Northrop Grumman Developing XS-1 Experimental Spaceplane Design for DARPA

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REDONDO BEACH, Calif., Aug. 19, 2014 /PRNewswire/ -- Northrop Grumman Corporation (NYSE: NOC) with Scaled Composites and Virgin Galactic is developing a preliminary design and flight demonstration plan for the Defense Advanced Research Projects Agency's (DARPA) Experimental Spaceplane XS-1 program.

A photo accompanying this release is available at: http://media.globenewswire.com/noc/mediagallery.html?pkgid=27176.

XS-1has a reusable booster that when coupled with an expendable upper stage provides affordable, available and responsive space lift for 3,000-pound class spacecraft into low Earth orbit. Reusable boosters with aircraft-like operations provide a breakthrough in space lift costs for this payload class, enabling new generations of lower cost, innovative and more resilient spacecraft.

The company is defining its concept for XS-1 under a 13-month, phase one contract valued at $3.9 million. In addition to low-cost launch, the XS-1 would serve as a test-bed for a new generation of hypersonic aircraft.

A key program goal is to fly 10 times in 10 days using a minimal ground crew and infrastructure. Reusable aircraft-like operations would help reduce military and commercial light spacecraft launch costs by a factor of 10 from current launch costs in this payload class.

To complement its aircraft, spacecraft and autonomous systems capabilities, Northrop Grumman has teamed with Scaled Composites of Mojave, which will lead fabrication and assembly, and Virgin Galactic, the privately-funded spaceline, which will head commercial spaceplane operations and transition.

"Our team is uniquely qualified to meet DARPA's XS-1operational system goals, having built and transitioned many developmental systems to operational use, including our current work on the world's only commercial spaceline, Virgin Galactic's SpaceShipTwo," said Doug Young, vice president, missile defense and advanced missions, Northrop Grumman Aerospace Systems.

"We plan to bundle proven technologies into our concept that we developed during related projects for DARPA, NASA and the U.S. Air Force Research Laboratory, giving the government maximum return on those investments," Young added.

The design would be built around operability and affordability, emphasizing aircraft-like operations including:

- Clean pad launch using a transporter erector launcher, minimal infrastructure and ground crew;
- Highly autonomous flight operations that leverage Northrop Grumman's unmanned aircraft systems experience; and
- Aircraft-like horizontal landing and recovery on standard runways.

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Amy Akmal, 424-254-6945, amy.akmal@ngc.com