Boeing Awarded NASA Contract for Intelligent Vehicle Research Initiative

The Boeing Company (NYSE: BA) has been awarded a $50 million cost-plus-fixed-fee contract, under the Intelligent Vehicle Research Initiative, by NASA Dryden Flight Research Center (DFRC), Edwards, Calif. In support of this new Intelligent Vehicle initiative, Boeing Phantom Works will provide modification direction for the flight test C-17 Globemaster III. The modifications will be accomplished in Southern Calif.

"We are very excited about this opportunity to work with NASA on this important program," said JB Peterson, vice president of Advanced Aircraft & Missiles for Phantom Works. "We're looking forward to getting airborne and demonstrating our new capabilities on a current front-line transport aircraft, and eventually transitioning that technology directly to various operational aircraft."

The first task under the contract will be to establish a Research Flight Control System (REFLCS) to allow research into potentially life-saving technologies such as Intelligent Flight Controls which can keep damaged aircraft controllable.

"Dryden looks forward to developing REFLCS as a valuable tool-set for both the Air Force and NASA to do more advanced flight control research, such as Intelligent Flight and Propulsion Control," said Jerry Henry, NASA Intelligent Vehicle program manager. According to Henry, also under future consideration as a research topic is an emergency autopilot system, which could take complete control if an aircraft was heading toward imminent danger or obstacles. "NASA's vision for the future of transport aircraft is very motivating and we're pleased to participate in the Intelligent Vehicle Program," said Michael Kinard, Boeing Phantom Works program manager.

Flight testing of engine monitoring systems began in October 2001 at Edwards AFB, Calif. REFLCS will be installed on the C-17 in 2002, followed by flight tests during the third quarter. In early 2003 C-17 flight tests will be initiated at Dryden. Program goals include; providing a flexible research environment on a large transport aircraft, demonstrating damage adaptive technologies, and transitioning of NASA technologies to operational aircraft in the field.

Engine number three on the C-17 test aircraft will have prognostic sensor groups installed to monitor potential ingested debris and engine distress. The first generation of these sensors are already installed and are currently being evaluated. In addition, the C-17 will test systems that monitor high frequency vibration, stress wave analysis and wireless sensing.

Initial research with this technology began in 1995 at NASA Ames Research Center, Calif., where the Intelligent Flight Control software developed by Phantom Works was demonstrated in their simulators. During a series of test flights at Dryden with an MD-11, only engine thrust was used for aircraft control during landing operations. This concept evolved into the selection of the C-17 as the next candidate aircraft.

Boeing is the world's largest manufacturer of commercial and military aircraft, and NASA's largest contractor. The company's capabilities include helicopters, defense systems, missiles, rocket engines, launch systems, satellites, advanced information and communication systems, aviation support products and services, financial services, a global-mobile communications system, and a space-based air traffic management system.

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