

## MQ-4C Triton Unmanned Aircraft System

### Executive Summary

The Navy updated and DOT&E approved the MQ-4C Triton Unmanned Aircraft System (UAS) Test and Evaluation Master Plan (TEMP) in January 2017 following instruction given in the August 2016 Milestone C Acquisition Decision Memorandum. The update reflects the alignment of the program's Acquisition Strategy with the development and fielding of the Multiple Intelligence (Multi-INT) configuration as the Initial Operational Capability (IOC).

### System

- The MQ-4C Triton is an intelligence, surveillance, and reconnaissance (ISR) UAS consisting of the high-altitude, long-endurance MQ-4C air vehicle; sensor payloads; and supporting ground control stations. The MQ-4C system is a part of the Navy Maritime Patrol and Reconnaissance family of systems with capabilities designed to complement the P-8A Poseidon. It will provide ISR data on maritime and land targets over wide areas of the open ocean and littorals.
- The MQ-4C air vehicle design is based on the Air Force RQ-4B Global Hawk air vehicle with significant modifications that include strengthened wing structures and an anti-ice and de-icing system.
- The baseline configuration includes a maritime surveillance radar to detect, classify, and track surface targets; an electro-optical/infrared (EO/IR) full motion video sensor; electronic support measures to detect, identify, and geolocate threat radars; and an Automatic Identification System (AIS) receiver to collect AIS broadcasts from cooperative maritime vessels.
- The Multi-INT configuration provides a signals intelligence capability, and includes sensors, supporting software and hardware, and changes to permit processing of Top Secret and Sensitive Compartmented Information. The Navy intends for the MQ-4C Multi-INT configuration to replace the EP-3 Aries II aircraft for most missions.
- Onboard line-of-sight and beyond line-of-sight communications systems provide air vehicle command and



control and transmit sensor data from the air vehicle to ground control stations for dissemination to fleet tactical operation centers and intelligence exploitation sites.

- Future system upgrades planned for after IOC include an air traffic collision avoidance radar system.

### Mission

- Commanders employ units equipped with MQ-4C to conduct long-endurance maritime surveillance operations and provide high- and medium-altitude intelligence collection.
- MQ-4C operators will detect, classify, identify, track, and assess maritime and littoral targets of interest and collect imagery and signals intelligence information.
  - Operators disseminate sensor data to fleet units to support a wide range of maritime missions to include surface warfare, intelligence operations, strike warfare, maritime interdiction, amphibious warfare, homeland defense, and search and rescue.

### Major Contractor

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

### Activity

- The Navy updated and DOT&E approved the MQ-4C TEMP in January 2017 following instruction given in the August 2016 Milestone C Acquisition Decision Memorandum. The update reflects the realignment of the program's Acquisition Strategy with the development and fielding of the Multi-INT configuration. As part of the realignment, the program has moved IOT&E from 4QFY17 to 2QFY21.
- The Navy is currently conducting an Operational Assessment (OA) of the baseline configuration to support early

fielding of two aircraft. This Early Operational Capability (EOC) will allow the Navy to gain experience operating and maintaining the MQ-4C in a deployed environment. On September 12, 2018, aircraft #168461 executed a gear-up landing at Point Mugu, California, following an in-flight emergency. Mishap investigation is in progress.

- The Navy plans to conduct integrated testing of the MQ-4C Multi-INT configuration in FY20 to support an EOC of a limited number of Multi-INT aircraft.

# FY18 NAVY PROGRAMS

## Assessment

- In general, the system demonstrated positive trends for sensor performance and reliability during the FY16 OA supporting the Milestone C decision. However, the OA revealed deficiencies in the following areas: Due Regard capability (capability to independently maintain prescribed minimum separation distances); EO/IR sensor control; Electronic Support Measures interface; and managing the temperature of the radar. DOT&E's classified OA report, dated May 2016, provides specific information on these and other aspects of the assessment.
- The Due Regard capability provides critical mission capability for operation of the MQ-4C in civil and international airspace in support of global naval operations. Limitations to this capability at IOT&E may reduce the effectiveness of the MQ-4C.

## Recommendations

None. DOT&E may provide recommendations separately pending results of the mishap investigation.