

Integrating Unmanned Aircraft Systems into the National Airspace System

Presented by:

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Federal Gov't UAS Policymaking

FAA Rulemaking Process

- Safety and operations: Pilot licenses, airworthiness, operator certificates, flight rules
- Proposed rule Feb. 15

Federal Interagency Process

- Privacy, transparency, accountability, civil rights / civil liberties
- WH Presidential Memorandum, released Feb. 15

Agency-Specific Processes

- Department of Justice, Department of Homeland Security

Permitted Model Aircraft Flights

UAS use generally permitted if:

- UAS flown “strictly for hobby or recreational use”
- Operated in accordance with a community-based set of guidelines
- UAS weighs under 55 pounds unless otherwise certified
- UAS flown within Visual Line-of-Sight
- UAS operated in a manner that does not interfere with and gives way to manned aircraft
- UAS operator provides notice to air traffic controllers if it is operated within 5 miles of an airport



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FAA Notice of Proposed Rulemaking

- February 15, 2015: NPRM Publicly Released
- February 23, 2015: NPRM Opened for Comment
- April 24, 2015: Comment Period Closed
- Now: FAA Conducts Analysis and Internal Review of Comments
- Late 2016 / Early 2017: Release of Final Rule expected

FAA Notice of Proposed Rulemaking

HIGHLIGHTS:

- UAS Operators Certificate: no pilot's license required
- sUAS must be < 55lbs. (25kg)
- Must maintain visual line-of-sight (VLOS)
- Maximum altitude/speed: 500 feet/100mph
- Flown away from people

FAA Notice of Proposed Rulemaking

HIGHLIGHTS:

- Airspace restrictions - most require ATC permission
- Registration and marking of aircraft required
- No airworthiness certification required
- Visual Observer not required
- FAA requested comment:
 - Broad exemptions for micro-drones 4.4 lbs or less?

Pilot Issues

UAS KNOWLEDGE TEST:

- In lieu of flight proficiency demo / aeronautical experience
- Recurrent tests every 24 months
- An applicant for the operator certificate would need to:
 - Be at least 17 years of age, able to read / understand English
 - Pass knowledge test, covering issues such as:
 - UAS regulations
 - Airspace classifications and flight restrictions
 - Obstacle avoidance and weather effects
 - How to respond to an emergency
 - Aeronautical decision making and crew resource management
 - Effects of drugs or alcohol

Pilot Issues

Medical Certification and TSA Check:

- Operators must self-certify, at the time of application, that they do not have a medical condition that could interfere with the safe operation of a small UAS
- FAA will verify compliance and accuracy of application and provide information to TSA for security vetting prior to certificate issuance
- FAA may deny an operator certificate application or take other certificate action for violations of federal or state drug laws

Visual Line of Sight (VLOS)

VISUAL LINE OF SIGHT REQUIRED:

- Aviation law based on concept of “see and avoid”
- UAS regulations don’t yet allow for “sense and avoid”
- Operator must be able to see the aircraft at all times;
Beyond Line of Sight (BLOS) not permitted
 - NOTE: FAA Pathfinder Program designed to research what technologies will make BLOS operations possible
- FAA leaves open use of First Person View (FPV) tech in future, but believes reliability issues must be resolved first

Operational Restrictions

OPERATIONAL RESTRICTIONS:

- Maximum take-off weight 55 pounds
- Maximum air speed 87 knots (100 MPH)
- Flights only permitted in daylight
- Minimum visibility 3 miles
- Must keep no less than 500 feet below clouds and 2,000 feet horizontal separation from clouds
- UAS must always yield right-of-way to other aircraft

Operational Restrictions

OPERATIONAL RESTRICTIONS:

- UAS cannot be operated in a careless or reckless manner
- Objects cannot be dropped from the UAS if it causes a hazard to persons or property on the ground
- You cannot fly directly over persons:
 - Select an operational area that is clearly unpopulated or uninhabited
 - Establish an operational area that the operator has taken reasonable precautions to keep free of persons not involved in the operation

Stronger Opposition to Drone Surveillance

	Monitor streets and businesses?	Enforce traffic laws?
Ground Cameras	24%	34%
Drone Cameras	46%	53%

Source: Kerry G. Herron, Ph.D., Hank C. Jenkins Smith, Ph.D., and Carol L. Silva, Ph.D., "US Public Perspectives on Privacy, Security, and Unmanned Aircraft Systems," *Center for Risk and Crisis Management*, University of Oklahoma (March 2014)

UAS and Privacy

White House Presidential Memorandum

- FAA handles safety, operational and licensing issues; not privacy issues
- WH Presidential Memorandum released February 15, 2015:
 - Federal Government UAS Use: Establishes privacy, transparency, civil rights and accountability protections on federal government's own use of UAS
 - Commercial UAS Use: Establishes Executive Branch multi-stakeholder process to craft privacy, transparency and accountability best practices for commercial use of UAS

UAS and Privacy

SCOPE OF NTIA PROCESS: What's at Stake?

- **Privacy:**
 - Collection, retention, use and dissemination of data
 - Is there a risk that third-party data and images will be captured?
 - If so, how will they be stored and handled?
- **Transparency:**
 - Notice to the public regarding UAS use and relevant policies
- **Accountability:**
 - How will organizations enforce their privacy protocols internally?
Can trade associations help?

Contact Information

If you have any questions, please contact me:

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