Update on the FAA Office of Commercial Space Transportation

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Associate Administrator

Spring Meeting of the Aeronautics and Space Engineering Board

April 21, 2015
Mission Statement

To ensure the protection of the public, property, and the national security and foreign policy interests of the United States during commercial launch and reentry activities …

… and to encourage, facilitate, and promote U.S. commercial space transportation.
19 Licensed or Permitted Launches in FY2014
U.S. Spaceports

Key
- Federal Launch/Landing Site
* FAA-Licensed Launch Site

Potential Future Spaceports
- Texas
- Georgia
- Alabama
- Colorado
- Hawaii
- Florida

Office of Commercial Space Transportation
UK Memorandum of Cooperation
Commercial Cargo Missions
SpaceX F9R
Autonomous Spaceport Drone Ship
Commercial Crew Program

SpaceX Dragon

Boeing CST-100
MOU on Commercial Human Spaceflight

- Signed by the FAA and NASA on June 4, 2012.

- Establishes intent for all operational missions to the ISS to be licensed for public safety by the FAA.

- NASA will be responsible for crew safety and mission assurance.
Orion Flight Test
A Tough Week in October
SpaceShipTwo Tail # 2
XCOR Lynx
Blue Origin
LauncherOne
Stratolaunch
Current Challenges and Opportunities

- Increased Pace of Commercial Space Activities
- After the Learning Period
- Hybrids and Space Support Vehicles
- Space Traffic Management
Increased Pace of Commercial Space Activities

- The number of licensed or permitted launches increased by a factor of 6 from FY12 to FY13, and continued to increase in FY14.
- However, the Office’s budget and staffing levels have remained basically flat throughout this period.
- The President’s FY16 Budget Request for the Office was $18.114M, which represents about a 9% increase over this year, and would allow us to hire 25 new people.
- Should Congress not approve the requested increase, we will probably need to prioritize our license evaluation and inspection work, and there may be some schedule impacts to planned operations.
Recent Increase in Commercial Launch Activity*

* Note: Number of FAA Licensed or Permitted Launches per Year
After the Learning Period

- Congress has put in place a Moratorium on the FAA issuing regulations to protect the safety of flight crew and space flight participants, sometimes called the Learning Period.
- The Learning Period is currently scheduled to expire on October 1; however, some companies would like to see it extended.
- It is important to note that the FAA has no current plans to issue new Human Space Flight regulations. We have already published our Recommended Practices document, and have encouraged industry to start developing consensus standards.
- One option would be to have a top-level, performance based regulation that references industry consensus standards, modeled on the approach currently used to certify Light Sport Aircraft.
### Potential Regulatory Path

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**Certificates**
- Production
- Airworthiness
- Air Carrier
- Pilot
- Instruction
- Mechanic
- Dispatch
- Parts

**Notes**
- Moratorium Expires, Industry Standards Developed
- Routine Commercial Space Travel
Hybrids and Space Support Vehicles

- In the last session of Congress, Congressman Posey and Congressman McCarthy introduced H.R. 3038 (the SOARS Act) that would provide for the use of certain experimental or former military aircraft to support commercial space transportation activities.
- In response to a Congressional request, the FAA provided technical assistance concerning this bill in June 2014.
- Although we don’t know whether the bill will be reintroduced in this session, or whether it will ultimately become law, it is important for stakeholders to understand the potential risks and benefits.
Hybrid Launch Systems

• Hybrid launch systems are launch vehicles that have aircraft-like components or aircraft-like operating characteristics.

• These systems, or components of these systems, are often flown for purposes other than conducting launches.

• Currently, for non-launch operations of these systems, operators must obtain a type certificate, or seek an exemption from regulations.

• Launch operations are licensed or permitted by AST.
Space Support Vehicles

• The use of certain types of former military aircraft or other high-performance experimental aircraft can provide excellent training opportunities for commercial space transportation flight crews and space flight participants as they prepare for suborbital or orbital launches.

• A number of operators of these aircraft would like to offer such training.

• Currently, operators must obtain a type certificate to carry persons or property for compensation, or seek an exemption from regulations.
Space Traffic Management

Definition:

The set of technical and regulatory provisions and processes used to oversee, coordinate, regulate, and promote safe and responsible space activities, including access to space, operations in space, and return from space to Earth to avoid physical and/or electromagnetic interference (EMI).
Key STM Stakeholders

- Department of Transportation (DOT)
  - Federal Aviation Administration (FAA)
- Department of Defense (DOD)
- Department of Commerce (DOC)
  - National Oceanic and Atmospheric Administration (NOAA)
  - National Telecommunication and Information Agency (NTIA)
- Department of State (DOS)
- National Aeronautics and Space Administration (NASA)
- Office of the Director of National Intelligence (ODNI)
- Federal Communications Commission (FCC)
Existing Regulatory Framework

- FAA – Responsible for licensing commercial launches and reentries
- FCC – Responsible for licensing radio broadcasts from space
- NOAA – Responsible for licensing remote sensing operations (such as taking pictures of the Earth)
- DoD and NASA are key players in space, but they are not regulatory agencies
Nontraditional Commercial Space Operations
Outer Space Treaty

Article VI

“The activities of non-governmental entities in outer space … shall require authorization and continuing supervision by the appropriate State Party to the Treaty.”
Conclusions

• With the Space Shuttle having been retired, the next few years will be a critical time for our nation’s space program.
• During this period, we will be seeing:
  • Regular commercial cargo deliveries to the ISS
  • Test flights, followed by the start of commercial crew operations to the ISS
  • The beginning of Suborbital Space Tourism operations
• Congress, through the Commercial Space Launch Amendments Act, has challenged the FAA to “encourage, facilitate, and promote” this new activity in a way that continuously improves its safety.
• The Office of Commercial Space Transportation is committed to doing our part to enable this exciting new industry.