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## Defense Primer: National Security Space Launch Program

The U.S. Department of Defense's (DOD's) National Security Space Launch (NSSL) program acquires commercial launch services to deploy military and intelligence community satellites. These satellites are used for communications; positioning, navigation, and timing; missile warning and tracking; and space situational awareness, among other purposes.

Congress, in 10 U.S.C. §2273, established as U.S. policy the need to ensure access to space by maintaining at least two launch vehicles able to deliver any national security payload into space. To meet that mandate, Congress authorizes and appropriates funding for NSSL and provides oversight of the program. During the Biden Administration, DOD requested \$2.4 billion for NSSL and related activities in FY2025.

### National Security Space Launch Program

The U.S. Space Force's (USSF's) Space Systems Command (SSC), based at Los Angeles Air Force Base, manages the NSSL program. DOD conducts NSSL launches at two locations: the Eastern Range at Cape Canaveral Space Force Station in Florida and the Western Range at Vandenberg Space Force Base in California. NSSL has launched satellites for the U.S. Space Force, the U.S. Air Force, the U.S. Navy, and the National Reconnaissance Office.

NSSL providers use launch vehicles capable of either *heavy-lift* or *medium-lift*, generally defined as a payload capacity between 20,000 kg and 50,000 kg or between 2,000 kg and 20,000 kg, respectively. A separate DOD program, the Orbital Services Program, acquires *small-lift* launch services, defined as a payload capacity of 2,000 kg or less.

SSC directs a flight-worthiness certification process for potential NSSL launch providers. The certification process includes flight demonstrations, major subsystem reviews, and verification of payload interface requirements. The United States has two certified launch providers for NSSL missions: Space Exploration Technologies Corporation (SpaceX, flying its Falcon 9 and Falcon Heavy rockets) and the United Launch Alliance (ULA, flying its Vulcan rocket). Blue Origin is in the process of certifying a new launch vehicle.

As outlined in 10 U.S.C. §2273, one of the goals of NSSL is to lower the costs of national security space launches. For acquisitions, NSSL has fostered competition between providers to reduce costs through competitively awarded contracts. The program also uses firm-fixed price contracts and *block buys*, a DOD-specific procurement mechanism

that allows the agency to use a single contract to buy goods or services over multiple years, rather than annual contracts.

### National Security Space Launch Evolution

NSSL evolved from an earlier Air Force program, the Evolved Expendable Launch Vehicle (EELV) program. In August 1994, the Clinton Administration issued the National Space Transportation Policy (NSTC-4), which tasked DOD with "the improvement and evolution of the current U.S. [heavy- and medium-lift] expendable launch vehicle (ELV) fleet." The National Defense Authorization Act for Fiscal Year 2004 (NDAA; P.L. 108-136, §2273) codified this policy in statute (10 U.S.C. §2273).

In fulfillment of NSTC-4, the Air Force established the EELV program in 1994. Initially, two companies competed for EELV contracts: Boeing, which produced the Delta IV launch vehicle, and Lockheed Martin, which produced the Atlas V. During the initial phase of the EELV program, the Air Force used nonrecurring, firm-fixed price contracts, with the commercial providers covering any additional costs. The Air Force amended its contracting approach in 2005, citing rising costs incurred by the commercial partners. The Air Force began instituting cost-plus contracts to support launch capabilities and infrastructure, while still issuing firm-fixed price contracts for launch services. In 2006, Boeing and Lockheed Martin formed the ULA joint venture, which became the sole provider for EELV launch services in 2006.

In 2013, the Air Force shifted to a block buy approach, saying this would save money and provide predictability for industry. The subsequent sole-source contracts awarded to ULA were considered Phase 1 of the amended EELV program. After Russia's 2014 invasion of Ukraine, Congress prohibited contracting with Russian suppliers of rocket engines for EELV and directed that DOD create a development program for new U.S.-made rocket engines (P.L. 113-291, §§1604 and 1608). This program later formed the basis of future ULA and Blue Origin launch vehicles. In 2016, the Air Force shifted to competitively awarded EELV contracts, known as Phase 1A. Under Phase 1A, SpaceX won a firm-fixed price launch services contract in April 2016 for the use of expendable Falcon 9 rockets.

In 2018, DOD issued three Launch Service Agreements, which were other transaction (OT) agreements to "facilitate development of ... launch system prototypes," to foster future competition. The Air Force awarded these agreements to Blue Origin, Northrop Grumman, and ULA in preparation for Phase 2. The FY2019 NDAA (P.L. 115-232) changed the program's name to NSSL and expanded the program to include reusable launch vehicles, such as SpaceX's Falcon 9 Block 5.

DOD continued to use competitively awarded block buy contracts in Phase 2, which began in 2020. Out of 48 Phase 2 NSSL missions awarded, the Air Force assigned contracts for 22 launches to SpaceX and 26 launches to ULA from FY2022 to FY2027. After selecting SpaceX and ULA for Phase 2, the Air Force terminated its Launch Service Agreements with Northrop Grumman and Blue Origin.

Phase 3 launches are set to begin in FY2026. For Phase 3, DOD is using a two-lane approach, intending to use both new and existing providers. In 2024, the Assistant Secretary of the Air Force for Space Acquisition and Integration stated that Lane 1 allows “an unlimited number of launch service providers to compete for ... less complex missions that have higher risk tolerance.” To qualify for Lane 1, providers must have completed a launch or have a credible plan to do so. Blue Origin, SpaceX, and ULA won initial contracts in June 2024. In March 2025, the Space Force awarded additional Lane 1 contracts to Rocket Lab USA and Stoke Space, allowing them to compete for Lane 1 task orders beginning in FY2026, pending completion of their first successful launch.

In contrast, for Lane 2, DOD plans to use three providers for a full range of missions. To qualify, providers had to be able to access more difficult to reach orbits, “necessitating higher performance launch systems, and complex security and integration requirements,” as described by a Space Systems Command media release. In April 2025, DOD awarded Phase 3 Lane 2 contracts to three suppliers—Blue Origin, SpaceX, and ULA—for approximately 54 missions from 2027 to 2032. The anticipated value for these contracts is up to \$5.9 billion for SpaceX, \$5.4 billion for ULA, and \$2.4 billion for Blue Origin.

## Potential Issues for Congress

### Competition

Among NSSL’s goals is reducing costs by fostering competition between commercial providers. In an April 2024 letter, some Members of Congress identified “increased competition among launch providers” as a key piece of NSSL’s success. They wrote that competition “improves ... resiliency and redundancy, promotes greater affordability, and ensures USSF access to rapid innovations.”

Blue Origin seeks to certify its New Glenn launch vehicle. Two launch providers—ULA and SpaceX—have certified vehicles. The Space Force has said it plans to seek additional providers through its Phase 3 Lane 1 awards.

A report (S.Rept. 118-204) accompanying the Senate Appropriations Committee-reported Department of Defense Appropriations Act for FY2025 (S. 4921) encouraged the Space Force to “include a greater diversity of providers and more competition as phase three of the NSSL program moves forward.” Other stakeholders have also raised concerns over the level of competition between providers. For instance, a 2020 RAND Corporation study, updated in 2023, stated that SpaceX has a “near monopoly” on the global heavy-lift launch market. The study recommended that the Space Force support “as many U.S. launch

providers as possible” and prepare for potential risks posed by using a limited number of providers.

Congress may continue to consider whether the Space Force has adequately fostered competition between launch providers. Should Congress decide to require more efforts in this regard, potential mechanisms include directing the Space Force to revive Launch Services Agreements or creating another technology maturation program to support new entrants; amending statute to change U.S. policy to require the sustainment of space launch vehicles from a diverse set of companies, including new entrants; and directing the Space Force to evaluate additional mechanisms to encourage additional NSSL participants. Alternately, Congress may determine that Space Force efforts have been sufficient or that such technology development should be purely industry-led.

### Launch Infrastructure

The number of launches at the Space Force’s two launch facilities—the Eastern and Western Ranges—has increased from 16 in 2017 to 144 launches in 2024. The Space Force anticipated conducting 192 launch operations at these facilities in FY2025. The growing number of launches reflects both NSSL launches and commercial missions conducted under cost-reimbursement agreements with the Space Force.

To modernize the Ranges, the Space Force began implementing its Spaceport of the Future program (formerly known as Range of the Future) in FY2024. According to a Space Force official, the program includes “over 130 projects.” Congress may consider oversight of and appropriations for the Space Force’s infrastructure.

Pursuant to 10 U.S.C. §2276, commercial entities may contract with the Space Force to use the Eastern and Western Range for private missions and are required to reimburse DOD for all direct costs. The FY2024 NDAA (P.L. 118-31, §1603) amended this authority to allow commercial entities to be charged indirect costs; the total amount of indirect costs is limited to \$5 million annually through 2026. Congress may consider whether these costs might be used to support Space Force infrastructure, as well as evaluate what dollar limit may be appropriate.

The use of additional launch sites may reduce pressure on existing launch facilities. A report (H.Rept. 118-529) accompanying the House Armed Services Committee-reported version of the FY2025 NDAA (H.R. 8070) directed the Chief of Space Operations to brief the panel on the feasibility of alternative launch sites. Congress may continue to consider the feasibility of additional launch sites, including by directing further studies or analyses.

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