

# Action in Congress

By Megan Scully

**A**ir Force leaders are making the rounds on Capitol Hill, imploring lawmakers to give them some relief from an ambitious—and congressionally mandated—deadline to end reliance on a Russian-built rocket engine in just four years.

The issue has been propelled into the limelight by steadily deteriorating relations between Washington and Moscow in the wake of Russia's incursion in Ukraine. It is shaping up to be one of the most closely watched during this year's round of negotiations on the annual defense spending and policy bills.

The Fiscal 2015 defense authorization law, approved by Congress in December, includes a provision that would require the Air Force to abandon use of the Russian-built RD-180 engine to launch the Atlas V, one of two rockets certified for the Evolved Expendable Launch Vehicle program, by 2019.

But Air Force Secretary Deborah Lee James has been explaining to lawmakers that the date is simply not feasible.

Technical experts, whom James has offered up for briefings on Capitol Hill, estimate it could take six

to seven years to develop the engine, and another year or two to integrate it on the rocket.

A rocket engine, she has urged, is far more complex than a jet engine and must withstand intense heat and pressure. And it's not just a matter of engineering—it also involves procuring materials for those extreme conditions.

The United States, James stressed, simply does not have enough know-how in this area to develop a new engine on an extremely tight timetable.

"This truly *is* rocket science," James told the Senate appropriations subcommittee on defense Feb. 25 while testifying on the Air Force's 2016 budget proposal. "These are hard technical problems."

To deliver the engine on time, everything would need to fall into place

exactly right, James said, leaving no wiggle room for even the most minor of developmental setbacks.

United Launch Alliance, a Boeing and Lockheed Martin joint venture, has a stranglehold on the EELV competition, producing both the Atlas V and the larger and more expensive Delta IV, which does not use the RD-180.

Upstart SpaceX should be certified to launch the satellites later this year. Because its rocket, the Falcon 9, also

Congress last year approved \$220 million for this fiscal year to kick-start the research and development effort for a domestic rocket engine. In its Fiscal 2016 request, the Air Force proposed \$85 million for the program, and a total of \$295 million over the next five years.

James acknowledged to House appropriators Feb. 27 that that is not enough money for the Air Force to pay for the program on its own. Service officials are planning to pursue a public-private partnership, with industry self-funding some of the effort.

"We may have to adjust this as we learn more, but we thought that was a good starting point," James said.

The Air Force is researching how to create material strong enough to resist the enormous temperature and pressures involved with spaceflight.

Service officials will use that money to fund several launch service providers to start developing engine alternatives.

The next step, James said, is to put out to industry a formal request for information—and

ultimately, a request for proposal—a process that could take years.

The question, though, is whether lawmakers—particularly those on the House and Senate Armed Services Committee, who are tasked with drafting the annual authorization measure—will buy the Air Force some time by relaxing the 2019 deadline.

Perhaps the most important lawmaker to watch on this issue will be Senate Armed Services Chairman John McCain (R-Ariz.), who has been among the senators most vocally concerned about the use of the Russian engines. He may be the toughest to sell of the idea on an extension. 🌟

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does not use the Russian engine, it could be in a good position to benefit if the current restriction remains in place.

ULA's Delta IV could certainly take over some of the Atlas V's missions, but James suggested that it may not be cost-effective.

If Congress keeps the 2019 deadline in place, the Air Force would essentially be transferring the grip on the EELV from one company to the next, abandoning the long-running desire to have competition for the lucrative program.

"I worry that we run the risk of trading one monopoly, which is what ULA has been, for a new monopoly," James told reporters after the Senate hearing. "And I don't think anybody wants that to happen."