

## ARMY PROGRAMS

### Suite of Integrated Infrared Countermeasures (SIIRCM) includes: Common Missile Warning System (CMWS), AN/AAR-57 and Advanced Threat Infrared Countermeasures (ATIRCM), AN/ALQ-212

#### SUMMARY

- The Suite of Integrated Infrared Countermeasures (SIIRCM) includes the Common Missile Warning System (CMWS) missile warning system and the Advanced Threat Infrared Countermeasures (ATIRCM) jam head.
- Acquisition strategy has changed to separate full-rate production (FRP) quantities for the CMWS and ATIRCM systems.
- Plans to ensure adequate testing to support a 3QFY05 FRP are being worked, but are not yet finalized.

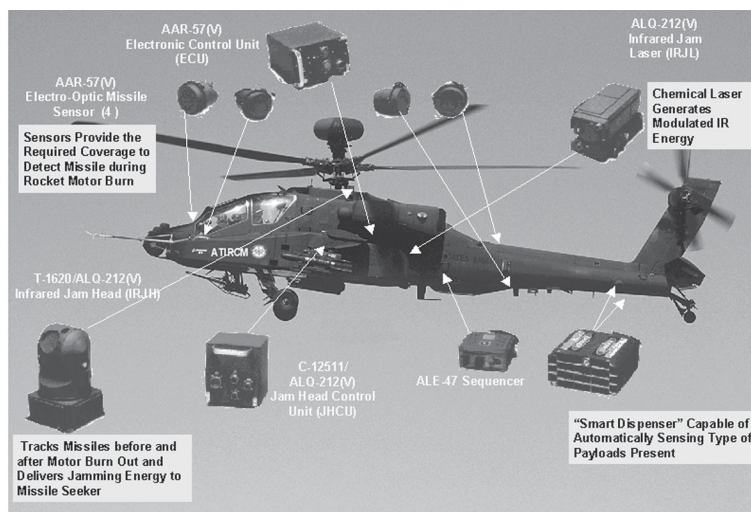
#### SYSTEM DESCRIPTION AND MISSION

The Army intends for the SIIRCM/CMWS to enhance individual aircraft survivability against advanced surface-to-air infrared (IR) guided missiles. The SIIRCM concept of IR protection includes a passive missile warning system, an active IR jammer, new IR flare decoys, and passive IR features, which include host platform modifications such as engine exhaust/heat suppression and special coatings intended to reduce the platform IR signature.

The ATIRCM, which is a subset of the SIIRCM program, specifically comprises an active IR jammer for use on helicopters and the CMWS. Currently, the initial application of ATIRCM/CMWS will be on Special Operations Command (SOCOM) MH-47 helicopters using only the CMWS plus a countermeasures dispenser and advanced flares. ATIRCM will be installed on Army helicopters starting in FY05.

In response to the September 11, 2001, attacks, and based on the positive test results on CMWS in FY01/FY02, CMWS was recommended for accelerated fielding. As a result, the SOCOM bought 37 CMWS under a limited production – Urgent contract in FY02. Low-rate initial production (LRIP) authority for 59 ATIRCM systems was granted in November 2003. Also, in November 2003, the Secretary of the Army, reacting to the attrition of helicopters in the Middle East, issued direction to equip Army helicopters with modern IR countermeasures as soon as possible. This urgent requirement prompted the need for additional CMWS and resulted in an increased authorization under the LRIP contract for an additional 141 CMWS, bringing the total authorized CMWS to 200. The current plan is to complete the 200-unit buy by early 2005. Total authorization is 1,076 ATIRCM systems.

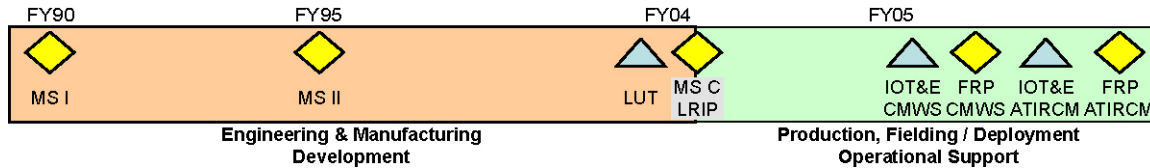
While the CMWS systems will be fielded on an accelerated schedule, none of the ATIRCM systems will be fielded until the successful completion of the FY04 developmental tests/operational tests and the FY05 ATIRCM Initial Operational Test and Evaluation (IOT&E). FRP for CMWS-only is scheduled for 3QFY05. ATIRCM FRP is scheduled for 4QFY05.



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## TEST AND EVALUATION ACTIVITY



Four major test events occurred in FY04: two live fire events at Eglin Air Force Base, a User's Test at Concord, New Hampshire, and a Reliability Development Test (RDT) for the upgraded ATIRCM system. The main objective of the User's Test in November 2003 was to determine CMWS performance in an environment that included both simulated missile plume signatures and false alarm sources. Valuable information regarding CMWS's susceptibility to specific false alarm sources, as well as its capability to detect missile plumes at various missile launch ranges was obtained.

During this year, significant planning took place for a major live fire event at the Aerial Cable Car (ACR) facility in late 2004. These tests are required to demonstrate ATIRCM performance subsequent to the major revisions to the system as a result of the problems found in the 2001 tests (i.e., live fire, captive seeker, sled test). Since CMWS is integral to the ATIRCM system, additional data will be obtained on CMWS software upgrades.

## TEST AND EVALUATION ASSESSMENT

The key issue for CMWS is to ensure that there is adequate OT&E of the upgraded system to support an FRP decision in 3QFY05. The ACR is the major test event to demonstrate the performance of the upgraded CMWS and ATIRCM systems, but additional testing on the host aircraft is required to ensure that the system can perform in operationally relevant temperature and vibration environments. This needs to be done using missile simulators with the aircraft flying at altitudes representative of the Army's mission profiles. The Army recently added a dedicated CMWS-only IOT&E in 3QFY05 to support testing requirements prior to the CMWS full-rate production decision.

For ATIRCM, the ACR tests in late 2004, the RDT and the IOT&E scheduled in February 2005 should provide sufficient data to assess that system prior to the FRP decision. The Army is developing a data source matrix to help determine test adequacy to support the CMWS FRP.

The first live fire test was conducted during a technology demonstration for next generation missile warning receivers, with CMWS participating as an adjunct to test a major new software upgrade. A serious operational problem was uncovered during these tests, which required additional software modifications. The upgraded software was first tested with the Army's end-to-end model, which emulates the operation of the ATIRCM/CMWS system. The model showed improved performance and subsequent live fire tests at Eglin in July 2004 demonstrated improved system performance.