

National Aeronautics and Space Administration  
Headquarters  
Washington, DC 20546-0001



Reply to Attn of:

**NATIONAL AERONAUTICS AND SPACE ADMINISTRATION (NASA)**

**NOTICE:** 15-01

**NATIONAL ENVIRONMENTAL POLICY ACT (NEPA):** NASA Finding of No Significant Impact (FONSI) for the Launch and Reentry of SpaceShipTwo Reusable Suborbital Rockets at the Mojave Air and Space Port

**AGENCY:** National Aeronautics and Space Administration (NASA)

**ACTION:** Finding of No Significant Impact (FONSI)

**SUMMARY:** Pursuant to the National Environmental Policy Act (NEPA) of 1969, as amended (42 U.S.C. 43321 *et seq.*), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (40 CFR Parts 1500-1508), and NASA NEPA regulations (14 CFR Part 1216 Subpart 1216.3), NASA has made a Finding of No Significant Impact (FONSI) for the Proposed Action of launch and reentry of SpaceShipTwo suborbital Reusable Launch Vehicles (sRLVs) from Mojave Air and Space Port, Mojave, California (CA). NASA, a cooperating agency on the Department of Transportation (DOT) Federal Aviation Administration (FAA) Office of Commercial Space Transportation (AST) *Final Environmental Assessment (EA) for the Launch and Reentry of SpaceShipTwo Reusable Suborbital Rockets at the Mojave Air and Space Port*, dated May 2012, would adopt, the aforementioned FAA Final EA.

**FOR FURTHER INFORMATION CONTACT:**

Ms. Tina Norwood, NASA Headquarters, Environmental Management Division, NASA Headquarters, 300 E St SW, Suite 2U82, Washington, D.C., 20546-0001, Phone: 202-358-7324, E-mail: [tina.norwood-1@nasa.gov](mailto:tina.norwood-1@nasa.gov).

The FAA Final EA and FONSI are available electronically to view and/or download at NASA's NEPA Portal at <http://www.nasa.gov/agency/nepa-news.FAAmojaveEA>.

**SUPPLEMENTARY INFORMATION:**

NASA creates multiple paths for maturation of innovative technologies for flight. These technologies would be expected to benefit NASA, other government entities, commerce, and the public. NASA facilitates progress of space technologies toward flight readiness status through testing in space-relevant environments. NASA helps foster the development of the commercial reusable suborbital transportation industry, and facilitates low-cost access to suborbital environments for a broad range of innovators as a means of advancing space technology development and supporting the evolving entrepreneurial commercial space industry. NASA would contract for flight opportunities for research payloads or equipment on

the SpaceShipTwo/WhiteKnightTwo commercial vehicles that would provide access to reduced-gravity, high-altitude monitoring of space and Earth, and, eventually, methods for environmental sampling and secondary launch of nanosatellites (nanosats) to orbit. Among NASA's key goals for the program would be regular, frequent and predictable access to near-space at a reasonable cost with easy recovery of intact payloads.

The FAA prepared the environmental assessment to analyze the potential environmental impacts of issuing experimental permits and/or launch licenses to operate SpaceShipTwo reusable suborbital rockets and WhiteKnightTwo carrier aircraft at the Mojave Air and Space Port in Mojave, California. The FAA issued a FONSI for the FEA on April 30, 2012. All applications for launch on SpaceShipTwo and WhiteKnightTwo require FAA review prior to issuance of an experimental permit and/or a launch license.

The Mojave Air and Space Port is located in Mojave, California. The East Kern Airport District (EKAD) holds a launch site operator license to operate the Mojave Air and Space Port as a commercial space launch site. The FAA/AST granted the Launch Site Operator License to EKAD on June 17, 2004, after the FAA issued the *Final Environmental Assessment for the East Kern Airport District Launch Site Operator License for the Mojave Airport* (2004 FAA EA) on February 18, 2004, analyzing the environmental impacts of operating a launch site at the Mojave Air and Space Port. A FONSI for the 2004 FAA EA was published in the *Federal Register* (69 FR 22584) on February 26, 2004. The FAA/AST renewed the Launch Site Operator License in 2009 and again in 2014, and it expires on June 16, 2019.

### **NASA Adoption of Existing Environmental Documentation Applicability**


Council of Environmental Quality (CEQ) regulations encourage adoption of existing documents where applicable. 40 CFR 1506.3 states "A cooperating agency may adopt without recirculating the environmental impact statement of a lead agency when, after an independent review of the statement, the cooperating agency concludes that its comments and suggestions have been satisfied."


The U.S. Air Force served as cooperating agency on the FAA FEA. The Air Force Flight Test Center, Edwards Air Force Base (AFB) is one of three principal military entities conducting activities in the special use airspace around the Mojave Air and Space Port where SpaceShipTwo and WhiteKnightTwo operations are approved. All operations (including takeoff, launch, and landing) are conducted in accordance with the requirements and interagency agreements to ensure appropriate integration with other aircraft operations in the special use airspace. NASA also served as a cooperating agency having special expertise and interest in the operation of reusable suborbital rockets through its programs, such as its Flight Opportunities Program, which are intended to help foster the development of the commercial reusable suborbital transportation industry.

As such, NASA had the opportunity to review the Draft EA and found the NEPA document thoroughly addressed the environmental impacts of the SpaceShip Two operations. For purposes of analyzing environmental impacts in the Final EA, the FAA developed a conservative set of assumptions regarding the possible number of launches and reentries that could be conducted under any one experimental permit and/or launch license for the SpaceShipTwo at the Mojave Air and Space Port. The FAA has assumed a maximum of up to 30 total launches and reentries per year of SpaceShipTwo for a total of up to 150 launches and reentries of SpaceShipTwo between 2012 and 2016. This estimation is a conservative number and considers potential multiple launches per day and potential launch aborts.

The FAA published a notice of availability of the Draft EA in the Federal Register in March 2012 announcing a 30-day comment period. The FAA received no comments. NASA is aware of the recent loss of SpaceShip Two (October 2014) and understands that an investigation into the in-flight explosion and loss of SpaceShip Two is underway. NASA understands that there were no environmental impacts resulting from the mid-air explosion of on-board propellant. No infrastructure was reportedly damaged from the impact of spaceship debris with the ground.

The FAA will continue to retain responsibility for issuing experimental permits and/or launch licenses for the operation of SpaceShipTwo and WhiteKnightTwo at the Mojave Air and Space Port in Mojave, CA. The Mojave Air and Space Port's existing infrastructure would be used for takeoff and landing activities. The FAA Final EA assumes that the FAA could issue either new or renewed experimental permits and/or launch licenses. The FAA has requested that the Mojave Air and Space Port conduct additional NEPA analysis to address the expansion of commercial operations at the port. NASA has requested to serve as a cooperating agency in the development and review of future NEPA documentation to support NASA's direct and indirect contribution to future programs and projects conducted at the Mojave Air and Space Port, California.

  
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Krista Paquin  
Associate Administrator for  
Mission Support Directorate

  
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Date