In a consequential decision, Air Force picks its rockets for mid-2020s launches

Enlarge / Artist’s rendering of a Vulcan-Centaur rocket launch.

reader comments

152 with 60 posters participating

Share this story

On Friday afternoon, the US Air Force answered one of the big questions that had been hanging over the US launch industry for more than a year—which two companies will be selected to compete for national security launch contracts from 2022 to 2026?

During a video call with reporters, William Roper, Assistant Secretary of the Air Force for Acquisition, Technology and Logistics, said that United Launch Alliance will receive approximately 60 percent of the launch orders and SpaceX will receive the other 40 percent. Two other bidders, Northrop Grumman with its Omega rocket, and Blue Origin with its New Glenn vehicle, will not receive awards.

“The ability to meet our technical factors to do the mission is the most important thing,” Roper said, in response to a question on the Air Force criteria. Secondary factors included past performance, the ability to work with small businesses, and total evaluated price. The military has nine reference orbits for large and complex payloads that these rockets must meet.

United Launch Alliance

Long the military's sole provider for national security launches, United Launch Alliance (ULA) has had to adapt to compete for this new round of awards. Specifically, Congress prohibited the military from procuring the Russian-made RD-180 rocket engine after 2022. This engine powers ULA's most cost-efficient rocket, the Atlas V booster.

For this reason, ULA has been developing a new booster, Vulcan-Centaur, that can meet the Air Force needs while using a US-based propulsion system. The rocket's first stage will be powered by the BE-4 engine, which has been developed and will be manufactured by Blue Origin.

Although this rocket may make its debut in 2021, that is not certain as technical problems almost invariably crop up during the development of new launch systems. Roper said the company will be able to continue to use the Atlas V booster until Vulcan is ready, as the Congressional law only prohibits the purchase of new engines, rather than their use. A dozen of these engines are available.

"I am very confident with the selection that we have made today," Roper said. "We have a very low risk path to get off the RD-180 engines on time and to not have to dip into that surplus that we have available."

SpaceX

Of the bidders, only SpaceX has rockets to hand for these contracts. Both the single-stick Falcon 9 rocket and the triple-core Falcon Heavy rocket have established track records, and the Air Force has certified both for national security missions.

From 2022 to 2026, Roper said the Air Force expects to award a total of 30 to 34 contracts for missions. Assuming the 60-40

split in total contracts, this likely will result in contract values of about $3.5 billion for United Launch Alliance and $2.5 billion for SpaceX—but these are rough estimates and the US Air Force has not released specific amounts. These awards ensure that ULA and SpaceX will continue a long-running rivalry.

As part of Friday's announcement, the Air Force said ULA has been assigned the USSF-51 and USSF-106 missions scheduled for launch in second quarter fiscal year 2022 and fourth quarter fiscal year 2022, respectively. SpaceX has been assigned USSF-67, scheduled for launch in fourth quarter fiscal year 2022. Task orders for the launch service support and launch service contracts will be issued to ULA for $337M and SpaceX for $316M for launch services to meet fiscal year 2022 launch dates. (This latter value suggests the SpaceX mission will likely fly on the Falcon Heavy rocket.)

Left behind

In October 2018, the Air Force awarded Launch Service Agreement (LSA) contracts to ULA, Northrop Grumman, and Blue Origin to support the development of their rockets. These funds were intended to help the companies make competitive bids for the mid-2020s launch contracts (SpaceX was excluded, likely because its rockets were already flying).

Not all of those development funds have been paid, however, and those contracts will now be wound down for losing bidders Northrop and Blue Origin. "We will work with those two companies to determine the right point to tie off their work under the LSA agreements," Roper said. "The goal is not to carry them indefinitely, the point of an LSA was to create a more competitive environment."

Blue Origin is likely to continue developing its New Glenn rocket—which appears unlikely to have been ready to fly military missions in 2022 anyway. The company, founded by

Amazon’s Jeff Bezos, will also play for commercial missions and seek to get in on bidding for military launches in 2027 and beyond.

Less clear is the fate of Northrop’s Omega rocket, which appears unlikely to have a path forward without guaranteed income from military launch contracts.

https://arstechnica.com/?p=1697613