MQ-8C Fire Scout



In March 2024, the Navy's Operational Test and Evaluation Force (OPTEVFOR) ended test of the MQ-8C Surface Warfare (SUW) Increment prior to completing all test requirements in the DOT&E-approved test plan. In August 2024, DOT&E published a classified FOT&E report that identified the MQ-8C SUW Increment as not operationally effective or suitable. Although some mission areas were unresolved due to limited data, DOT&E requires no additional testing due to the Navy's divestiture of the system in the Presidential Budget 2025.

SYSTEM DESCRIPTION

The MQ-8C is a helicopter-based tactical unmanned aerial system designed to support intelligence, surveillance, and reconnaissance as well as SUW payloads. The air vehicle (AV) is a modified Bell 407 airframe embarking on and supporting the littoral combat ship. The basic AV is equipped with the Battle - Ready Infrared Targeting Equipment Star Block II multisensor imaging system equipped with Electro-Optic/Infrared (EO/IR) cameras and laser range finding and target designation.

The MQ-8C SUW Increment integrates the AN/ZPY-8 multimode active electronically scanned array (AESA) radar into the aircraft. Additionally, it adds the Minotaur Mission Management System for track correlation. The AESA radar has maritime search, inverse synthetic aperture radar, and synthetic aperture radar imagery modes.

MISSION

Embarked on littoral combat ships, the MQ-8C SUW Increment is intended to provide open ocean search and maritime target detection capability operating over-the-horizon for contact and track detection to support battlespace awareness. The system is also designed to support target cuing for the employment of shipboard weapon systems as well as remote target designation for precision-guided munitions fired by MH-60R/S helicopters.

PROGRAM

The MQ-8C Fire Scout is an Acquisition Category IC program that received Milestone C approval in FY17. The Navy completed procurement of 38 baseline aircraft in FY19. To support Navy testing, DOT&E approved an MQ-8C SUW Increment operational test plan in April 2021 that provided flexibility for integrated testing through the completion of final SUW system development. DOT&E approved an update to the MQ-8C TEMP in February 2022 that detailed the test strategy for the baseline aircraft upgrade to the MO-8C SUW Increment.

The Navy initiated the divestment process in FY24 with completion of planned divestiture in FY26.

» MAJOR CONTRACTOR

 Northrop Grumman Systems Corporation – San Diego, California

TEST ADEQUACY

In FY24, DOT&E determined developmental testing conducted between April 2021 and August 2023, primarily testing at the Navy's Atlantic Test Range facility, Maryland, met objectives of the DOT&E-approved operational test plan and represented integrated test for MQ-8C SUW assessment. DOT&E observed portions of these developmental test events. The test events were primarily land-based testing. Testing provided maritime search radar performance data, including the use of inverse synthetic aperture radar mode, against Navy surface targets and non-Navy targets of opportunity, or watercraft that transited the test area, in the Chesapeake Bay, Maryland. Testing also included overland surveillance using synthetic aperture radar mode. OPTEVFOR conducted no dedicated operational test events with the MO-8C SUW Increment embarked on littoral combat ships during underway operations. OPTEVFOR conducted limited at-sea testing of the SUW Increment aircraft from a littoral combat ship in FY22 and FY23.

In March 2024, OPTEVFOR ended test of the MQ-8C SUW Increment prior to completing all test requirements of the DOT&Eapproved test plan. OPTEVFOR considered the data collected to be sufficient to determine operational effectiveness and suitability. DOT&E concluded that the collected data were not adequate for a complete assessment of the system; some aspects of operational effectiveness and operational suitability cannot be determined. However, DOT&E did not require additional test due to the Navy's divestiture of the system in the Presidential Budget 2025. In August 2024, DOT&E published a classified FOT&E report with a limited assessment of operational effectiveness and suitability of the MQ-8C SUW Increment.

PERFORMANCE

» EFFECTIVENESS

The MQ-8C SUW Increment is not operationally effective, with some mission areas unresolved. Details are in the classified FOT&E report.

» SUITABILITY

The MQ-8C SUW Increment is not operationally suitable. However, software upgrade 12.2 of the AV likely improved reliability compared to software 12.1. Details are in the classified FOT&E report.

» SURVIVABILITY

Cyber survivability testing was not evaluated during the MQ-8C SUW Increment FOT&E. The baseline MQ-8C aircraft, including the SUW Increment, remains not cyber survivable as reported in DOT&E's IOT&E report of September 2019.

RECOMMENDATIONS

If the Navy plans to use the baseline MQ-8C aircraft, or its mission capability systems including the SUW Increment in the future, it should:

- Address the recommendations identified in the classified FOT&E report of August 2024.
- Update the cyber resilience of the baseline MQ-8C aircraft and its mission capability systems to address the issues identified in the classified IOT&E report of September 2019 and for increased

cyber challenges since 2019. Conduct a comprehensive cyber survivability assessment of the system before fleet employment.