New Unmanned Test System Accelerates UAS Development at NAWCAD



The Tethered Unmanned Aerial Vehicle Experimentation Payload System (TULEPS) is a new test asset that enables rapid testing of unmanned aviation payloads without requiring flight clearances providing extended operational time, secure data transmission, and adaptability for ship- and vehicle-based applications at the Naval Air Warfare Center Aircraft Division. (U.S. Navy photo by Chuck Regner)

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ST. INIGIES, Md. – The Naval Air Warfare Center Aircraft Division (NAWCAD) is boosting its testing capabilities with a new UAS experimentation system showcased recently at a training event at Naval Air Station Patuxent River's Webster Outlying Field.

Designed to accelerate unmanned aviation development, the Tethered Unmanned Aerial Vehicle Experimentation Payload System (TULEPS) allows developers to test software and mission

equipment on a generic unmanned platform.

“When we test payloads on specific UAVs, it requires significant money, time and effort because of the limitations of the UAV – TULEPS is an innovative resource that allows us to focus first on the development of the actual payload technology,” said NAWCAD lead experimentation engineer James Tomasic. “After we’ve worked through the technical issues and are comfortable with the payload, we can focus on implementing that technology on a specific UAV platform.”

TULEPS streamlines testing by allowing equipment to be loaded on its UAV without requiring flight clearances. Its tether enables systems to fly in most weather conditions, powers payloads for extended periods of time, securely transmits data, and can be used on ships or trucks to give antennas and sensors a higher vantage point and longer reach.

“If we want to test an electronic warfare pod, a new communication antenna or an electro-optical surveillance sensor, we can put it on the TULEPS system with very little paperwork,” said Chief Test Pilot Lt. Col. Jason Noll at NAWCAD’s unmanned Air Test and Evaluation Squadron (UX) 24. “The system is already approved, so we don’t have to obtain a new clearance – we can test on a shorter timeline with fewer manhours and save money as well.”

NAWCAD’s Experimentation Office (NEO) worked with industry partner DPI UAV Systems to quickly stand up the new test capability, which culminated in a two-day TULEPS event that featured classroom and hands-on training for more than 10 UX-24 air vehicle operators who are the command’s first qualified TULEPS operators.

“NEO is here to help solve problems and support all of NAWCAD,” said Tomasic. “We are constantly looking at game-changing technologies like TULEPS that bring new capabilities to the warfare center.”

NAWCAD’s military, civilian, and contract personnel operate test ranges, laboratories, and aircraft in support of test, evaluation, research, development, and sustainment for all Navy and Marine Corps aviation platforms. Based in Patuxent River, Maryland, NAWCAD also has major sites in St. Inigoes, Maryland; Lakehurst, New Jersey; and Orlando, Florida.