

# Integration of Commercial Space Activities in Airports

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# Integration of Commercial Space Activities in Airports

- **Phase 1:**
  - Perform a gap analysis between AST regulatory standards and ARP regulatory standards
- **Phase 2:**
  - Analysis of space operation vehicle profiles and performance characteristics.
- **Phase 3:**
  - Make recommendations for standards and operational practices for commercial spaces operations within an airport environment.



# Phase 1- Gap Analysis

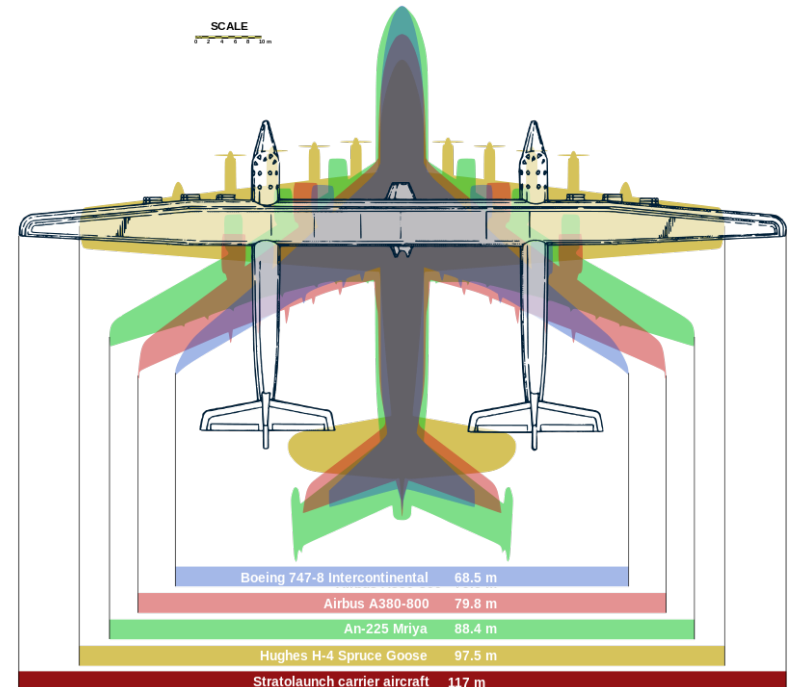
- Gap Analysis of AST regulatory standards and ARP regulatory standards.
  - Reviewed 14 CFR Parts 415, 417, 420, 431, 433, 435, and 437
  - Reviewed Part 139 and various Advisory Circulars
- Phase 1 Final Interim Report was reviewed several personnel from the ARP. Following comments provided by ARP, a revised version of the Phase 1 Final Interim Report was drafted and under review.
- After the review process is complete, report will be shared with AST.

Areas Reviewed
Planning and Design Standards
Explosive/HAZMAT Safety
Emergency Planning and Response
Public Access Control
Miscellaneous (airport certification manuals, etc.)



# Phase 2 - Vehicle Profiles

- Investigation of current and future space operation vehicle profiles and performance characteristics for their effects on the airport facility.
- Characteristics include the following:
  - Runway requirements for takeoff and landing
  - Runway width and crosswind limitations
  - Propellant types and quantities
  - Jet/Rocket blast characteristics
  - Physical dimensions and weights
  - Runway occupancy times
  - Taxiway maneuvering requirements
  - Planned takeoff and landing profiles



# Phase 2 - Vehicle Profiles

- ATRD and ARP met with AST to discuss the goals of Phase 2. During discussions, seven vehicles have been identified to be investigated.
- AST has provided NEPA documents that contain some vehicle information. AST is looking to also provide license applications that could provide additional vehicle information.
- Individual questionnaires were developed to share with each vehicle manufacturer for additional data.

Manufacturer	Vehicle
Virgin Galactic, LLC	WhiteKnightTwo/ SpaceshipTwo
Sierra Nevada Corporation	Dream Chaser
World View Enterprises, Inc.	Voyager
Virgin Orbit	LauncherOne
Stratolaunch	Model 351
Generation Orbit	GOLauncher1
Generation Orbit	Pegasus XL



# Questions?

