

must obtain a launch license. Some suborbital RLVs currently under development use traditional aviation technology and components, including wings, for lift and glide capability, as well as rocket propulsion for thrust to maintain their trajectory. These vehicles may be termed "hybrid" in nature, because a single vehicle system uses aviation and aerospace technology during different portions of flight. This Notice advises an operator of a hybrid suborbital RLV that a proposed mission may require other FAA flight authorization, specifically an experimental airworthiness certificate (EAC), as a condition of a launch license, to operate in the National Airspace System (NAS).

FOR FURTHER INFORMATION CONTACT: Jay Garvin, AST-200, Manager, Licensing and Safety Division, Office of the Associate Administrator for Commercial Space Transportation, Federal Aviation Administration, U.S. Department of Transportation, 800 Independence Avenue, SW., Washington, DC 20591, (202) 385-4700; or David Hempe, AIR-100, Manager, Aircraft Certification Service, Office of the Associate Administrator for Regulation and Certification, Federal Aviation Administration, U.S. Department of Transportation, 800 Independence Avenue, SW., Washington, DC 20591, (202) 267-8235.

Comments Invited

The FAA is not opening a docket for the receipt of comments; however, we welcome input from person interested in submitting views and information to the FAA regarding suborbital RLV missions and concepts. Please send them to the attention of Jay Garvin, AST-200, Manager, Licensing and Safety Division, Office of the Associate Administrator for Commercial Space Transportation, Federal Aviation Administration, U.S. Department of Transportation, Room 331, 800 Independence Avenue, SW., Washington, DC 20591.

SUPPLEMENTARY INFORMATION:

Background

The Federal Aviation Administration (FAA) licenses the launch of a launch vehicle, reentry of a reentry vehicle and the operation of a launch or reentry site under authority granted to the Secretary of Transportation in the Commercial Space Launch Act of 1984, as amended (CSLA), codified in 49 U.S.C. Subtitle IX, chapter 701, and delegated to the FAA Administrator. Under the CSLA, a U.S. citizen must obtain authorization from the FAA to launch, reenter or

operate a launch or reentry site anywhere in the world. Any person wishing to conduct commercial space transportation activities in the United States must also obtain FAA authorization to do so. FAA authorization for these activities is granted by a license issued by the FAA's Associate Administrator for Commercial Space Transportation (AST) to the vehicle or site operator. A license prescribes terms and conditions for conducting authorized activity. Requirements for obtaining and remaining in compliance with a license are located in 14 CFR Chapter III, parts 400-450. U.S. Government space activities, including launches the government carries out for the Government are not subject to licensing by the FAA.

When the CSLA was enacted in 1984, only expendable launch vehicles (ELVs) and sounding rockets were available for private sector use, along with certain ballistic missiles adapted for commercial applications. A report prepared by the Senate Committee on Commerce, Science, and Transportation accompanying passage of the CSLA recognized that vehicle and space-related technologies would continue to evolve with commercialization of space access and assets and that the regulatory program would have to adapt. The Committee "recognizes that additional requirements may be necessary to meet the requirements and consideration of future launch technologies and activities and new classes payloads that presently do not exist." S. Rept. 98-656, "Commercial Space Launches, 98th Cong., 2d Sess., at pp. 11-12.

The Committee's observations in 1984 were borne out by the development of reentry capability for commercial use in the 1990s. Increasing emphasis on efficient and lower cost space access, combined with reentry capability, prompted a range of new launch vehicle concepts that would be fully or partially reusable. This new type of launch vehicle became known as a reusable launch vehicle or RLV, in contrast to conventional one-time use expendable launch vehicles or ELVs. In 1998, Congress amended the CSLA by adding reentry licensing authority for reentry vehicles, including RLVs. "to establish the appropriate legal framework to ensure public safety is protected while minimizing regulatory burden, delay or uncertainty that could inhibit commercial exploitation of reentry capabilities." H. Rep. 105-347, "Commercial Space Act of 1997," 105th Cong., 1st Sess., at p. 21. Reentry licensing would authorize the purposeful return of a reentry vehicle

and any payload from Earth orbit or outer space to Earth. A reentry vehicle is one that is designed to return from Earth orbit or outer space to Earth substantially intact.

Although the FAA had licensing authority under the CSLA over suborbitally operated RLVs by virtue of its licensing authority over suborbital rocket launches, the addition of licensing authority for reentry activities and specific reference to RLVs in the 1998 amendments eliminated regulatory risk, and removed any investor doubt, that Congress did indeed intend the FAA to address through CSLA licensing the unique safety and policy issues that may result from launch and intact landing of a launch vehicle, whether or not the vehicle enters Earth orbit before returning for landing on Earth.

The FAA promptly issued licensing regulations to implement its newly added statutory authority over reentry activity and RLV missions in general. The FAA covered suborbitally operated RLVs in its rulemaking. Under the licensing requirements for RLV missions, a suborbitally operated RLV may follow either a ballistic or maneuverable trajectory. The FAA explained in its rulemaking a proposal that a "suborbital trajectory is a flight path that is not closed, whereas an orbit is a closed path. A suborbital trajectory may be ballistic, that is, acted on only by atmospheric drag and gravity, or it can be controlled by external forces and therefore maneuverable." See 64 FR 19626-19666, April 21, 1999, at p. 19630, fn. 1. The FAA proposed, and codified, a uniform measure of public safety risk for an RLV that is launched and subsequently returns from Earth orbit and one that is launched and operates in suborbital fashion, where maneuvered in its return trajectory or returning through ballistic flight. The final RLV mission licensing rule (14 CFR part 431), issued September 19, 2000, clarified that all RLV missions, whether orbital (consisting of launch and reentry) or suborbital (launch and intact landing) are covered by the rule although only those RLVs that return to Earth from outer space or Earth orbit may be considered to "reenter" under the statutory definition of "reenter; reentry." See "Final Rule, Commercial Space Transportation Reusable Launch Vehicle and Reentry Licensing Regulations," 65 FR 56618-56667, September 19, 2000.

Despite the efficient development of a comprehensive regulatory regime for RLVs, vehicle development slowed in the late 1990s, with the downturn in the Low Earth Orbit (LEO) satellite market. Recently, though, mounting demand for