MQ-4C Triton

In FY23, the Navy intends to conduct an IOT&E of the first increment of the restructured MQ-4C Triton program. This testing will inform an initial operational capability (IOC) deployment decision as part of the Navy's plan to retire the EP-3E. The Navy deferred some planned integrated testing to maintain the developmental test schedule, leaving mission critical capabilities unexercised and unevaluated. Any deferred integrated testing will need to be completed during IOT&E, adding to the schedule and risk of discovering significant deficiencies in IOT&E.

SYSTEM DESCRIPTION

The MQ-4C Triton is a high-altitude, long-endurance intelligence, surveillance, and reconnaissance unmanned aircraft intended to support global naval operations by collecting, processing, and distributing target track data, signals intelligence (SIGINT), and imagery intelligence data to fleet tactical operation centers and intelligence exploitation sites.

MISSION

Commanders will employ the MQ-4C to provide persistent maritime surveillance to detect, classify, identify, track, and assess maritime and littoral targets in support of surface warfare, intelligence operations, strike warfare, maritime interdiction, amphibious warfare, homeland defense, and search and rescue missions.

PROGRAM

The MQ-4C Triton is an Acquisition Category IC program and a critical component of the Navy's Maritime Intelligence, Surveillance, Reconnaissance, and Targeting transition plan to retire the EP-3E Aries II aircraft in accordance with the requirements in Section 112 of the FY11 National Defense Authorization Act.

The MQ-4C Triton program is following an incremental development approach after restructuring in 2021. The first increment is designed to deliver SIGINT capability sufficient to support the MQ-4C's portion of the transition plan. The Navy intends to conduct an IOT&E of this first increment and field it as an IOC in FY23. The follow-on increment(s) will deliver the remaining capabilities required by the updated Capability Development Document. Updates to the Acquisition Program Baseline, Acquisition Strategy, and Test and Evaluation Master Plan are ongoing.

» MAJOR CONTRACTOR

- Northrop Grumman Aerospace Systems, Battle Management and Engagement Systems Division – Rancho Bernardo, California

TEST ADEQUACY

Developmental delays are causing the program to defer test points from the integrated test plan to maintain the IOC date, leaving mission capabilities unexercised or unevaluated before the start of IOT&E. Deferring evaluation of these capabilities until IOT&E adds additional risk to IOC and the timely completion of IOT&E. Test periods at open-air ranges are crucial to characterize the SIGINT capabilities of the system and are particularly sensitive to schedule changes or delays. Due to the compressed schedule, any further delays in developmental or integrated testing will compound this risk.

The program completed a test period in the anechoic chamber at the Air Combat Environment Test and Evaluation Facility in May 2022. The test period was reinstated after being canceled in FY21, as noted in last year's Annual Report. During this chamber period, the program did not accomplish the planned degraded or denied GPS testing. The Navy will be unable to conduct related flight testing during IOT&E until this testing is completed during the next scheduled chamber period in August 2023.

The Navy does not have a method to extract data from the Minotaur mission management software for analysis. Operators use Minotaur to control MQ-4C sensors, view sensor data, and build the common operating picture. The only mitigation available for the test team is to manually record data from operator screens during test events or from a mission replay system after test events. This limitation will prolong data collection and analysis and may limit the depth of analysis for developmental test, integrated test, and in IOT&E. This limitation also affects all other Navy programs that use or intend to use Minotaur.

PERFORMANCE

» EFFECTIVENESS, SUITABILITY, AND SURVIVABILITY

Not enough data are currently available to provide a preliminary assessment of the MQ-4C

operational effectiveness, suitability, and survivability.

RECOMMENDATIONS

The Navy should:

1. Develop a method to extract mission data from the Minotaur system.
2. Complete the integrated test program and correct major deficiencies prior to proceeding into IOT&E.

MQ-4C arrives in Mayport, Florida December 2021