

**ADVANCED INTEGRATED ELECTRONIC WARFARE SYSTEM
(AIEWS) AN/SLY-2(V)**



Navy ACAT II Program

Total Number of Systems:	173
Total Program Cost (TY\$):	\$1,172M
Average Unit Cost (TY\$):	\$6.8M
Full-rate production:	FY04

Prime Contractor

Lockheed Martin

SYSTEM DESCRIPTION & CONTRIBUTION TO JOINT VISION 2010

The AN/SLY-2(V) Advanced Integrated Electronic Warfare System (AIEWS) is the Navy's next generation shipboard electronic warfare system planned for use with the Aegis Combat System and Ship Self Defense Systems. It is a total replacement for the AN/SLQ-32(V) system. Increment 1 of AIEWS will include the capability to detect and identify radio frequency emissions, provide precision angle of arrival information to cue hard-kill fire control system sensors, and launch self-protection decoy devices. Integration with the ship command and decision system will support other sensor cueing and combat identification. Increment 2 will include additional capability.

AIEWS is an electronic warfare system for surface combatant ships that supports the *Joint Vision 2010* concept of *full-dimensional protection*, by providing a final layer of self-protection against air threat "leakers" for individual ships and by assisting other self-protection engagement systems.

BACKGROUND INFORMATION

The Navy approved the Operational Requirements Document in April 1997. In November 1997, the Program Executive Officer agreed, that for Increment 1, an OA would be conducted for the initial LRIP decision (FY01), followed by at-sea OT with a partially integrated combat system supporting a second LRIP decision (FY02). It was further agreed to conduct OPEVAL with AIEWS fully integrated with an Aegis Combat System, to support the full production decision in FY04; however, the acquisition decision memorandum from the December 1997 Milestone II review failed to reflect the November agreement. The initial TEMP was received by OSD in March 1998, and was returned to the Navy the following month without approval. The TEMP was not approved primarily because of the fundamental disconnect between the program structure (as agreed to by the PEO in November 1997) and the program structure reflected in the language of the Milestone II Acquisition Decision Memorandum. In response to OT community concerns regarding the inadequacies of anti-ship cruise missile simulators, a Test Facilities Implementation Team (TFIT) was chartered to recommend options for T&E resources.

Due to changes in the Aegis Weapon System development program schedule, complete combat system integration of AIEWS and Aegis will be delayed. For initial installations, AIEWS will use the same interface as the system it will replace—the AN/SLQ-32(V) Electronic Warfare System. As a result of this de-scoped integration, some of the improved capability required of AIEWS cannot be fully used to benefit the combat system. For example, the improved precision angle of arrival information will not be available to cue hard-kill fire control system sensors. Full combat system integration is projected for LPD 22 (and subsequent ships of that class), equipped with the Ship Self Defense System Mark 2.

TEST & EVALUATION ACTIVITY

This activity consisted of defining the T&E program, with review and examination of the test resources available at the various test ranges, and included planning for the land-based test site at Wallops Island, VA. It also included efforts by TFIT to identify potential solutions to address OT community concerns regarding inadequacies of anti-ship cruise missile simulators.

TEST & EVALUATION ASSESSMENT

There are no test results on which to base a performance assessment. The Increment 1 T&E program will examine critical operational effectiveness issues, including situation awareness (the effective and accurate detection, track, and identification of radio frequency emitters); engagement support (effective employment of decoys against anti-ship cruise missiles), tactics, and survivability. In addition, the T&E program will address the full spectrum of critical operational suitability issues: reliability, maintainability, availability, logistic supportability, interoperability, compatibility, human factors, documentation, training, and safety. As noted below, there are significant issues with the overall T&E program:

- The fundamental disconnect between the program structure, as agreed to by the PEO, and the program structure as reflected in the Milestone II Acquisition Decision Memorandum remains unaddressed. Program schedules continue to reflect a modified program that includes OT, with AIEWS only partially integrated with the host combat system.

- The currently proposed initial AIEWS/Aegis interface significantly constrains the demonstration of the complete set of capabilities required by the Operational Requirements Document. Although the ORD asserts that it “supports the evolutionary development of capabilities to meet the operational requirements,” it is ambiguous with regard to what initial functionality is required. This will require ORD clarification.
- The issue of how to meet the OT requirement for simulation of anti-ship cruise missiles has not been adequately addressed. The requirement is for a platform, with appropriate radar cross section, that can carry anti-ship cruise missile radio frequency (RF) seekers or acceptable seeker simulators at threat-representative speeds and altitudes. Although the TFIT’s final report has not been published as of this writing, the draft report proposed no acceptable solution. This is tantamount to continued use of a legacy platform (a large, slow aircraft that cannot descend to threat-representative altitudes), identified up-front by the OT community as not meeting the requirement. Notwithstanding this, COMOPTEVFOR and DOT&E are pursuing the use of an existing target drone integrated with an anti-ship cruise missile RF seeker. This demonstration project should result in flight demonstrations in FY01, well before the AIEWS OT. If this is an acceptable solution, adequate numbers of these drones will have to be funded for OT.
- For Increment 2 of AIEWS, it is expected that anti-ship cruise missiles or very high fidelity surrogates will be required. This will necessitate a self defense test ship in order to simulate threat-representative anti-ship cruise missile profiles and conduct safe testing.

Until these issues are adequately resolved, the AIEWS T&E program will remain unsatisfactory.

