

Joint Air-to-Surface Standoff Missile (JASSM)

Executive Summary

- The Air Force initiated a series of steps to implement program management changes, identify reliability drivers, and characterize the reliability of corrected Lot 4 production missiles. Fourteen of 16 missile firings were successful.
- The Air Force executed one Joint Air-to-Surface Standoff Missile (JASSM)-Extended Range (ER) live fire shot on September 24, 2008. The weapon was employed at a nominal JASSM-ER range and functioned correctly in all respects.
- The Air Force should implement the acquisition and test strategies for JASSM-ER and follow-on variants, ensuring an event-driven approach based on operational concepts, requirements, and system capabilities.



System

- Baseline JASSM is a stealthy cruise missile that flies a preplanned route from launch to a target, using GPS satellite information and an internal navigation system. JASSM:
 - Has a 1,000-pound penetrating warhead
 - Has an imaging infrared seeker that can be used for greater accuracy and precision; the seeker uses image templates planned by a rear echelon intelligence unit
 - Can be launched by B-1, B-2, B-52, and F-16 aircraft
 - Includes a container that protects the weapon in storage and aids ground crews in moving, loading, and checking the missile
 - Uses the same Air Force mission planning systems used for aircraft and other weapons
- JASSM Electronic Safe and Arm Fuze (ESAF) adds a more reliable fuze with the same capabilities as the baseline fuze. Development is ongoing.
- JASSM-ER is intended to fly longer ranges using a more efficient engine, larger capacity fuel tanks, and other modified components (all within the same outer shape).
- JASSM Weapon Data Link (WDL) is intended to add capabilities for two-way communication that support battle damage assessment and in-flight re-targeting. Development has been on hold since June 2007.
- JASSM Anti-Surface Warfare (ASuW) will build on WDL capabilities and add the capability to attack maritime targets

under certain circumstances. Development has been on hold since June 2007.

Mission

- Operational units equipped with JASSM intend to employ the weapon from multiple aircraft platforms against high value or highly defended targets from outside the lethal range of many threats. Units equipped with JASSM intend to use it to:
 - Destroy targets with minimal risk to flight crews and support air dominance in the theater
 - Strike a variety of targets greater than 200 miles away
 - Execute missions using automated preplanned or manual in-flight mission planning
 - Attack a wide-range of targets including soft, medium, or very hard (not deeply buried) targets
- Units with JASSM-ER intend to support the same missions with a range more than twice the baseline JASSM.
- Units with JASSM WDL and ASuW should have added flexibility and greater re-targeting capabilities in executing JASSM missions.

Prime Contractor

- Lockheed Martin

Activity

- The program completed a Nunn-McCurdy certification on May 1, 2008. The USD(AT&L) certified and re-baselined the program.

JASSM Baseline

- The Air Force initiated a series of steps to implement program management changes, identify reliability drivers,

and characterize the reliability of corrected Lot 4 production missiles.

- The Air Force conducted reliability baseline testing in February 2008, with 14 successful missile firings out of 16 attempts, for a point estimate reliability of 0.87.

AIR FORCE PROGRAMS

- Under OSD direction, the Air Force incorporated the changes into program documentation with the developer, completed an OSD-approved System Evaluation Plan (SEP) and a DOT&E-approved Test and Evaluation Master Plan (TEMP), and conducted additional testing of the Lot 5 production missiles.

JASSM ESAF

- Fuze qualification testing is ongoing. Sled testing resumed at Eglin AFB, Florida, during July 2008. The second sled test failed to meet the test objectives and further ESAF testing is on hold while failure analysis is ongoing.

JASSM-ER

- The Air Force resumed integrated testing of the JASSM-ER variant in 2008 after program recertification.
- The Air Force executed one JASSM-ER live fire shot on September 24, 2008, in accordance with the DOT&E-approved JASSM Baseline TEMP.

Assessment

- As a by product of the Nunn-McCurdy certification, the Air Force continued screening previous system and test information to identify deficiencies impacting reliability. The program adopted the OSD Systems Engineering Plan and DOT&E TEMP strategies to stress production missiles in captive carry environments and ground tests to identify failure modes. The Air Force then implemented corrections in missiles that flight testing subsequently confirmed.

- DOT&E considers the Air Force schedule as moderate risk. DOT&E is concerned that pressure to maintain the production schedule could reduce reliability improvements, not incorporate corrections as needed, and/or reduce planned adequate testing.
- The continued failures in ESAF sled tests indicated that further evaluation of the electronic fuze is required. The current plan ensures adequate testing on the fuze in progressively challenging environments in live fire sled testing and flight test. Upon successful completion, the Program Office will initiate production.
- The September 24, 2008, JASSM-ER shot functioned correctly in all respects after executing a weapon's profile at a nominal JASSM-ER range.

Recommendations

- Status of Previous Recommendations. The Air Force is addressing the two FY07 recommendations.
- FY08 Recommendations. The Air Force should:
 1. Continue to characterize the reliability of baseline missile production lots, incorporating reliability and program management improvements.
 2. Implement the acquisition and test strategies for JASSM-ER and ASuW/WDL variants, ensuring an event-driven approach.