

## E-2D Advanced Hawkeye

### Executive Summary

- The E-2D Advanced Hawkeye continues to improve in aircraft and radar system performance.
- The E-2D Program Office completed a planned transition from St. Augustine, Florida, to Naval Air Station (NAS) Patuxent River, Maryland.
- The Commander, Operational Test and Evaluation Force (COTF) conducted an operational assessment (OT-B1) on the E-2D Advanced Hawkeye from September 29 to November 12, 2008.
- The Navy completed Milestone C and was authorized to proceed with low-rate initial production (LRIP) Lots 1 and 2 after a critical Nunn-McCurdy Breach in June 2009.

### System

- The E-2D Advanced Hawkeye is a carrier-based Airborne Early Warning and Command and Control aircraft.
- Significant changes to this variant of the E-2 include replacement of the radar system, the communications suite, the mission computer, and the incorporation of an all-glass cockpit.
- The radar upgrade replaces the E-2C mechanical scan radar with a radar array that has combined mechanical and electronic scan capabilities.
- The upgraded radar is designated to provide significant improvement in Hawkeye littoral, overland, clutter management, and surveillance capabilities.



### Mission

The Combatant Commander, whether operating from the aircraft carrier or from land, will use the E-2D Advanced Hawkeye to accomplish the following missions:

- Theater air and missile sensing and early warning
- Battlefield management, command, and control
- Acquisition, tracking, and targeting of surface warfare contacts
- Surveillance of littoral area objectives and targets
- Tracking of strike warfare assets

### Prime Contractor

- Northrop Grumman Aerospace Systems, St. Augustine, Florida

### Activity

- COTF conducted an operational assessment (OT-B1) on the E-2D Advanced Hawkeye from September 29 to November 12, 2008. COTF issued their Final Report on this operational assessment in March 2009. All testing was conducted in accordance with a DOT&E-approved Test and Evaluation Master Plan (TEMP) and test plan.
- COTF conducted integrated testing in January 2009 to verify improvements in target tracking and overland radar detection.
- DOT&E approved the E-2D Advanced Hawkeye TEMP for Milestone C.
- The Under Secretary of Defense (Acquisition, Technology and Logistics (USD(AT&L))) directed the Navy to declare a significant Nunn-McCurdy Breach in April 2009 and conduct a review similar to that required for a critical breach.
- The Navy declared a critical Nunn-McCurdy Breach in June 2009 due to cost growth.
- The USD(AT&L) approved Milestone C including, but not limited to, the following program direction:

- Entry into LRIP for Lots 1 and 2 (two aircraft each)
- Long lead procurement for LRIP 3
- Revised procurement profile to contain production costs
- Establishment of exit criteria for the FY10 operational assessment
- The E-2D Program Office completed the planned relocation of E-2D developmental and integrated testing from St. Augustine, Florida, to NAS Patuxent River, Maryland, in July 2009.

### Assessment

- The operational assessment demonstrated satisfactory aircraft and radar system performance. Radar integration efforts must continue to improve target tracking and overland detection performance. DOT&E observed two areas of significant risk to successful completion of IOT&E: interoperability (due to the Cooperative Engagement Capability program development schedule) and training (due to lack of maintenance trainers for IOT&E maintenance personnel).

# NAVY PROGRAMS

- The E-2D program must remain fully funded in order to complete development of training, maintainability, and Logistic Support capability.
- The radar system reliability, specifically mean time between failure, did not meet established requirements during the operational assessment and must continue to improve. The E-2D program does have a reliability growth program and is required to achieve specific radar system performance levels as exit criteria for LRIP Lots 1 and 2.
- The operational assessment scheduled for FY10 will allow an in-depth assessment of radar performance including improvement in system reliability maturity.

## **Recommendations**

- Status of Previous Recommendations. The Navy satisfactorily addressed the previous recommendations.
- FY09 Recommendation.
  1. The Navy should revise the TEMP for approval before the Defense Acquisition Board program review in FY11.