

Exhibit 1. Comparison of Analysis in the PEIS LL, PEIS CRV, and PEIS RV

Document	PEIS LL	PEIS CRV	PEIS RV
Date Finalized	May 2001	May 1992	N/A
Purpose and Need	New technologies have created the need for increased launch transportation. The U.S. military and NASA cannot meet the demand for access to space.	Not explicitly stated.	Reusable and reentry vehicle technologies are starting to become reality. The first X-Prize entrant tested its engines in 2001 and NASA continued to award funding under the Space Launch Initiative with the hope of supporting a full scale commercial RLV by 2005.
Proposed Action	Included launches of expendable launch vehicles, launches and reentries of RLVs, and sounding rockets and addressed all activities from lift-off to payload separation. Vehicle assembly and payload preparation prior to liftoff, payload functioning during useful life, controlled or uncontrolled payload reentry, and construction activities were outside the scope of the PEIS LL.	Generic analysis of the impacts from the reentry from space of commercial reentry vehicles. Any mission and vehicle specific aspects of an RV operation (including its payload) that significantly differ from the variations described in the PEIS were outside the scope of this document.	Would analyze the potential impacts of licensing the launch of horizontally launched vehicles and the reentry of reentry vehicles.
Propellants	Solid (polybutadiene matrix, acrylonitrile oxidizer, and powdered aluminum); liquid (liquid hydrocarbons, hypergolic, and cryogenic); and hybrid propellants	Solid propellants, monomethyl hydrazine, hydrazine, and nitrogen tetroxide	Liquid oxygen, kerosene, air, liquid hydrogen, hydrogen peroxide, methane, hybrid propellants, jet engines, ramjet ¹
Launch/Takeoff operations	Orientation: vertical Platform: sea, land, and air	Assumed that RVs would be launched on expendable launch vehicles into space, but analyzed only impacts from space reentry of commercial RVs.	Orientation: horizontal and vertical Platform: sea, land, and air (including hot air balloon) Other: tow launch and air refueling

¹ 2002 U.S. Commercial Space Transportation Developments and Concepts

Reentry/Landing Operations	Did not fully consider reentry/landing operations.	Orientation: unspecified Power type: unpowered Other: parachute, air snatch, retro thrust, inflatable air cushions, sand filled landing area, and water	Orientation: horizontal and vertical Power type: powered and unpowered Other: turbofan, parachute, air bag, water, parafoil, and jet engine
Basis for Analysis	Taurus, Athena, Titan III, Delta II, Delta III, Delta IV, Zenit-3SL, Titan IV, and Atlas V (representative vehicles)	Space Shuttle, Lifesat, COMET, and Space Station Freedom	X-Prize Entrants, K-1, Astroliner, Pathfinder, and SA-1 (representative vehicles)
Proposed Function of Vehicles	Transport of government, scientific, and commercial payloads (communication satellites, other vehicles, scientific experiments)	Microgravity research (crystal growth; solidification of metals, alloys, and composites; and fluid transport), medical research, and biological research on organisms	Manned reusable launch vehicles, deployment of satellites, and other payloads for commercial and government customers, travel to other parts of the world, and space tourism
Major Impact Areas Evaluated	Atmospheric, Noise, and Other Environmental Effects (water, land, biota, socioeconomics, historical, cultural, and archaeological resources)	Atmospheric, Noise Sources, Landing (water, hazardous materials/waste), and Site-Specific Effects (land, hazardous waste, biota, historical and cultural resources, noise, transportation, socioeconomics)	Atmospheric, Noise, and Other Environmental Effects (water, land, biota, socioeconomics, historical, cultural, and archaeological resources)
Environment Types Evaluated	Southeastern Atlantic Coastal Environment, Southwestern Desert-Arid Environment, South Central California Coastal Environment, Subarctic Pacific Environment, Ocean or Open-Ocean Environment, and Mid-Atlantic Coastal Environment	Atmosphere, Space, and Site-Specific Environments on Earth's surface (did not include specific sites on Earth)	South Central Inland Environment, Southeastern Atlantic Coastal Environment, Southwestern Desert-Arid Environment, South Central California Coastal Environment, Subarctic Pacific Environment, Ocean or Open-Ocean Environment, and Mid-Atlantic Coastal Environment
Feasible Alternatives	More Environmentally-Friendly Propellant Combinations Alternative and No Action	No Action Alternative	TBD
Launch Manifest Estimates	Assumed 72 small, 22 medium, 75 intermediate, and 92 high capacity launches between 2000 and 2010.	Assumed up to 7 reentries per year from 1993-1999 and 20-30 reentries per year from 2000-2005.	TBD