News Release

Defense Advanced Research Projects Agency

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J-UCAS X-45A TRANSFERS OPERATOR CONTROL DURING A BEYOND LINE OF SIGHT FLIGHT DEMONSTRATION

The Joint Unmanned Combat Air Systems (J-UCAS) X-45 program successfully transferred control of its X-45A air vehicle to a control station nearly 900 miles away, and back again, completing its first Beyond Line of Sight flight test on December 9, 2004.

During the 46-minute flight, command and control of Boeing's J-UCAS air vehicle, AV-1, was successfully transferred, via UHF SATCOM, from an operator at NASA Dryden Flight Research Center on Edwards Air Force Base, Calif., to a mission control operator at Boeing's Seattle, Wash., facility. The operator in Seattle then controlled the aircraft for approximately six minutes.

During this time, the Seattle operator demonstrated positive command and control by sending four airspeed and altitude command changes to the vehicle. All changes were received and executed by the air vehicle before control was handed back to the local Edwards mission control station.

"This flight was an essential step towards proving the systems capability to smoothly transfer command and control of the air vehicles between mission control elements," said Captain Ralph N. Alderson, USN, X-45 program manager. "During future missions, these distributed control elements could be housed on air bases or aircraft carriers around the world. Reliable communication paths and control systems are essential parts of providing persistent, lethal J-UCAS presence anywhere, anytime."

The J-UCAS program is developing an integrated system incorporating multiple unmanned combat air vehicle platforms and a Common Operating System, seamlessly linked to achieve shared, interactive control of worldwide operations. The software used on the X-45A may be offered as a candidate for functionality in the development of the Common Operating System.

While continuing to test Block 3 software on the X-45A air vehicles, Boeing is working to design, develop and demonstrate three full-scale, flight-worthy X-45C air vehicles and two

(more)

mission control elements. The J-UCAS Capabilities Demonstration Program will culminate in an operational assessment of the capabilities of the J-UCAS system in realistic mission scenarios.

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The J-UCAS program is a joint Defense Advanced Research Projects Agency/U.S. Air Force/U.S. Navy effort to demonstrate the technical feasibility, military utility, and the operational value of a networked system of high-performance, weaponized, unmanned air vehicles to effectively and affordably execute combat missions. The J-UCAS Common Operating System will allow unmanned aircraft systems to intra-operate with each other and with the Global Information Grid. The J-UCAS system-of-systems concept plans to demonstrate the military utility and the operational value of airpower in the 21st century combat environment. More information on the J-UCAS program can be found at http://www.darpa.mil/j-ucas.

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