

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

### Executive Summary

- The Navy and Air Force undertook evaluation of new operational flight program (OFP) software common to both Joint Standoff Weapon (JSOW) variants. Testing began in FY06 and will continue through 2007. The new OFP software is designed to address previously identified deficiencies in IOT&E and Unitary performance.
- The Air Force restricted use of the Baseline variant to emergency combat use only due to concerns over accuracy limitations revealed in FY05 testing.
- Testing to address deficiencies identified in the 2004 DOT&E report on IOT&E and LFT&E of JSOW Unitary remains to be accomplished. Although ongoing OFP testing will address some of the shortfalls, a test to verify JSOW Unitary survivability modeling with live weapons flown through realistic integrated air defenses has not been accomplished.



### System

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. All variants employ a tightly coupled Global Positioning System/Inertial Navigation System.

- The IOT&E 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 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 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.

### Activity

- Air Force and Navy operational testing was conducted in accordance with DOT&E-approved Test and Evaluation Master Plans (TEMPs) for both the Baseline and Unitary JSOW variants.
- The Air Force restricted use of the Baseline variant to emergency combat use only due to concerns over accuracy limitations revealed in FY05 testing.
- Navy and Air Force testing to assess effectiveness and suitability of new OFP software common to both JSOW Baseline and JSOW Unitary was ongoing throughout FY06. The common OFP software addresses some of the Baseline variant accuracy concerns raised by the Air Force in FY05. Navy and Air Force OFP test completion is anticipated in FY07.

### Assessment

- Navy and Air Force testing of new OFP software common to both the AGM-154A and C variants is ongoing. Capabilities remain to be validated through testing that concludes in late 2007. Initial test results suggest potential improvements in Baseline variant accuracy; however, testing in target area wind conditions that adversely affect submunitions pattern accuracy remains to be accomplished.
- DOT&E's 2004 report on IOT&E and LFT&E of JSOW Unitary found that the system was effective but not suitable. Key findings were:
  - JSOW Unitary's mission planning system did not consistently complete the computational process nor allow the user to plan weapon impact parameters. Furthermore, target images could not be transferred into the system

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during land-based operations, and JSOW Unitary could not accept the mission planning-developed fuze delay setting from the aircraft data transfer device.

- JSOW Unitary survivability models had not been validated by actual weapons delivery in the appropriate threat environment. Ongoing OFP testing will assess improvements in the mission planning deficiencies, but survivability model validation has yet to be addressed as part of follow-on testing.

## Recommendations

- Status of Previous Recommendations. FY05 recommendations concerning IOT&E accuracy and JSOW Unitary mission

- planning shortfalls are being reevaluated in ongoing FY06 OFP testing. However, confirmation of combat effectiveness, suitability, and survivability through operational testing of live JSOW Unitary weapons flown through realistic integrated air defenses has not been accomplished. The Navy should identify a test venue to confirm these capabilities.
- FY06 Recommendations. None.