

Joint Standoff Weapon (JSOW)

Executive Summary

- The Navy completed developmental testing and initiated integrated testing of the AGM-154C-1 Joint Standoff Weapon (JSOW) variant during FY12. The JSOW C-1 integrated testing completed in early FY13, with operational testing to begin in mid-FY13.
- Preliminary results to date indicate that weapon impact accuracy for moving maritime targets is well within the accuracy requirement value, and accuracy performance against stationary land targets has been maintained.
- Preliminary results to date indicate that the JSOW C-1 Mean Flight Hours Between Operational Mission Failure (MFHBOMF) is well below the requirement value, primarily the result of software-driven problems. Another concern is the excessively complicated pilot-vehicle interface (PVI), which could prevent successful mission execution.
- Planned updates to the software to address these problems may invalidate use of some integrated test data for DOT&E's operational evaluation of JSOW C-1.

System

- The AGM-154 JSOW family uses a common and modular weapon body capable of carrying various payloads. The JSOW is a 1,000-pound class, air-to-surface glide bomb intended to provide low observable, standoff precision engagement with launch and leave capability. All variants employ a tightly coupled GPS/Inertial Navigation System.
- AGM-154A (JSOW A) payload consists of 145 BLU-97/B combined effects submunitions.
- AGM-154C (JSOW C) utilizes an imaging infrared seeker and its payload consists of an augmenting charge and a follow-through bomb that can be set to detonate both warheads simultaneously or sequentially.
- AGM-154A and AGM-154C are fielded weapons, and are no longer under DOT&E oversight. AGM-154C-1 (JSOW C-1) adds moving maritime target capability and the two-way strike common weapon datalink to the baseline AGM-154C weapon.

Activity

- The Navy conducted developmental and integrated testing in accordance with a DOT&E-approved Test and Evaluation Master Plan for the JSOW C-1.
- The Navy completed the developmental test phase in FY12 with the release of the second of two planned free flight weapon drops against moving maritime targets.
- The Navy completed the four planned integrated test free flight weapon drops in 4QFY12 through 1QFY13. Two were



Mission

- Combatant Commanders use JSOW A to conduct pre-planned attacks on soft point and area targets such as air defense sites, parked aircraft, airfield and port facilities, command and control antennas, stationary light vehicles, trucks, artillery, and refinery components.
- Combatant Commanders use JSOW C to conduct pre-planned attacks on point targets vulnerable to blast and fragmentation effects and point targets vulnerable to penetration such as industrial facilities, logistical systems, and hardened facilities.
- Units will use JSOW C-1 to conduct attacks against moving maritime targets and have the ability to retarget weapons post-launch. JSOW C-1 will retain the JSOW C legacy capability against stationary land targets.

Major Contractor

Raytheon Company, Missile Systems – Tucson, Arizona

against a moving maritime target and two regression tests of JSOW C legacy capability against a stationary land target.

- Results from the developmental and integrated testing will support an Operational Test Readiness Review (OTRR) in 2QFY13. The Navy has scheduled JSOW C-1 operational testing for FY13 following the OTRR.

NAVY PROGRAMS

Assessment

- Navy testing of JSOW C-1 is ongoing. Preliminary results to date indicate:
 - Weapon impact accuracy for moving maritime targets is well within the accuracy requirement value and accuracy performance against stationary land targets has been maintained.
 - JSOW C-1 MFHBOMF is well below the requirement value. This is primarily the result of software-driven problems. Achieving adequate assessment of MFHBOMF during operational testing is an area of high risk.
 - Excessively complicated PVI that could prevent successful mission execution is an area of high risk during operational testing.
- Planned updates to the JSOW software to address these problems may invalidate use of some developmental and

integrated test data for DOT&E's operational evaluation of JSOW C-1.

Recommendations

- Status of Previous Recommendations. The Navy has satisfactorily addressed previous recommendations for JSOW A and C. There are no previous recommendations for JSOW C-1 since it is a new variant of the AGM-154.
- FY12 Recommendation.
 1. Before proceeding to JSOW C-1 operational testing, the Navy should verify that newly incorporated software updates adequately reduce software-driven failures and that PVI complexity have been mitigated sufficiently to permit successful mission execution.