

Joint Standoff Weapon (JSOW) Baseline Variant and Unitary Warhead Variant

Executive Summary

- The Navy completed formal test reporting in January 2009 on FY08 operational testing of the Block II Unitary variant of Joint Standoff Weapon (JSOW) to support a fielding decision. The Block II Unitary variant is operationally effective and suitable.
- The Air Force conducted operational testing of the Baseline variant of the JSOW with new Operational Flight Program (OFP) Version 10.3 software on the B-2 platform. Testing is in progress; however, test results to date did not resolve JSOW Baseline submunitions pattern placement inconsistencies observed in previous JSOW Baseline testing.

System

- The JSOW is a family of 1,000-pound class, air-to-surface glide bombs intended to provide low observable, standoff precision engagement with launch and leave capability. JSOW employs a tightly coupled GPS/Inertial Navigation System.
- The JSOW Baseline payload consists of 145 BLU-97/B combined effects submunitions.
- JSOW Unitary 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.

Mission

- Combatant Commanders use JSOW Baseline to conduct pre-planned attacks on soft point or 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 Unitary 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.

Prime Contractor

- Raytheon Missile Systems, Tucson, Arizona

Activity

- The Navy completed formal test reporting of the JSOW Unitary Block II weapon in January 2009. Commander, Operational Test and Evaluation Force (COTF) evaluated the JSOW Unitary Block II as effective and suitable. This testing supported the Navy decision in FY09 to field the JSOW Unitary Block II weapon to the fleet.
- The Air Force conducted operational testing on the B-2 platform of the fielded JSOW Baseline variant using OFP Version 10.3 software in March 2009 in accordance with the DOT&E-approved Test and Evaluation Master Plan. This testing is to verify the correction of a previously identified capability mismatch between the software and B-2 displays. Testing is still in progress.

- The Navy is preparing the Test and Evaluation Master Plan for the JSOW Unitary Block III (renamed JSOW C-1) in support of testing in FY10-11.

Assessment

- DOT&E agrees with COTF's assessment of JSOW Unitary Block II performance. The results from FY08 testing indicate that the Navy successfully corrected deficiencies identified in DOT&E's 2004 IOT&E report and adequately addressed weapon survivability in realistic threat environments.
- Although aggregate results show that JSOW Baseline accuracy was within Operational Requirements Document threshold specifications, test results since FY05 consistently

demonstrated that there are anomalies in submunitions pattern accuracy. These inconsistencies remain largely unexplained.

- Potential factors that affect pattern placement relative to the desired aim point include differences in weapon release ranges relative to the target, target elevation, wind effects, and/or inherent limitations in JSOW Baseline guidance capabilities.
- Predictable JSOW Baseline submunitions pattern placement is critical to weapon effectiveness and determines the number of weapons needed to ensure success against a given target. Operational units may compensate for pattern placement variation by employing multiple weapons with combinations of overlapping and offsetting patterns and/or vary the weapon attack axis to ensure target area weapons saturation. Air Force

planners will need to consider this to achieve combat success with JSOW Baseline.

Recommendations

- Status of Previous Recommendations. The Air Force is addressing the FY08 recommendation, which remains valid.
- FY09 Recommendation.
 1. DOT&E recommends continued monitoring of Baseline employment for factors causing dispersal inconsistencies. As the OFP Version 10.3 did not resolve submunitions pattern inaccuracies, operational users should balance submunitions dispersal with additional munitions on target for desired weapon effects.