

Department of the Navy Large Aircraft Infrared Countermeasures (DON LAIRCM)

Executive Summary

- The Navy conducted developmental tests and continued operational test planning on the Department of the Navy Large Aircraft Infrared Countermeasure (DON LAIRCM) system with the Advanced Threat Warning (ATW) upgrade. The Navy plans for two FOT&E periods in FY17 – one for the MV-22 and one for the KC-130J – as well as a Quick Reaction Assessment for the MV-22.
- The Army conducted integrated developmental/operational testing for installation of the DON LAIRCM ATW system on the Army AH-64, in response to a U.S. Special Operations Command (USSOCOM) Joint Urgent Operational Need (JUON) statement.

System

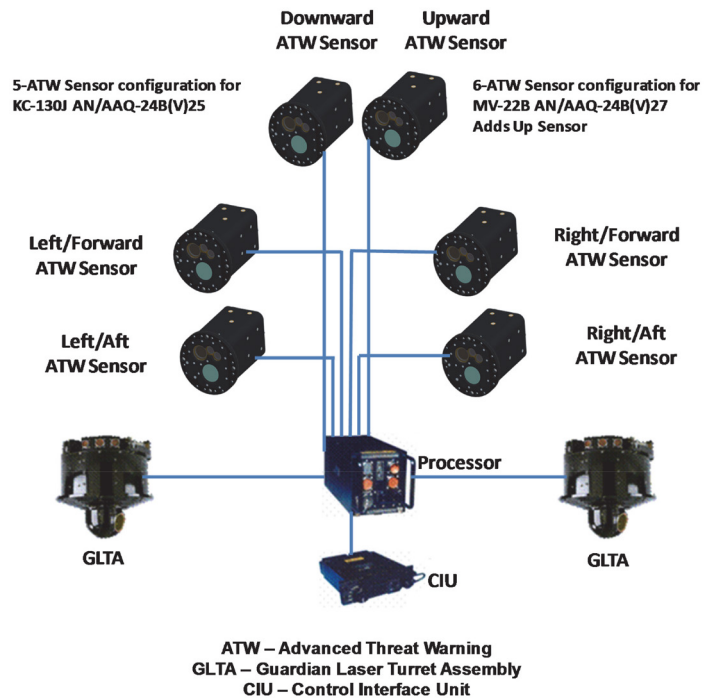
- The DON LAIRCM system, a variant of the Air Force LAIRCM system, is a defensive system for aircraft designed to defend against surface-to-air infrared missile threats.
- The system combines two-color infrared missile warning sensors with the Guardian Laser Transmitter Assembly (GLTA). The missile warning sensor detects an oncoming missile threat and sends the information to the processor, which then notifies the crew through the control interface unit and simultaneously directs the GLTA to slew to and begin jamming the threat.
- The ATW capability upgrades the processor and missile warning sensors to provide improved missile detection, and adds hostile fire and laser warning capability with visual/audio alerts to the pilots.
- The Navy plans to fully integrate the DON LAIRCM ATW system on the MV-22 and KC-130J with the mission system software.
- The Army plans to integrate AH-64, UH/HH-60, and CH-47 rotary-wing aircraft with the DON LAIRCM ATW system as a federated installation.

Mission

- Commanders employ Marine Corps fixed- and rotary-wing aircraft equipped with DON LAIRCM ATW to conduct medium-lift assault support and aerial refueling of multi-mission aircraft conducting Marine Air-Ground Task Force air operations.

Activity

- DOT&E submitted a classified FOT&E report on the DON LAIRCM ATW upgraded installation on the CH-53E in June 2016.



- Commanders employ Army rotorcraft equipped with DON LAIRCM ATW to conduct medium and heavy lift logistical support, medical evacuation, search-and-rescue, armed escort, and attack operations.
- DON LAIRCM ATW will be used during Marine Corps and Army missions to:
 - Provide automatic protection for fixed-wing, tiltrotor, and rotary-wing aircraft against shoulder fired, vehicle-launched, and other infrared-guided missiles
 - Provide automatic hostile fire and laser warning capability for illuminators, beam riders, laser range finders, small arms, rocket-propelled grenades, unguided rockets, and anti-aircraft artillery

Major Contractor

Northrop Grumman, Electronic Systems, Defensive Systems Division – Rolling Meadows, Illinois

- The Navy conducted developmental tests and operational test planning of DON LAIRCM with the ATW upgrade on the MV-22 and KC-130J between October 2015 and

FY16 NAVY PROGRAMS

September 2016. An FOT&E period for the KC-130J and a Quick Reaction Assessment for the MV-22 are planned in FY17.

- The Navy provided materiel support to the Army for the developmental tests and operational test planning for installation of DON LAIRCM with the ATW upgrade on Army AH-64, UH/HH-60, and CH-47 rotary-wing aircraft in response to a USSOCOM JUON.
- The Army began testing the AH-64 installation of DON LAIRCM in 4QFY16 to support the USSOCOM JUON early fielding. Testing was completed in 1QFY17.
- The Navy delayed fielding of the DON LAIRCM ATW upgrade on CH-53E to ensure sufficient quantities of equipment were available to support testing related to the USSOCOM JUON.

Assessment

- DOT&E assessed the DON LAIRCM ATW upgraded installation on the CH-53E as operationally effective but not operationally suitable because of inadequate reliability of the ATW sensors and logistics supportability concerns. The test was adequate to determine both operational effectiveness and operational suitability.
- The Navy is proceeding appropriately during developmental testing on the MV-22 and KC-130J.
 - Developmental test designs were based on lessons learned during previous operational testing.

- Program delay decisions have been based on results of testing, which have uncovered new failure modes.
- New failure modes have been identified because of unique mission-based test designs not relevant during previous infrared countermeasure tests on other aircraft.

Recommendations

- Status of Previous Recommendations. The Navy continues to address the previous FY15 recommendations which include:
 1. Continue to improve reliability of the ATW sensors, and monitor and report reliability growth to DOT&E.
 2. Resolve the logistic supportability obsolescence problems with the smart cards used to operate, maintain, and reprogram the DON LAIRCM system.
 3. Resolve the logistic supportability and human factors problem with the location of the control indicator unit.
 4. Resolve the logistic supportability shortfall in the technical documentation and training regarding operational employment aspects of in-flight power cycles.
 5. Collect effectiveness data in a denied-GPS or GPS-jammed environment during FOT&E on either the MV-22 or KC-130J installations of DON LAIRCM.
- FY16 Recommendation.
 1. The Navy should address additional recommendations detailed in the classified June 2016 DOT&E report on the DON LAIRCM ATW installed on the CH-53E.