Triton Deployed: The Navy's MQ-4C's Western Pacific Overwatch Continues Into Second Year

The Northrop Grumman-built Triton unmanned aircraft system completed its first flight from the company's manufacturing facility in Palmdale, Calif. The one-an-a-half-hour flight successfully demonstrated control systems that allow Triton to operate autonomously. Triton is specially designed to fly surveillance missions up to 24 hours at altitudes of more than 10 miles, allowing coverage out to 2,000 nautical miles. The system's advanced suite of sensors can detect and automatically classify different types of ships. *U.S. NAVY / Northrop Grumman / Bob Brown*

The U.S. Navy's MQ-4C Triton high-altitude, long endurance unmanned aerial vehicle has been deployed for more than a year to the Western Pacific and by all accounts is impressing the fleet with its capabilities and is in high demand by regional commanders.

Unmanned Patrol Squadron 19 (VUP-19), the first of two planned Triton fleet squadrons, deployed two MQ-4Cs to Andersen Air Force Base, Guam, in January 2020 on the aircraft's early operational capability (EOC) deployment. The two Tritons are being used for fleet operations and to provide lessons learned to pave the way for future operations off full "orbits," the Navy's term for a fully equipped site of four Tritons able to support a 24/7 on-station presence.

"Our operations from Guam are fully integrated into the 7th Fleet mission, from interactions with joint partners, carrier strike groups, and other MPRF [maritime patrol reconnaissance force assets, such as P-8A aircraft] and exercises," said

Cmdr. Michael V. Minervini, commanding officer of VUP-19, responding to questions from *Seapower*. “Typical missions range from 20 to 24 hours. VUP-19 is administratively controlled by commander, Patrol and Reconnaissance Wing 11 and operationally controlled by commander, Task Force 72.”

Minervini, a naval flight officer with flight time in P-3 and P-8 aircraft who assumed command in April 2020, said the EOC deployment “was established to smooth the supply chain and operate forward to push the airframe and discover maintenance challenges. EOC has been successful at identifying areas for improvement in the supply system and logistics process as well as determining scheduled maintenance inspection schedules and spare parts. These lessons learned will allow for a seamless transition and immediate impact on IFC-4 [Integrated Functional Capability 4] operations forward.”

The two MQ-4Cs deployed by VUP-19 are equipped with the baseline capability, IFC-3, which includes a multi-sensor mission payload – maritime radar, electro-optical/infrared, electronic support measures, automatic identification system and basic communications relay – said Capt. Dan Mackin, the Navy’s Persistent Maritime Unmanned Aircraft Systems program manager, in response to questions from *Seapower*.

“The next phase, known as IFC-4, will bring a multi-INT capability as part of the navy’s maritime intelligence, surveillance, reconnaissance and targeting transition plan,” he said.

“Triton sensors are performing to expectations and are providing 7th Fleet, [Pacific Fleet] and [Indo-Pacific Command] commanders with an additive early operational capability and persistent ISR in a vital area of U.S interest. These assets are in high demand.”

Rear Adm. Gregory Harris, the director of Air Warfare in the Office of the Chief of Naval Operations, told an audience on

March 30 of the “good news that we’re getting. We are really excited with what we’ve learned there [operations from Guam], the growth that’s gone on in that program and the early operational capabilities that we’ve seen. So, first and foremost, we’re excited by what we’re seeing out of Triton.”

Members of the Indian Navy, the Royal Australian Air Force, and Patrol Squadron (VP) 5 take a tour of the MQ-4C Triton, operated by Unmanned Patrol Squadron (VUP) 19 during Exercise Sea Dragon. Sea Dragon is an annual multi-lateral anti-submarine warfare exercise that improves the interoperability elements required to effectively and cohesively respond to the defense of a regional contingency in the Indo-Pacific, while continuing to build and strengthen relationships held between nations. *U.S. NAVY / Lt. Cmdr. Kyle Hooker*

‘Incredible Capability’

Harris said the Triton fielded “an absolutely incredible capability” and the fleet is “looking forward to having full operational capability in the future.”

VUP-19 is based at Naval Air Station Jacksonville, Florida, but its Tritons and maintenance personnel are based at Naval Air Station Point Mugu, part of Naval Base Ventura County, California. Minervini said approximately 350 officers and enlisted personnel are assigned to the squadron, but full manning is expected to reach an estimated 600 personnel.

“The average footprint in Guam is around 40-80 personnel, which varies during turnover and readiness training detachments, when maintenance personnel are forward deployed from Point Mugu to earn their qualifications,” Minervini said. “Maintainers on sea duty deploy for approximately six to eight months with a 12-month home cycle. Unmanned aircraft commanders [UACs/pilots] on shore duty deploy for an average of two to three months once a year.”

VUP-19’s maintenance detachment is scheduled for a homeport

change from Point Mugu to Naval Station Mayport, Florida – only a few miles from NAS Jacksonville – in the fall of 2021.

"The relative geographical colocation of our stateside operators with our maintenance team will establish a hub of unmanned operations and ensure success as we expand our operations into other areas of responsibility," Minervini said.

The Navy plans to activate a second Triton squadron, VUP-11, on the West Coast. Minervini said his squadron expects to "have a significant role in establishment of VUP-11. This will pertain to operations, training and administration."

The Navy's program of record calls for the procurement of 68 production MQ-4Cs from Northrop Grumman. Low-rate initial production orders as of April 2021 totaled 15: LRIP-1 (2016): four; LRIP-2 (2017): two; LRIP-3 (2018): three; LRIP-4 (2019): three; LRIP 5 (2020): two, plus one more authorized by the fiscal 2021 congressional plus-up. Three Tritons had been delivered to the fleet by early 2021.

Procurement of the Triton for the U.S. Navy is being paused for fiscal 2021 and 2022. Australia will take delivery during fiscal 2023-2025 of three Tritons.

"The intent of the production pause in air vehicle procurement across the FYDP [Future Years Defense Plan] was to strategically focus on the development of SIGINT [signals intelligence] capabilities IFC-4 Multi-INT [multi-intelligence]," Mackin said, noting that two Australian Tritons were procured in fiscal 2020 and the additional Triton in the fiscal 2021 congressional plus-up "will partially mitigate the effects of a production pause."

Mackin said the production pause would affect the fielding of the Triton's planned orbits.

"The Navy plans to deploy Triton to five orbits worldwide," he

said. “MQ-4C will support three OCONUS [outside the continental United States] orbits by end of 2025. However, due to the production pause, deployment to the two CONUS orbits will be delayed.”

Three prototype Tritons are based at NAS Patuxent River, Maryland, as test assets for the program.

One test asset is in the current IFC-3 configuration and “is being used to support sustainment of EOC deployed systems as well as risk reduction for IFC-4,” Mackin said. “The other two assets are being modified into the IFC-4 configuration in support of IOC [initial operational capability] in fourth quarter” of fiscal 2023.

One of the test assets is owned by Northrop Grumman and will be used to test the Multi-INT systems.

Mackin said the main operating base and forward operating base mission control elements for IFC-3 “have been delivered and are performing well.”

Sense and Avoid

Since early in the Triton program, the Navy has been planning for a sense-and-avoid radar (SAAR) for the Triton to enhance its collision-avoidance capability.

“The program of record SAAR engineering manufacturing development is deferred” until fiscal 2023, Mackin said. “The program continues to support SAAR cost, schedule and risk reduction activities including the delivery of a partial capability, prototype SAAR by the end of the year. Traffic Collision Avoidance subsystems are in use as part of the Due Regard alternate means of compliance.”

The Navy’s earlier Global Hawk/Broad-Area Maritime Surveillance – Demonstration (BAMS-D) program continues to shine, despite the loss of one RQ-4A Global Hawk to an Iranian

missile in June 2019. The aircraft are operated in the U.S. Central Command area of operations by a detachment of Patrol Reconnaissance Wing 11.

Since the system's first flight in October 2004, "the system has completed 2,119 sorties totaling over 39,596 flight hours, of which 1,825 sorties, totaling over 37,633 flight hours, are in direct support of overseas contingency operations," Mackin said. "During the over 12-year period since the deployment began, BAMS-D has been the by-name requested asset for maritime ISR in the theater, surpassing all expectations for the originally planned six-month demonstration."