

# NAVAIR Demonstrates UAV Control At Highest Level

PATUXENT RIVER, Md. (NNS) -- Naval Air Systems Command (NAVAIR) recorded another first in naval aviation history when a P-3C Orion launched, took control of, and recovered a Fire Scout Vertical Takeoff Unmanned Aerial Vehicle (UAV) during a 45-minute technical demonstration Dec. 19 at NAVAIR Webster Field in St. Inigoes, Md.

The Aircraft Improvement Program (AIP) P-3C demonstrated the highest level of control, level 5, by controlling the launch and recovery of Northrop Grumman's Fire Scout, and controlling both the air vehicle and its

sensor payload while airborne. The AIP aircraft took off from Patuxent River with an integrated Tactical Control System (TCS) installed that allowed the aircraft to control the airborne Fire Scout. This was a first for the Navy.

The TCS, developed by Raytheon Corporation, and the Tactical Common Data Link (TCDL), developed by L-3 Communication Systems-West, were integrated aboard the P-3C AIP aircraft by the prime systems integrator, Lockheed Martin Maritime Systems & Sensors-Tactical Systems Eagan.

The improvements to the P-3C give it the ability to execute its Over The Horizon-Targeting mission more effectively and increase its survivability in a hostile environment, while retaining the ability to conduct other missions.

"Through its airborne control of the UAV platform and sensors, the P-3 AIP will be able to greatly expand its support to carrier strike groups and ground forces," said Capt. Steve Eastburg, NAVAIR's Maritime Surveillance Aircraft (PMA-290) program manager. "This capability will also improve platform survivability, decrease the targeting timeline, improve situational awareness and post-strike battle damage assessment, and provide a communication relay role for battle group assets."

The demonstration began when the P-3C AIP aircraft took off from Patuxent River and launched

Fire Scout from Webster Field using TCS. The AIP aircraft controlled the air vehicle and sensor payload via the TCS and vectored the Fire Scout to a simulated target, a U.S. Coast Guard vessel, on the St. Mary's River. The Fire Scout fed streaming

electro-optical video via TC DL to the P-3C during the demonstration. The P-3C then relayed the motion video from the Fire Scout, along with motion video gathered from the P-3C's onboard electro-optical sensor, to a ground station at Webster Field. This relay of Fire Scout sensor data to a ground station demonstrated the



network centric concept of making Fire Scout sensor data available (by rebroadcast) to a ground station that is not in direct communications link with the Fire Scout.

The demonstration concluded when the AIP aircraft successfully recovered and landed the Fire Scout at Webster Field. It was a proof-of-concept and risk mitigation exercise for the adjunct UAV command and control requirement associated with the next generation maritime surveillance aircraft, the Multi-mission Maritime Aircraft.

PMA-290 and NAVAIR's Unmanned Aerial Vehicles Program Office (PMA-263) jointly sponsored the technical demonstration. The two program offices have been working as a single P-3C AIP-Fire Scout Demonstration Team since October 2002 to demonstrate the successful integration of TCS and TC DL aboard the P-3C AIP aircraft, to enable the control of Fire Scout and its sensor capabilities.

"As the centerpiece of the Navy's UAV architecture, the Tactical Control System was demonstrated at its best today, successfully providing the highest level of UAV control from an in-flight aircraft," said Capt. Dennis Sorensen, program manager for NAVAIR's Unmanned Aerial Vehicles (PMA-263). "Today's event paves the way for future system interfaces and connectivity that are vital to 21st century operational effectiveness."