

The Center for Countermeasures

The Center for Countermeasures (the Center) is a joint activity that directs, coordinates, supports, and conducts independent countermeasure/counter-countermeasure (CM/CCM) test and evaluation activities for U.S. and foreign weapon systems, subsystems, sensors, and related components in support of DOT&E, weapon system developers, and the joint warfighter. The Center's testing and analysis helps in confirming the operational effectiveness and operational suitability of major acquisition programs' CM/CCM subsystems, ideally, early on in their development cycle.

Specifically, the Center:

- Performs early CM assessments
- Determines performance and limitations of precision-guided weapon systems and subsystems against CMs
- Develops and evaluates CM/CCM techniques and devices
- Tests CMs in the operational environment
- Provides analysis and recommendations on CM/CCM effectiveness
- Supports warfighter experimentation

During FY09, 75 percent of the Center's activities supported of DOT&E oversight programs and 70 percent directly related to current Overseas Contingency Operations (OCO). The majority of the OCO activities involved rotary wing survivability events.

The Center participated in operational test/developmental test, fixed and rotary wing aircraft survivability testing, fielded system improvement verifications, and foreign systems and exercise support related to the CM/CCM mission area. The Center also continued to develop test tools for Infrared Countermeasures (IRCM) testing needs. The Center performed 20 tests/activities this year. The following are representative of this year's activities.

OPERATIONAL TEST/DEVELOPMENTAL TESTS

- **Navy:** Brite Star Block II
Sponsor: Commander, Operational Test and Evaluation, VX-9
Activity: The Center coordinated and conducted a test that provided multiple CM devices for evaluation of the UH-1Y turret-based targeting system in both the technical and tactical environments in order to assess the system's capabilities and limitations in a CM environment.
Benefit: VX-9 is incorporating the test results into their Fleet Tactics Guide. Test results confirmed performance before the UH-1Y upgrade transitioned into full-rate production.
- **Navy:** Department of the Navy Large Aircraft Infrared Countermeasure (DoN LAIRCM)
Sponsor: Navy Program Executive Officer, Tactical Aircraft Programs (PMA-272)

Activity: The Center provided two Joint Mobile Infrared Countermeasures Test System (JMITS) test assets and crew to perform end-to-end testing of the system at several test locations throughout the year. Platforms participating included CH-53E and CH-46E.

Benefit: The testing revealed software anomalies that were corrected by the system developer.

- **Air Force:** LAIRCM NexGen Phase II C-17A

Sponsor: 654th Aeronautical Systems Squadron, Wright Patterson AFB, Ohio

Activity: The Center deployed JMITS systems to support end-to-end testing and conduct an independent assessment of the LAIRCM NexGen system, which is intended to meet a critical need of IRCM systems on Air Force heavy-lift aircraft.

Benefit: Test results contributed to the development of the next generation technology to better protect tactical and strategic air lift in OCO.

- **Army:** Joint Air-to-Ground Missile (JAGM) System

Sponsor: U.S. Army Joint Attack Munition System, JAGM Program Office, Redstone Arsenal, Alabama

Activity: The Center planned, coordinated, and executed a mission to provide a realistic CM environment for the JAGM system.

Benefit: This testing supported research and development of the JAGM system, so that this next generation air-ground missile will operate in CM/CCM battlefield environments.

FIELDED SYSTEM IMPROVEMENTS

- **Army:** Hellfire II Diminished Manufacturing Sources (DMS) and Hellfire II R guidance systems comparative test activities
Sponsor: Hellfire Systems Joint Attack Munitions Systems (JAMS) Office, Redstone Arsenal, Alabama
Activity: The Center provided crew, equipment, and an analysis report for comparative testing of the Hellfire II legacy guidance section and the production version of the Hellfire II DMS guidance system.
Benefit: Results from these verification tests are being used to extend the life of legacy Hellfire II guidance systems to perform OCO.
- **Air Force:** Litening Advanced Targeting (AT) and Sniper Extended Range (XR) Phase II Pod Test
Sponsor: Air National Guard (ANG) Air Force Reserves Training Center
Activity: The Center created a realistic CM environment to test the upgraded Sniper and Litening targeting pods for refining

tactics, techniques, and procedures (TTPs). An analysis report was published on the effects of this environment on the pods.

Benefit: This test environment allowed the ANG to explore the performance capabilities and limitations of these targeting systems in a CM environment.

FIXED- AND ROTARY-WING AIRCRAFT SURVIVABILITY IMPROVEMENTS

- **Navy/Army:** Navy/Marine Corp Tactical Development and Evaluation IRCM Test and Army IRCM Captive-Seeker Test

Sponsor: Naval Surface Warfare Center (NSWC), Crane, Indiana, and Armament Research, Development and Engineering Center, Picatinny Arsenal, New Jersey

Activity: The Center provided a test van instrumented with six threat man-portable air defense system (MANPADS) missiles to assess the effectiveness of flare sequences under special operational conditions.

Benefit: Sponsors are using these test results to enhance currently deployed flare sequences from rotary-wing and tilt-rotor aircraft in terrain conditions similar to those found in OEF/OIF.

- **Air Force:** ANG Air Force Reserve Command Test Center Flare Test

Sponsor: ANG Air Force Reserve Command Test Center

Activity: The Center provided an instrumentation package that measures the intensity of the flares in order to support and assess reactive flare effectiveness for the A-10, F-16, and C-26 aircraft.

Benefit: The Center reported the qualitative improvements of flare sequences so sponsors could enhance the survivability of fixed-wing aircraft.

- **Air Force/Navy/Marine/Army:** Joint Infrared Countermeasures Test

Sponsor: Air Force Special Operations Command, Air Combat Command, Office of Program Management Close Combat Systems, NSWC, Air Mobility Command, Marine Corps

Activity: The Center provided an instrumentation package that measures the intensity of the flares to assess the effectiveness of flare sequences on fixed- and rotary-wing aircraft.

Benefit: Sponsors are using these test results on the effectiveness of flares and their sequencing to enhance protection of various aircraft in the infrared MANPADS threat environment.

- **Army:** Reduced Optical Signature Emissions Solution (ROSES)

Sponsor: Department of the Army Technology Applications Program Office (TAPO); NSWC, Crane, Indiana; and

Armament Research, Development and Engineering Center, Picatinny Arsenal, New Jersey

Activity: The Center provided a test van equipped with threat seekers to evaluate flare sequence performance.

Benefit: These test results enabled the sponsors to finalize the flare sequences on the 160th Special Operations Aviation Regiment rotary-wing aircraft.

FOREIGN EQUIPMENT TEST

- **Urban Combat Test**

Sponsor: The Technical Cooperation Program (TTCP)

Activity: The Center coordinated this test among four allied nations to participate in urban electro-optical/improvised explosive device CM testing. The four allied nations were United Kingdom, Australia, New Zealand, and the United States.

Benefit: Sponsors are using these test results to evaluate the capabilities of various technologies for counter-improvised explosive device and sniper electro-optical devices in OCO urban environments.

JOINT FORCES COMMAND (JFCOM) AND EXERCISE SUPPORT

- **Red Flag Nellis Exercise at Nellis AFB, Nevada**
- **Desert Talon Exercise at the Marine Corps Air Station, Yuma, Arizona**
- **Carrier Air Wing Exercises at Fallon Naval Air Station, Nevada**

Sponsor: Various

Activity: The Center provided a realistic CM environment for aircrews during combat training. Also, realistic MANPADS engagements were used to raise pilots' situational awareness of potential threats.

Benefit: Use of CMs and MANPADS in training exercises exposed aircrews to realistic CM environments and threats prior to deployment.

HOMELAND SECURITY

- **Department of Homeland Security (DHS) Test**

Sponsor: Department of Homeland Security Counter-MANPADS Office

Activity: The Center provided a Directional Infrared Countermeasure (DIRCM) test capability that can simulate missile threats and gather system responses.

Benefit: Test results allowed DHS to evaluate the capability of a military-derived DIRCM system to protect commercial airliners against MANPADS in the presence of non-threatening infrared sources.