TRB-AFB80 2015
“The Clash Between Technology Advancements and FAA Regulations”

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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 400 feet AGL
      - Flights allowed only during daylight hours
      - No flights permitted over any person not directly involved in the flight
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 200 feet 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?