

MQ-8C Fire Scout



The Navy conducted FOT&E of the MQ-8C Surface Warfare (SUW) Increment that included an interoperability test onboard a littoral combat ship (LCS) and a land-based radar characterization test during FY23. The Navy expects to complete FOT&E in FY24 following completion of cyber survivability evaluation. No preliminary assessment of operational effectiveness, suitability, and cyber survivability can be made due to ongoing test and analysis.

SYSTEM DESCRIPTION

The MQ-8C is a helicopter-based tactical unmanned aerial system designed to support intelligence, surveillance, and reconnaissance; surface warfare; and mine countermeasures payloads. The basic airframe is known as the Endurance Baseline Increment and is equipped with the AN/AAQ-22D BRITE Star II multi-sensor imaging system with Electro-Optic/Infrared cameras and laser range finding and target designation. The air vehicle is a modified Bell 407 airframe intended to support LCS missions.

The MQ-8C SUW Increment integrates the AN/ZPY-8 multi-mode active electronically scanned array (AESA) radar into the airframe, Minotaur software, and supporting air vehicle (AV) and mission control systems software. The AESA radar has maritime search, inverse synthetic aperture radar and synthetic aperture radar imagery capability.

MISSION

Commanders employ LCS equipped with the MQ-8C SUW Increment to improve open ocean search and maritime target detection capability. From the LCS perspective, the MQ-8C SUW Increment provides an over-the-horizon detection capability by providing contact and track information for battlespace awareness. The system will also support the cuing of targets

for employment of shipboard weapon systems as well as remote target designation for MH-60R/S helicopters.

PROGRAM

The MQ-8C Fire Scout is an Acquisition Category IC program that received Milestone C approval in FY17. The MQ-8C has three expected increments of capability: the Endurance Baseline Increment, the SUW Increment, and the Mine Countermeasure Increment. The current inventory is 36 aircraft with no additional procurement planned. DOT&E approved the Test and Evaluation Master Plan (TEMP) in February 2022.

President's Budget 2023 included a significant divestment within the MQ-8 program, resulting in the removal of all MQ-8B AVs from inventory and reduction of the MQ-8C AV active operational inventory. Currently there are 11 aircraft dedicated to operational employment with 3 allocated to test and training, an increase of 1 from last year's Annual Report. Projections for FY24 will increase the operational employment number to 15. The remainder are in a preservation status and are planned to be used for maintenance parts as necessary to support the pool of operational aircraft.

The Coastal Battlefield Reconnaissance and Analysis (COBRA) airborne mine detection system is currently in development for integration into the MQ-8C and requires a test strategy

and associated test resources update to the MQ-8C TEMP.

» MAJOR CONTRACTOR

- Northrop Grumman Aeronautics Systems – San Diego, California

TEST ADEQUACY

The DOT&E-approved test plan includes two components: an at-sea component and a land-based component.

The Navy completed the at-sea component of the MQ-8C SUW Increment FOT&E in July 2023 in accordance with the DOT&E-approved test plan. Shipboard operations were conducted from an operational LCS during multiple embarkations. Test data are being evaluated to determine sufficiency for assessing interoperability of the MQ-8C SUW Increment with the LCS.

The Navy has yet to complete land-based testing necessary to characterize radar performance against maritime targets. The Navy expects to complete land-based testing in 1QFY24 at the Atlantic Test Range (ATR) facility using dedicated surface testing targets in the Chesapeake Bay.

PERFORMANCE

» EFFECTIVENESS AND SUITABILITY

Not enough data are available to provide an assessment of the

operational effectiveness and suitability of the MQ-8C SUW Increment due to ongoing testing.

» **SURVIVABILITY**

Not enough data are available to provide an assessment of the survivability of the MQ-8C SUW Increment in a cyber-contested environment. The Navy will conduct a cooperative vulnerability and penetration assessment and an adversarial assessment after release of the final intended software release expected in mid to late FY24, which is a one-year slip from what was reported in last year's Annual Report.

RECOMMENDATIONS

The Navy should:

1. Complete cyber survivability assessments and remaining radar evaluation no later than FY24.
2. Correct remaining deficiencies identified during IOT&E of the Endurance Baseline and verify correction through FOT&E.
3. Update the MQ-8C TEMP revision for evaluation of COBRA and future capabilities in FY24.