

# MQ-4C Triton



The MQ-4C Triton program has not entered IOT&E. Immature systems that prevented IOT&E in FY23 continue to preclude operationally representative testing for the primary missions. Even so, the Navy fielded multiple new MQ-4C configurations in FY24 without operational testing. In January and December 2024, DOT&E published Early Fielding Reports (EFR) for MQ-4C Triton Integrated Functional Capability (IFC) 4.1.2.4, IFC 4.1.2.6, IFC 4.2, and IFC 4.2.1.

## SYSTEM DESCRIPTION

The MQ-4C Triton is a high-altitude, long-endurance, intelligence, surveillance, and reconnaissance (ISR) unmanned aircraft intended to support global naval and joint operations by collecting, processing, and distributing geospatial intelligence (GEOINT), including imagery and track data, and signals intelligence (SIGINT) data to tactical and information operations centers.

## MISSION

Commanders will employ the MQ-4C to provide persistent, broad-area ISR 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, along with the P-8A Poseidon, of the Navy's maritime ISR transition plan to retire the EP-3E Aries II. Section 112 of the FY11 National Defense Authorization Act prohibits the Navy from retiring or preparing to retire the EP-3E until it fields one or more platforms that provide an equivalent or superior capability in the aggregate.

The program is following an incremental development approach

after restructuring in 2021. The first increment is designed for the Navy to deliver SIGINT capabilities sufficient to support the MQ-4C's portion of the maritime ISR transition plan. DOT&E approved Revision E of the TEMP in January 2023. The Navy declared initial operational capability with the IFC 4.1.2.3 configuration in July 2023. In addition, the Navy's Operational Test and Evaluation Force (OPTEVFOR) published a classified interim report in July 2023. The Navy approved an updated acquisition strategy in August 2023. As previously reported, DOT&E published a classified EFR in August 2023. The Navy subsequently fielded the IFC 4.1.2.4, IFC 4.1.2.6, IFC 4.2, and IFC 4.2.1 configurations. DOT&E published an unclassified EFR in January 2024, addressing only test adequacy, and another classified EFR in December 2024 following the Navy's fielding decision.

### » MAJOR CONTRACTOR

- Northrop Grumman Corporation Aeronautics Sector – Rancho Bernardo, California

## TEST ADEQUACY

The Navy has not yet started IOT&E. As stated in the FY23 Annual Report, the Navy intended to enter IOT&E in January 2023. DOT&E did not approve the IOT&E plan because SIGINT system deficiencies prevented operationally realistic testing. DOT&E did approve conduct of the GEOINT and cyber survivability

portions of the test plan for integrated testing. The Navy has since fielded multiple new IFC configurations. The MQ-4C integrated test team conducted three dedicated SIGINT flights in April and May 2024 with a system in the IFC 4.2 configuration to assess the performance of the SIGINT systems. These events demonstrated that the SIGINT deficiencies still prevent operationally realistic testing.

The Navy has not conducted any operational testing of the effectiveness or suitability of the fielded IFC 4.1.2.4, IFC 4.1.2.6, IFC 4.2, or IFC 4.2.1 configurations.

OPTEVFOR conducted cyber survivability testing of the MQ-4C in October 2023 and March 2024 as integrated testing that will be potentially usable for IOT&E. OPTEVFOR conducted, and DOT&E observed, the testing in accordance with the approved portion of the test plan.

OPTEVFOR conducted integrated testing of the Joint Signal Processor (JSP) capability in June 2024 that will be potentially usable for IOT&E. The JSP capability was not included in the original IOT&E plan. After integration of the JSP capability, OPTEVFOR submitted an IOT&E plan change covering that capability. DOT&E approved the test plan change as integrated testing in May 2024. OPTEVFOR conducted the testing in accordance with the change. DOT&E was unable to observe this test.

As previously reported, the Navy has not yet demonstrated

a reliable method to collect MQ-4C SIGINT data and has not yet fully implemented their tasking, collection, processing, exploitation, and dissemination plan for MQ-4C mission data.

## PERFORMANCE

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### » EFFECTIVENESS

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As stated in the FY23 Annual Report, GEOINT performance of the IFC 4.1.2.3 configuration was qualitatively comparable to the IFC 3 configuration the Navy fielded as an early operational capability. Details are provided in the August 2023 classified EFR. Any effects of the changes in IFC 4.1.2.4, IFC 4.1.2.6, IFC 4.2, and IFC 4.2.1 on the operational effectiveness of the MQ-4C in the GEOINT mission are not known.

The operational effectiveness of the MQ-4C for its primary SIGINT missions remains unknown. An initial assessment of the operational effectiveness of the JSP capability and an update on SIGINT systems are provided in the December 2024 classified EFR.

### » SUITABILITY

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As stated in the FY23 Annual Report, the reliability, availability, and maintainability of the IFC 4.1.2.3 configuration are not likely to sustain the planned operational tempo. The only data that could be collected for suitability assessment was during JSP testing. An update of the operational suitability of the MQ-4C in the IFC 4.2

configuration is provided in the December 2024 classified EFR.

### » SURVIVABILITY

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An initial assessment of the survivability of the MQ-4C in contested cyberspace is provided in the December 2024 classified EFR.

## RECOMMENDATIONS

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As recommended in early fielding reports and previous Annual Reports, the Navy should:

1. Develop and demonstrate a method to extract SIGINT mission data from the MQ-4C system.
2. Complete the integrated test program and correct major deficiencies prior to proceeding into IOT&E.
3. Complete IOT&E to evaluate the operational effectiveness, suitability, and survivability of the system.
4. Complete development and implementation of the tasking, collection, processing, exploitation, and dissemination plan for MQ-4C mission data.