NAWCAD’s Remote Data Room shares information across miles

First-of-its-kind Navy/Air Force collaboration is building a readier, more connected DoD

By Donna Cipolloni
NAS Patuxent River Public Affairs

A year in the making, engineers from the Propulsion Systems Evaluation Facility (PSEF) at Naval Air Station Patuxent River, Maryland, and engineers at the Arnold Engineering Development Complex (AEDC) at Arnold Air Force Base, Tennessee, will soon be collaborating on a first-of-its-kind endeavor.

In September, Leo Rubio, a test engineer with PSEF at Pax River, will join forces with engineers at AEDC as members of a team who will run a test and analyze the data on a Pratt & Whitney F135, the engine that powers all three variants of the F-35 Lightning II. What makes this particular test unique is that Rubio will be watching and participating from the new Remote Data Room in Maryland while the other engineers, and the engine, will be 700 miles away in Tennessee.

What is the Remote Data Room?

Located inside PSEF, the Remote Data Room — currently comprising four monitors and two keyboards — allows a test analyst at Pax River to act as a remote team member during a live engine test taking place at the AEDC and view the data being collected.

“One thing we worried about was the latency when working in real time; will there be drop-outs or will we see a number of data points from a minute ago or a second ago,” said John Kelly, branch head for Test Operations and Facilities Engineering at Pax River. “But, so far, with just the few trials we’ve run, it’s milliseconds. Now that the proof of concept is real, we’re pushing forward and building an actual dedicated room with four workstations and two big screen TVs so we can see the engine running in the test cell and we’ll do a Skype setup so we can also see each other.”

“The Remote Data Room is saving time and money. In the past, if the Navy needed to help support an engine test, they would have to pay travel expenses and send personnel to AEDC. “Even then, we wouldn’t be qualified to sit and analyze data with the test team,” Kelly noted. “We’d be more of an observer, or the customer, waiting for data. But now, we’ll be more integrated; we’re one of the test team people watching with this data room.”

That’s where Rubio plays a big part, having recently completed AEDC’s Aeropropulsion Combined Test Force Basic-Level Training curriculum.

Advancing the workforce’s technical skill sets

In 2019, Rubio was sent to the AEDC facility — which operates more than 60 aerodynamic and propulsion wind tunnels, rocket and turbine engine test cells, and various other specialized units — to support the Navy’s MQ-25 Stingray program and observe an altitude test for the AE3007N engine.

“The goal was to work with my counterpart at AEDC, Seth Beaman, to develop a training curriculum that would work to get NAVAIR personnel certified as Basic-Level Analysts,” Rubio said. “I ended up integrating myself well with the test team and taking on more of the training and serving as a test analyst during all of their air periods for this test program.”

Beaman explained AEDC has training standards they follow and the engineers worked to determine what portion of those standards applied to Navy employees, whether they are present at AEDC or remotely supporting a test from PSEF. The curriculum the team developed will ultimately help advance the workforce and more quickly respond to critical evolving requirements of current and future programs like F-35.

“Any engineers [at Pax River] who will be coming down here or who will be remotely supporting will be going through that training program at some point,” said Beaman, a test analyst and one of 10 NAVAIR employees with the Aeropropulsion Combined Test Force who work with the Air Force at AEDC.

USNTPS develops new training curriculum for incoming students

By Lt. Cmdr. Allan Jespersen
Flight Instructor, U.S. Naval Test Pilot School

On July 20, the U.S. Naval Test Pilot School welcomed nine fixed-wing students from Class 159, the incoming class that will graduate next summer. Prior to their arrival, the nine pilots were scheduled to receive training in the T-38C and T-6B Texan II primary trainer at Naval Air Station Whiting Field, but those training activities had been suspended in March due to the COVID-19 pandemic.

In response, the USNTPS Fixed Wing department worked with the school’s Operations and Safety departments, the Chief Flight Instructor and T-38C Aircraft Monitor, NASA’s T-38C Program Manager, and multiple Air Force instructor pilots to develop a T-38C qualification syllabus. The new syllabus incorporates the same training flow and materials the students would have otherwise received, except that students will now be taking simulator training at NASA’s T-38N simulators at Ellington Field in Texas.

“The pre-arrival syllabus is a big part of our risk mitigation strategy for students flying USNTPS aircraft, specifically for the T-38C. The T-38C is challenging to fly and requires constant attention in key phases of flight, such as the landing pattern. The new qualification syllabus demonstrates USNTPS’ commitment to maintaining its proficiency and safety standards while also responding flexibly to the demands of the times.”

US NAVY PHOTO BY LT. CMDR. ALLAN JESPERSEN

Practicing physical distancing and wearing face coverings, fixed-wing test pilot students from the U.S. Naval Test Pilot School’s incoming Class 159 receive aircraft systems training from USNTPS instructor Lt. Cmdr. Scott Elwell.