

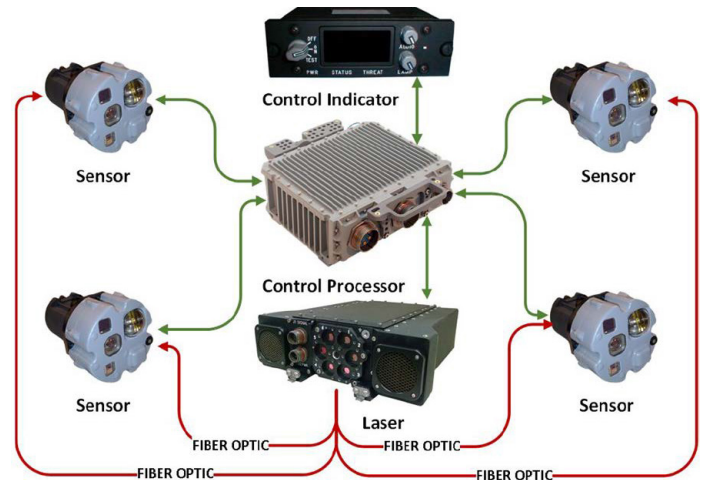
## Distributed Aperture Infrared Countermeasure System (DAIRCM)

### Executive Summary

- The Marine Corps made its fielding decision for the Distributed Aperture Infrared Countermeasure (DAIRCM) system in the Joint Urgent Operational Needs (JUON) configuration on the AH-1Z and UH-1Y in February 2020.
- Results from Marine Corps and Navy testing showed that the hardware and software version of the DAIRCM system installed on the MH-60S, UH-1Y, and AH-1Z had the capability to defeat the required man-portable air-defense systems (MANPADS) threat identified in the JUON Statement SO-0010 dated March 30, 2015. The system defeated vehicle-launched infrared-guided missiles and other MANPADS and had the capability to detect laser-guided threats and hostile fire.

### System

- The DAIRCM system is an integrated suite of missile warning, laser warning, hostile fire indicator, and infrared countermeasure components designed to protect rotary-wing aircraft from the threat posed by infrared missiles.
- The system uses a single, centrally installed laser that provides laser energy to a selected sensor where an integrated Laser Pointer Module directs it towards the declared threat. The threat warning sensor sends raw video and digital data information to the processor, which analyzes the data for an incoming Missile, Laser, or Hostile Fire threat. If the processor detects a threat, it notifies the aircrew through the control interface unit and provides the proper countermeasure against the incoming missile, if applicable.



- The Navy's Program Office for Advanced Tactical Aircraft Protection Systems, PMA-272, is the lead for developing the DAIRCM system.

### Mission

During missions, the DAIRCM system is intended to provide automatic protection for rotary-wing aircraft against shoulder-fired, vehicle-launched, and other infrared-guided missiles.

### Major Contractors

- Leonardo Digital/Retrieval Systems (DRS) Infrared Sensors and Systems – Dallas, Texas
- Leonardo DRS Daylight Solutions – San Diego, California

### Activity

- The Marine Corps and Navy completed testing for the Quick Reaction Assessment (QRA) for the DAIRCM JUON on the MH-60S and AH-1Z helicopters using operational flight program (OFP) version 2134 at Eglin AFB, Florida, in October 2019.
- The Navy conducted QRA testing for the MH-60S, UH-1Y, and AH-1Z in accordance with the DOT&E-approved test plan.
- The Navy completed the verification and validation of the digital system model for DAIRCM in November 2019.
- The Commander, Operational Test Force completed his classified AH-1Z QRA Interim report in January 2020.
- DOT&E completed a classified QRA report on the MH-60S and the AH-1Z in February 2020.
- The Marine Corps made its fielding decision for the DAIRCM system on the AH-1Z and the UH-1Y in February 2020.
- The Navy completed QRA testing on the MH-60S with OFP version 2135 at HSC-26, Norfolk Naval Station, Virginia, and Webster Field, Maryland, in March 2020.
- The Navy completed QRA testing on the UH-1Y with OFP version 2135 at Webster Field, Maryland, in June 2020.
- The Air Force completed testing on the HH-60G with OFP version 2135 at Nellis AFB, Nevada, in July 2020.
- The coronavirus (COVID-19) pandemic caused delays in data analysis and reporting due to personnel having limited access to systems necessary to process classified data and related information.

### Assessment

- The Navy corrected deficiencies identified during JUON testing of OFP 2134 on the MH-60S and AH-1Z resulting in the release of OFP 2135.

# FY20 NAVY PROGRAMS

- Results showed that the DAIRCM system, as installed on the MH-60S, UH-1Y, and AH-1Z with OFP 2135, has the following capabilities:
  - Defeat the required MANPADS threat identified in the JUON Statement SO-0010 dated March 30, 2015.
  - Defeat vehicle-launched infrared-guided missiles and other MANPADS.
  - Detect laser-guided threats and hostile fire.

## **Recommendations**

None.