Current Legal Status of UAVs in the US National Airspace System

Presented By: George Southard
FAA and UAVs

- **A Little History** -
  - The first powered UAV was developed in 1916 during WW1 by Archibald M. Low (1888 - 1956) an English engineer and physicist; often called the "father of radio guidance systems". Low’s UAV was to be a guided missile, but the work stopped on the project after the end of WW1.
  - Nearly all UAV development from 1916 to the present has been for military and security/intelligence purposes.
  - The first non-military uses for UAVs include: border patrolling, search & rescue, atmospheric R&D, photo reconnaissance, etc.
FAA and UAVs

- Recent advances in miniaturization of electronics has made the development of low cost, highly sophisticated systems possible.
- Remote controlled (RC) aircraft have been developed and used by hobbyists since the early 1930s.
- The Academy of Model Aeronautics, based Indiana, and founded in 1936, is dedicated to the promotion of model aviation as a recreational activity.
Definition of Terms

- **Unmanned Aerial Vehicle. (UAV)**
  An aircraft which is intended to operate with no pilot on board.

- **Unmanned Aircraft System. (UAS)**
  An unmanned aircraft and its associated elements which are operated with no pilot on board.

- **Remotely-Piloted Aircraft System (RPAS).**
  A set of configurable elements consisting of a remotely-piloted aircraft, its associated remote pilot station(s), the required command and control links and any other system elements as maybe required, at any point during flight operation.
Drones Vs. UAVs

What is the difference?

Both are airborne flying vehicles that are designed to be flown without a human pilot on board the aircraft.

- **Drone** – The term drone carries a connotation of being an unmanned vehicle used for military or spy operations. (The term Drone is not recognized or used by the FAA.)

- **UAV** – Is perceived as being an unmanned aerial vehicle used for civilian purposes.
COA and SAC certifications

- Certificate of Waiver or Authorization (COA)
  - “The COA process is available to public entities, such as government agencies (including local law enforcement and state universities), who want to fly a UAS in civil airspace.”

- Special COA for Law Enforcement
  - “Law enforcement agencies can apply for a COA for training and performance evaluation. When agency has shown proficiency in flying their UAS, they will receive an operational COA.”

- Special Airworthiness Certificate – experimental category (SAC-ex)
  - “A Special Airworthiness Certificate in the Experimental Category is the only certification available to commercial operators of UAS.”
Update on US Regulatory Situation

• Current FAA regulations regarding UAS in the National Air Space
  • **AC 91-57** – “1. PURPOSE. This advisory circular outlines, and encourages voluntary compliance with, safety standards for model aircraft operators.”

• **DOT Docket No. FAA-2006-25714** – “The FAA recognizes that people and companies other than modelers might be flying UAS with the mistaken understanding that they are legally operating under the authority of AC91-57. AC91-57 only applies to modelers, and thus specifically excludes its use by persons or companies for business purposes.”
Current FAA regulations – UAVs

- FAA Modernization and Reform Act of 2012 - Signed 14 Feb 2012
- Subsection B
- Sec. 332. INTEGRATION OF CIVIL UNMANNED AIRCRAFT SYSTEMS INTO NATIONAL AIRSPACE SYSTEM.
  - (a) Required Planning for Integration-
    - (1) COMPREHENSIVE PLAN- Not later than 270 days after the date of enactment of this Act, the Secretary of Transportation, in consultation with representatives of the aviation industry, Federal agencies that employ unmanned aircraft systems technology in the national airspace system, and the unmanned aircraft systems industry, shall develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.
Current FAA regulations - UAVs

- (b) Rulemaking – (process and deadlines defined in the Bill)
  - Not later than 18 months after the date on which the plan required under subsection (a)(1) is submitted to Congress under subsection (a)(4), the Secretary shall publish in the Federal Register—
    1. a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system;

- THE DATE – May 2014 - for final rules for sUAS operations
Sausage Making – “...a long, messy process, requiring good skill and a bad sense of smell.”
FAA Rule Making Process

- FAA has signed agreements with RTCA and ASTM for the creation of proposed rules and regulatory text.

- In April 2010 the FAA authorized the ASTM the right to work on rules aimed at the safe integration of sUAS into the National Airspace System.
  - ASTM has established committee F-38 as the standing committee to perform this function. This committee consists of 120 industry, governmental and academic experts specializing in small UAS.
FAA Rule Making Process

- The steps in the process:
  - Proposed rule sets are developed by ASTM or RTCA
  - These rules are presented to the FAA
  - The FAA reviews and amends the rules as they see fit
  - The amended rule set is released to the public for comment via the Notice of Proposed Rule Making (NPRM)
  - Following the public notice period the rule is once again reviewed and amended
  - This amended rule set is circulated through several interested federal agencies, i.e. DOD, FCC, DOT, etc.
  - Once cleared by the agencies then the rule set is activated and becomes a standard FAA operating regulation
  - **This process can take years to complete**
What is holding things up?
Right now, it’s all about Privacy concerns -
Quotes from recently published articles:

- “Currently, there are no privacy protections or guidelines and no way for the public to know who is flying drones, where, and why. The time to implement privacy protections is now.”

- “We need a system of rules to ensure that we can enjoy the benefits of this technology without bringing us a large step closer to a “surveillance society” in which our every move is monitored, tracked, recorded, and scrutinized by the authorities.”
  American Civil Liberties Union “Protecting Privacy From Aerial Surveillance”, ACLU report published, December 2011
What is Happening at the State Level?
Current Status of State UAS Bills

Legislative Update

- Laws proposed/enacted in 42 states
- Laws enacted in 5 states
  - Florida
  - Virginia
  - Tennessee
  - Idaho
  - Texas
- Still active in 16 states
- Dead in 21 states
Current Status of State UAS Bills

Extracts from State UAS Acts that are now the law:

**Virginia -**

“No state or local agency or organization having jurisdiction over criminal law enforcement or regulatory violations, including but not limited to the Department of State Police, and no department of law enforcement as defined in of any county, city, or town, shall utilize an unmanned aircraft system before July 1, 2015.”

**Texas -**

Sec. 423.003. OFFENSE: ILLEGAL USE OF UNMANNED AIRCRAFT TO CAPTURE IMAGES. (a) A person commits an offense if the person uses an unmanned aircraft to capture an image of an individual or privately owned real property in this state with the intent to conduct surveillance on the individual or property captured in the image.
Idaho
“21-213. RESTRICTIONS ON USE OF UNMANNED AIRCRAFT SYSTEMS -- DEFINITION -- VIOLATION -- CAUSE OF ACTION AND DAMAGES.
(b) Unmanned aircraft system does not include:
   (ii) An unmanned aircraft system used in the taking of commercial photography.”

Florida
“Section 1. Searches and seizure using a drone.—
(3) PROHIBITED USE OF DRONES.—A law enforcement agency may not use a drone to gather evidence or other information.
(4) EXCEPTIONS.—This act does not prohibit the use of a drone:
   (a) To counter a high risk of a terrorist attack….
   (b) If the law enforcement agency first obtains a search warrant….
   (c) If the law enforcement agency is facilitating the search for a missing person.”
Current Federal Legislation – UAS and Privacy

Several bills have been introduced in the US Senate & House of Representatives

Excerpts from a couple of bills:

S. 1016 - by Senator Ron Paul
“SEC. 3. PROHIBITED USE OF DRONES.
….. a person or entity acting under the authority, or funded in whole or in part by, the Government of the United States shall not use a drone to gather evidence or other information pertaining to criminal conduct or conduct in violation of a statute or regulation except to the extent authorized in a warrant....”

S. 1057 – by Senator Mark Udall
‘SEC. 262. Prohibition on surveillance using civil unmanned aircraft systems.
‘(1) It shall be unlawful for any person to use a civil unmanned aircraft system to willfully conduct surveillance of another person....
‘(6) the term ‘unmanned aircraft system’-- (B) does not include--
(i) an unmanned aircraft system used in mapping or resource management
Surveillance vs. Mapping

• There has been some misunderstanding of the use of the terms, surveying and surveillance.

• Surveying and surveillance are not the same activity; nor is one a sub-set of the other. When one is doing mapping and surveying activities, they are not conducting surveillance activities.

• However, most lawmakers do not understand, or they choose not to understand, the difference between these two activities.

• The answer is: Education – we should all be speaking with our local, state and federal legislators.
Thank you for your attention