

Miniature Air Launched Decoy (MALD), including MALD-Jammer (MALD-J)

Executive Summary

- The Air Force has not yet fully developed a test strategy to adequately evaluate Miniature Air Launched Decoy's (MALD's) capabilities in an operational mission environment.
- The Air Force is conducting an Operational Assessment (OA) to assess MALD progress towards operational mission capabilities in support of a 2QFY08 low-rate initial production (LRIP) decision.
- MALD testing and performance are progressing as expected for a system at this early stage of development.
- The Air Force-approved MALD Test and Evaluation Master Plan (TEMP) is not adequate to support the FY08 LRIP decision or MALD testing after December 31, 2007. The Air Force TEMP is not based on the required Capabilities Development Document because this document has not been developed.

System

- MALD is a small, low-cost, expendable, air-launched vehicle that replicates what fighter, attack, and bomber aircraft look like to enemy radar operators.
- The MALD is a new Air Force capability that is in the System Development and Demonstration Phase.
- The Air Force plans to procure the first 150 of 1,500 production MALD in 2QFY08 to support testing and an Initial Operational Capability in 2010.
- The MALD-J is a future program spiral that adds the capability to jam specific radars from within the threat's lethal engagement zone.

Activity

- MALD is in the System Development and Demonstration Phase, with the Initial Operational Capability planned for early FY10.
- The Air Force is conducting an OA to assess MALD's progress towards operational mission capabilities in support of a 2QFY08 LRIP decision.
- The OA uses ground and flight testing to assess MALD's progress, while also conducting mission planning demonstrations, as well as reliability and supportability data collection.
- MALD ground testing is focused on integration on the B-52 and F-16, threat density saturation, radar cross section performance, and suitability.
- Flight testing of MALD in FY07 is concentrated on safe aircraft separation, engine start, MALD vehicle flight,



- The F-16 C/D and B-52 are the lead aircraft to employ MALD and MALD-J. In the future, the Air Force plans to employ both versions of these decoys on F-15C/E, B-1B, A/OA-10, B-2, F-22, and F-35 aircraft.

Mission

Combatant commanders use the MALD to allow a strike force to accomplish its mission by forcing enemy radars and air defense systems to treat MALD as a viable target. MALD-equipped forces should have improved battle space access for airborne strike forces by deceiving, distracting, or saturating enemy radar operators and Integrated Air Defense Systems. Airborne strike leaders will use MALD-J to degrade or deny threat radar detection of friendly aircraft or munitions.

- navigation, and subsystem performance, as well as decoy effectiveness.
- Air Force MALD ground testing is being conducted at Eglin AFB, Florida, the Naval Air Warfare Center at China Lake, California, in addition to the Army's White Sands Missile Range, New Mexico.
- The flight testing portion of the MALD OA includes off-shore flights near Eglin AFB, Florida, and overland events at the Air Force's Nevada Test and Training Range.
- As a result of MALD being placed on initial operational test oversight in FY07, the Air Force initiated a revised MALD TEMP for initial DOT&E approval. This TEMP includes the core MALD capability in addition to the planned MALD-J increment.

AIR FORCE PROGRAMS

- FY07 testing was conducted in accordance with the DOT&E-approved test plan.

Assessment

- MALD testing and performance are progressing as expected for a system at this early stage of development. Three of five MALD launches to date have experienced moderate to significant anomalies. Two of the three have been corrected and have not reoccurred in subsequent flights. The overall mission-level success rate is three of the five launches to date, since the first anomaly was not mission critical.
 - DOT&E observed MALD present a credible small bomber-size target to threat radar operators in a very limited flight test scenario.
 - The Air Force's primary open air electronic warfare range, the Nevada Test and Training Range, is extremely limited in overland flight profiles available for MALD, and does not authorize simultaneous flights of multiple MALD. Additionally, the Air Force has not developed a mature modeling and simulation plan or other mitigating ground testing for full MALD assessment. These limitations challenge the Air Force's ability to adequately assess MALD in an operational mission environment.
- Evaluation of MALD reliability and performance in a dense threat environment will rely heavily on modeling and simulation, which will require a proactive and disciplined validation, verification, and accreditation process.
 - The Air Force-approved MALD TEMP is not adequate to support the FY08 LRIP decision or MALD testing after December 31, 2007. The Air Force TEMP is not based on the required Capabilities Development Document, because this document has not been developed. Additionally, development of the required Capabilities Production Document to support the FY08 Milestone C/LRIP decision and the draft TEMP for DOT&E approval is well behind schedule.

Recommendations

- Status of Previous Recommendations. There are no previous recommendations as this is the first DOT&E report on MALD.
- FY07 Recommendations. The Air Force should:
 1. Submit and gain DOT&E approval of the revised MALD TEMP prior to January 1, 2008.
 2. Incorporate improved test methodology and range resources that support adequate characterization of MALD in an operational mission environment.