

Joint Direct Attack Munition (JDAM)

Executive Summary

The Navy and Air Force performed testing on Laser Joint Direct Attack Munition (LJDAM) in response to an Urgent Operational Need (UON) request from the warfighter. The Air Force performed a LJDAM Operational User Evaluation (OUE) in support of limited fielding in theater. The Navy is conducting a Quick Reaction Assessment (QRA) to support a limited fielding in early FY09.

System

- The Joint Direct Attack Munition (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
- A GPS aided inertial navigation system provides primary guidance to the weapon. Augmenting the JDAM inertial navigation system with GPS signals enhances accuracy.
- Guidance and control designs enable accuracy of less than 5 meters when GPS is available and less than 30 meters when GPS is absent or jammed after release.
- The LJDAM provides an increased capability to attack moving targets. In addition to retaining the precision of JDAM, the LJDAM provides enhancements for moving target attacks, Target Location Error elimination due to precise laser target designation, capability to operate beneath a cloud layer, and ability to select weapon impact angle in combination with laser guided precision.



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.

Prime Contractor

- Boeing

Activity

- The Air Force performed an OUE in February 2008, dropping five LJDAM weapons against high-speed, non-maneuvering ground targets at the China Lake test range in California. A limited fielding recommendation approved production of 400 units following the OUE.
- The Navy performed a QRA in May 2008, dropping three operational test (OT), three developmental test (DT)/OT, and 11 DT weapons against static as well as high-speed non-maneuvering targets at the China Lake test range. The FA-18C/D and AV-8B aircraft delivered ordnance using an expanded employment envelope.
- Analysis is still ongoing.

Assessment

- The Air Force UON dictated employment parameters and limited integration onto two delivery aircraft (F-15E and F-16) thereby restricting employment options. LJDAM

provides enhanced capability against moving targets in a limited employment envelope and tactical scenarios for which it is designed and cleared. The weapon performed as expected with accuracy better than requirements when sufficient laser energy was present on the target during endgame.

- Navy QRA results indicate accuracy similar to that achieved in Air Force tests while retaining existing JDAM capabilities. The aircrew observed high work loads due, at least in part, to limited integration with delivery platform systems, incurred by the need for rapid response to the UON and subsequent limited development program.
- The currently fielded LJDAM capability does not represent the end-state of LJDAM capability development. Significant expansion of LJDAM target acquisition and tracking, capability, or integration onto delivery platforms will require an update to the JDAM Test and Evaluation Master Plan to

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allow the test program to support a new Acquisition Strategy and test program.

Recommendations

- Status of Previous Recommendations. The Navy and Air Force satisfied their respective FY07 recommendations.
- FY08 Recommendations.
 1. The Air Force and Navy should monitor operational employment to correlate results with OUE and QRA results in order to assist decision-makers with future acquisition and test decisions.
 2. The Air Force should prepare to update the JDAM Test and Evaluation Master Plan in the event of procurement beyond current levels. This update should include both Air Force and Navy L JDAM testing.