

Joint Direct Attack Munition (JDAM)

Executive Summary

- Joint Direct Attack Munition (JDAM) operational testing of all variants continued to demonstrate satisfactory performance consistent with historic JDAM effectiveness and suitability.
- The Air Force Operational Test and Evaluation Center (AFOTEC) completed reporting on the Multi-Service Operational Test and Evaluation (MOT&E) of the 500-pound JDAM variant.
- Both the Air Force and Navy began test and procurement activities for a laser JDAM variant. Operational test planning for this new JDAM capability was ongoing throughout FY07. A laser JDAM AFOTEC Operational Utility Evaluation (OUE) is being planned to support Air Force fielding of a limited number of laser JDAMs in FY08. A Navy Quick Reaction Assessment (QRA) is being planned to support Navy fielding of a limited number of laser JDAMs in FY09.



- Guidance and control is designed to enable accuracy of less than 13 meters when GPS is available and less than 30 meters when GPS is absent or jammed after release.

System

- The JDAM is a low cost, autonomously controlled, adverse weather, accurate guidance kit tailored for Air Force/Navy general purpose bombs to include:
 - 2,000-pound Mk 84 and BLU-109 bombs
 - 1,000-pound Mk 83 and BLU-110 bombs
 - 500-pound Mk 82 bomb
- An inertial navigation system provides primary guidance to the weapon. Enhanced accuracy is provided by augmenting the JDAM inertial navigation system with the Global Positioning Satellite (GPS) system signals.

Mission

- Combatant commanders use JDAMs employed by fighter, attack, and bomber aircraft to engage targets day or night, in all weather at the strategic, operational, and tactical levels of warfare.
- Combatant commanders employ JDAM against fixed and relocatable, soft and hard targets to include command and control facilities, airfields, industrial complexes, logistical and air defense systems, lines of communication, and all manner of battlefield forces and equipment.

Activity

- Test and evaluation of legacy JDAM capabilities was conducted in accordance with the August 2004 DOT&E approved JDAM Test and Evaluation Master Plan (TEMP).
- AFOTEC completed the 500-pound JDAM MOT&E and found this Mk 82 variant to be effective and suitable.
- The Air Force participated in contractor-led developmental testing and operational demonstration of a laser JDAM variant. Laser JDAM provides dual-mode weapon guidance capability using legacy JDAM guidance in conjunction with the ability to provide target location updates to the weapon in flight using a laser seeker/sensor capability in the nose of the 500-pound JDAM variant.
 - Favorable early test and demonstration results led the Air Force to begin procurement activities for a limited number (currently 400 units planned) of laser JDAM kits. Air Force procurement efforts will support a September 2006 Urgent Operational Need for enhanced weapons capability against targets in the Southwest Asia area of ongoing

- combat operations. An AFOTEC OUE is being planned for FY08 to support a May 2008 Air Force limited quantities fielding.
- The Navy is also participating in procurement activities for a limited number of laser JDAM kits (currently 230 units planned). An FY08 QRA of capabilities is being planned to support an FY09 Navy limited quantities fielding.
- JDAM performance in other operational test venues included continued life-cycle sustainment testing in Air Combat Command's Weapon System Evaluation Program and F-22A follow-on test and evaluation. JDAM performance remained satisfactory consistent with legacy effectiveness and suitability.

Assessment

- The AFOTEC JDAM MOT&E determined that the 500-pound JDAM variant of the legacy JDAM was effective and suitable

for operational use. This JDAM variant continues to be widely employed in ongoing combat operations.

- Legacy JDAM performance throughout FY07 remained satisfactorily consistent with historic JDAM effectiveness and suitability.
- Laser JDAM presents the potential for significantly enhanced capabilities beyond the scope of the legacy JDAM weapon system. While not part of the currently approved JDAM TEMP, successful completion of the FY08 AFOTEC-led laser JDAM OUE will be adequate to support the Air Force's desired fielding of a limited number of laser JDAMs.
- The currently envisioned laser JDAM capability for FY08 operational fielding may or may not represent the end-state of laser JDAM capabilities development. Therefore, the JDAM TEMP will require an update to address future testing associated with laser JDAM procurement beyond the planned Air Force FY08 and Navy FY09 limited fielding quantities described above.

Recommendations

- Status of Previous Recommendations. There are no outstanding recommendations from FY06.
- FY07 Recommendations.
 1. The Air Force should demonstrate successful completion of an FY08 AFOTEC OUE before fielding laser JDAM for operational use.
 2. The Navy should demonstrate successful completion of an FY08 QRA before fielding laser JDAM for operational use.
 3. The Air Force should update the JDAM TEMP specifically to address future testing associated with laser JDAM procurement beyond the planned Air Force FY08 and Navy FY09 limited quantities fielding. This update should include both Air Force and Navy laser JDAM testing.