United States Policy
Small UAV Coalition

Engineering Distinguished Lecture Series
The Age of Drones and New Societal Concerns

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AERIALTRONICS
www.smalluavcoalition.org
OUR OBJECTIVES

• Promote the safe commercial, civil, and philanthropic use of small UAVs.

• Demonstrate the important economic, environmental, and public safety benefits of small UAVs.

• Develop a sensible, efficient, and open regulatory process to ensure the timely introduction and operation of small UAVs.

• Support domestic and international UAV operations in the United States.
U.S. GOVERNMENT APPROACH TO UAVS
HOW DO WE MAKE PROGRESS?

- sUAS Notice of Proposed Rulemaking
- U.S. President Executive Order on Privacy – FTC, NTIA
- Federal Aviation Administration Modernization and Reform Act of 2012
  - Section 333 Authority
- Small Model Aircraft Interpretation
- Federal Aviation Administration Reauthorization 2015
- State Activity
SCOPE OF SUAS RULEMAKING & RULEMAKING PROCESS

- Addresses only small UAVs – no heavier than 55 pounds, with payload
- Does not address operation of UAVs by modelers and hobbyists
- Comments due TOMORROW
- Final rule not expected until 2016-17
- Section 333 exemption process provides only avenue for commercial operation of UAVs until final rule is effective
- Unless Congress steps in
KEY BENEFITS OF SUAS PROPOSED RULE

- Operator of UAS need not have any manned aircraft flying experience and self-certifies physical and mental fitness (operator must pass aeronautical knowledge test at FAA-approved testing facility)

- Airworthiness determined by pre-flight inspection

- No communication with Air Traffic Control required for operations in Class G airspace below 500 feet Above Ground Level (AGL)
NOTABLE RESTRICTIONS IN SUAS PROPOSED RULE

• Operations limited to within visual line of sight of the operator
  • FAA invites comments on BVLOS capabilities and circumstances in which BVLOS operations might be allowed

• Operations limited to daylight hours

• Requires 3 miles of flight visibility

• Operations may not be conducted over any person not directly involved with the operation
  ▪ FAA invites comments on microUAS option under which UAVs under 4.4 lbs. can be operated over people (but must be made of frangible material & subject to other restrictions)

• Operations in any controlled airspace (proximity to airports) require ATC permission

• UAVs must yield to manned aircraft
GENERAL OBSERVATIONS

• Where “see and avoid” responsibility works, FAA is not inclined to require any technological capability

• Where “sense and avoid” applies – beyond the visual line of sight – FAA is not prepared at this time to accept any technological capability

• FAA proposes very light touch on airworthiness of UAV while it proposes a heavy regulatory hand on UAS operational parameters

• Significant technological developments and empirical observations are expected during long rulemaking gestation period
WHAT DO WE NEED NOW- SECTION 333 EXEMPTIONS?

• Elimination of COAs on Section 333 Petition Approvals
• Permit Operations to 500 feet AGL
• Remove 500 foot restriction related to operations near personnel and vehicles
• Remove restrictions on operations from vehicles
• Allow certain operations without GPS signal (manual)
• Knowledge Test/No Private Pilot’s License
• No medical certification
• No visual observer
• Allow research and testing over private property
WHAT WE’RE DOING

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KEY ISSUES IN THE UNITED STATES

• Altitude and airspace
• Duration of flight
• Kinetic energy (Speed + Weight)
• Line of sight
• Certification of aircraft
• Capability of UAV
• Area of operations
• Communications capability
• Operator certification
SEC 333 EXEMPTIONS PRESS BRIEFING

Referred to November 7, 2013 “Integration of Civil Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) Roadmap” flagging integration would be a slow process but recognizing integration cannot wait for systems perfection:

“Ultimately, UAS must be integrated into the NAS without reducing existing capacity, decreasing safety, negatively impacting current operators, or increasing the risk to airspace users or persons and property on the ground any more than the integration of comparable new and novel technologies.” (Emphasis supplied.)
NASA announced on September 2, 2014 that it is developing an air traffic control system for UAV flights up to 500 feet AGL:

“The system would check for other low-flying drone traffic, help the small unmanned vehicles avoid buildings, and scan for adverse weather conditions that might knock a drone out of the sky.”
HOW DO WE VIEW SUCCESS

- Precision Agriculture
- Goods Transport
- Crime Scene Investigation
- Broadband Access
- Aerial Photography
- Infrastructure Inspection
- Disaster Relief
- Real Estate
- Traffic Monitoring
- Search and Rescue
- Journalism
- Mapping/Surveying
- New Jobs

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Technology Always Wins.
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