The Regulatory Role of the Federal Aviation Administration in Space Transportation

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Federal Aviation Administration

Statutory Authority

• 51 U.S.C. Subtitle V, chapter 509

- Authorizes the Secretary of Transportation to authorize launch and reentry and operation of launch and reentry sites as carried out by U.S. citizens or within the United States.
- Directs the Secretary to
 - Exercise this responsibility consistent with public health and safety, safety of property, and national security and foreign policy interests of the United States.
 - Encourage, facilitate and promote commercial space launches and reentries by the private sector.



Scope of launch

- <u>Launch</u> means to place or try to place a launch vehicle or reentry vehicle and any payload from Earth
 - In a suborbital trajectory,
 - In Earth orbit in outer space, or
 - Otherwise in outer space.
- Launch includes the flight of a launch vehicle and pre-flight ground operations beginning with the arrival of a launch vehicle or payload at a U.S. launch site.
- Payload processing is not, by itself, part of launch. Payload integration with the launch vehicle at a U.S. launch site is part of launch.



Scope of launch (cont'd)

- For an ELV launch, flight ends after the licensee's last exercise of control over its launch vehicle.
 - For orbital, this is usually safing of the upper stage.
 - For suborbital, impact.
- For an orbital RLV launch, flight ends:
 - After deployment of any payload, or
 - When there is no payload, upon completion of the first sustained, steady-state orbit at an RLV's intended location.
- For a suborbital RLV, flight ends upon landing when the vehicle comes to a stop.



Licensing

- Elements of a license review for launch and reentry
 - Policy
 - Payload review
 - Environmental
 - Safety review
 - Financial responsibility
- 180 days and tolling



Licensing - Financial Responsibility

- Three prongs:
- 1) Insurance,
- 2) Potential Government Indemnification, and
- 3) Reciprocal Waivers of Claims.



Licensing - Financial Responsibility Insurance

- Licensees and Permittees must obtain liability insurance to compensate for the maximum probable loss (MPL) from claims by:
 - A third party for death, bodily injury, or property damage or loss; and
 - The U.S. Government for damage or loss to government property.
- Statutory ceilings:
 - Government property \$100M maximum
 - Third party \$500M maximum



Licensing-Financial Responsibility Government Indemnification

• The U.S. Government may indemnify a **licensee** for any claims above the insured amount, up to approx. \$3B...

AS LONG AS

- ...an appropriation law or additional legislative authority provides for such payment in advance.
- Remaining balance beyond the insurance policy and the Government payment is the responsibility of the liable licensee.



Licensing-Financial Responsibility Cross-waivers

- A licensee or permittee must sign reciprocal waivers of claims with its contractors, its customers, and the U.S. government.
- Each party waives and releases claims against the other parties to the waivers and agrees to assume financial responsibility for:
 - Property damage it sustains, and
 - For bodily injury or property damage sustained by its own employees.
- Purpose is to reduce litigation expenses by requiring launch participants to assume responsibility for their own losses.



Permits

Differences between permits and licenses

- 120 days vs 180 days
- No compensation or hire
- For reusable suborbital rockets only
- No "indemnification"
- No quantifiable risk requirements

