe integration into civil airspace.

