



TRB-AFB80 2015

“The Clash Between Technology Advancements and FAA Regulations”



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28 July 2015**

Who can fly a UAS Commercially?

- COAs
 - Governmental and quasi-governmental entities
 - Not for commercial use, However this is often abused
 - The Key characteristic
 - No need for FAA airworthiness approval
- Special Airworthiness Certificates
 - For manufacturers
 - R&D
 - Testing
 - Marketing demos
 - Very restricted – geographically
 - Expensive and time consuming to get SAC approval
- Exemptions
 - Today's pathway to use of small UAS
 - Only temporary
- Regulations
 - The path we are on
 - Small UAS – VLOS
 - Large UAS BVLOS
 - Special use exemptions

A Little History

- The first powered UAV was developed in **1916** during WW1
- Remote controlled (RC) aircraft used by hobbyists since the early **1930s**.
- The Academy of Model Aeronautics founded in **1936**, (provided self regulation for UAV flights)
- **1981** the FAA issued AC 91-57 - Guidelines for recreational use of UAVs. (Still applicable)
- **2007** the FAA issued notice #FAA-2006-25714 – created the COA process and declared that UAVs could NOT be used for commercial activity.

A Little History (cont.)

- **2008** FAA organized an Advisory and Rulemaking Committee (ARC) to focus on UAS operating rules
- **2008 – 2012** several more ARCs were created by FAA
 - Two non-FAA organizations were contracted by the FAA to create proposed UAS operating rules
 - RTCA committee SC-203
 - ASTM committee F-38
- **February 14, 2012** - The FAA Modernization and Reform Act of 2012 (FMRA) signed by President
 - Subtitle B, Sections 332-336 of FMRA mandates integration of UAS into the NAS

Major Steps Forward

- **November 2013**
 - FAA released “Unmanned Aircraft Systems Integration Roadmap”

- **April 2014**
 - FAA released a notice of policy **Section 333 of FMRA** allows limited commercial use of a UAS
 - As of 6 July 2015
 - 3680 Section 333 petitions filed
 - 846 granted
 - 85 denied
 - Operating limitations under the Sec 333 authorizations have included:
 - Requirement for the UAS operator to have a valid pilot’s license
 - Requirement that the operator file for a COA for each project to be undertaken
 - All flights require permission of landowner(s)
 - Visual line of sight (VLOS) only
 - Maximum altitude 400feet AGL
 - Flights allowed only during daylight hours
 - No flights permitted over any person not directly involved in the flight

Major Steps Forward (cont.)

■ 23 February 2015

- FAA Issued the Notice of Proposed Rulemaking (NPRM) for the Operation and Certification of Small Unmanned Aircraft Systems
 - This document lists all of the proposed rules concerning the use of UAS for commercial operations in the NAS
 - Public comments concerning the NPRM were welcomed and encouraged, the comment period closed on 24 April
 - The proposed rules (with modifications) will become the approved rules in 12-18 months

Major Steps Forward (cont.)

■ **23 March 2015**

- FAA issued Blanket COA which allows all Section 333 operators to use of UAS for all operations below 200feet AGL
 - This allows operations in all Class “G” airspace without having a specific COA for the area of operation
 - This is especially helpful to operators of rotor-craft systems doing bridge and utility inspection work.

● **June 2015**

- FAA approved a request for exemption from the BNSF Railroad to do BVLOS UAS flights to collect data along major rail lines.

● **TODAY**

- An effort is underway to reclassify operational airspace

NPRM – A Few Details

- **The NPRM is a listing of various **proposed** rules for the operation of small UAS in the NAS – Some Key elements in the document:**
 - UAV less than 55lbs. gross take off weight
 - Must operate in Visual Line of Sight (VLOS) mode only
 - UAV must be visible to the operator or his observer at all times
 - May not fly over any person not directly involved in the UAS operations
 - Daylight operations only
 - Maximum speed 100 MPH
 - Maximum altitude 500ft above ground level
 - Must operate in Class “G” airspace only, unless special approval from Air Traffic Control (ATC) is granted
 - No operations in Class “A” airspace
 - Operator in Charge (OIC) must pass an Aeronautical Knowledge test at an approved FAA Center (no pilot’s license required)
 - OIC must be at least 17 years of age



Questions?

