

Tomahawk Missile and Weapon System

Executive Summary

- The Navy continues to conduct Operational Test Launches to verify reliability and performance of fielded Block II, III, and IV Tomahawk missiles; their associated weapon control systems; and the Tomahawk Command and Control System (TC2S). DOT&E considers the planned Operational Test Launch program to be adequate for continued verification of system reliability and accuracy.
- Based on FY10 test flights, the Tomahawk Weapon System continues to meet Navy standards for reliability and performance.
- Based on the FY10 FOT&E Operational Test Launch results, the Tomahawk Weapon System continues to be effective and suitable.

System

- The Tomahawk Land Attack Missile is a long-range, land attack cruise missile designed for launch from submarines and surface ships.
- Production of Tomahawk Block II and III missiles is complete. There are currently three fielded variants, delivering a nuclear warhead (Block II only, not deployed), a conventional warhead, or a conventional warhead with submunitions.
- Tactical Tomahawk (Block IV) is currently in production as the follow-on to the Block III conventional warhead variant. These missiles are produced at lower cost and provide added capability, including the ability to communicate with and retarget the missile during flight.



- The Tactical Tomahawk Weapons Control System (TTWCS) also includes the TC2S and the shipboard Tomahawk Weapon Control Systems (TWCS). The TC2S and TWCS provide for targeting, mission planning, distribution of Tomahawk tactical data, and in-flight control of Block IV missiles.

Mission

The Joint Force Commander can employ the Tomahawk missile for long-range, precision strikes against land targets.

Major Contractor

Raytheon Missile Systems – Tucson, Arizona

Activity

- The Navy continues to conduct Operational Test Launches to verify reliability and performance of fielded Block II, III, and IV Tomahawk missiles; their associated weapon control systems; and the TC2S. The Navy conducted a total of nine Tomahawk missile test launches during FY10.
- The Navy utilized the Tomahawk flight test program to verify correction of a Block IV missile engineering deficiency (Armed Fire Device) that had the potential to reduce missile reliability on some vertical-launched missiles. In FY10, the Navy initiated corrective actions for affected fielded missiles.
- DOT&E has been participating with the Tomahawk program's T&E Integrated Product Team to update the Test and Evaluation Master Plan and develop a test plan to support the next phase (OT-IIIF) of Tomahawk Weapon System FOT&E. This phase includes improvements to TTWCS as well as correction of deficiencies remaining from OT-IIIE.

Assessment

- As demonstrated during FY10 test flights, the Tomahawk Weapon System continues to meet Navy standards for reliability and performance. As demonstrated by the FY10 FOT&E results, the Tomahawk Weapon System continues to be effective and suitable.
- DOT&E considers the current Operational Test Launch program for all Tomahawk missile variants to be adequate for continued verification of system reliability and accuracy. However, while Block IV testing is funded through FY13, the Navy has not funded Block II and Block III test launches after FY12. The Block III missiles are to remain in operational use until 2020. DOT&E places high value on continuing to collect flight data to evaluate end to end system performance and reliability for all deployed and deployable Tomahawk missile variants.

NAVY PROGRAMS

- Due to differing weapon control systems configurations in the fleet, the ability to plan and conduct strike operations over Secret-level communication circuits, Strike Over Secret, is not available on all Tomahawk firing platforms; therefore, all users must retain the ability to revert to TOP SECRET strike operations. When TOP SECRET and Strike Over Secret users combine for a strike mission, an increased level of difficulty

in strike coordination is encountered as all users must guard against cross-contamination of classification levels.

Recommendations

- Status of Previous Recommendations. The Navy has addressed the one remaining FY07 recommendation.
- FY10 Recommendations. None.