

# Surface Electronic Warfare Improvement Program (SEWIP) Block 2



Between February and March 2024, the Navy's Operational Test and Evaluation Force (OPTEVFOR) conducted cyber survivability evaluation of the AN/SLQ-32B(V)6 variant of Surface Electronic Warfare Improvement Program (SEWIP) Block 2 on USS *Gerald R. Ford* (CVN 78). OPTEVFOR conducted no operational testing of effectiveness and suitability of any variant of SEWIP Block 2 in FY24 and now expects to complete FOT&E in FY25. The completion of FOT&E has been delayed three years due to limited ship and test resource availability.

## SYSTEM DESCRIPTION

SEWIP Block 2 is an electromagnetic warfare system

that detects, identifies, and tracks threat anti-ship missiles and targeting radars. SEWIP Block 2 incorporates a new antenna system, enhanced processing capabilities, and

the SEWIP Block 1B3 High Gain High Sensitivity antenna and associated hardware to improve battlefield situational awareness. Some variants of SEWIP Block 2 incorporate additional software,

known as the Soft Kill Coordination Subsystem, to improve combat system integration with non-kinetic effects, such as decoys, to defeat aerial threats.

## MISSION

Navy commanders use SEWIP Block 2 to perform anti-ship missile defense (ASMD), counter-targeting, and counter-surveillance, as do earlier versions of the AN/SLQ-32 electronic warfare system. SEWIP Block 2 further upgrades the electromagnetic support capabilities and integrates more closely with the combat system to improve ASMD against emerging threats.

## PROGRAM

SEWIP Block 2 is an Acquisition Category II program that achieved Milestone C in January 2013. SEWIP Block 2 completed IOT&E in FY16 and the Navy approved full-rate production in September 2016. SEWIP Block 2 has three variants, each of which have distinct hardware and software suites:

- AN/SLQ-32(V)6 on *Arleigh Burke*-class destroyers with the Aegis Combat System.
- AN/SLQ-32A(V)6 on *Zumwalt*-class destroyers.
- AN/SLQ-32B(V)6 on USS *Gerald R. Ford* (CVN 78).

SEWIP Block 2's FOT&E addresses the following:

- System upgrades since IOT&E.
- Integration of each SEWIP Block 2 variant with its

corresponding combat system: the Aegis Combat System on the *Arleigh Burke*-class, the Total Ship Computing Environment (TSCE) combat system on the *Zumwalt*-class, and the Ship Self-Defense Combat System (SSDS) on the *Gerald R. Ford*-class.

- Combat system integration and decoy integration capabilities of the Soft Kill Coordination Subsystem for the variant fielded on *Arleigh Burke*-class destroyers with the Aegis Combat System.

DOT&E has approved the following test plans:

- AN/SLQ-32(V)6 operational test plan in October 2024.
- AN/SLQ-32A(V)6 operational test plan in July 2023.
- DDG 1000 cyber survivability test plan that included test of AN/SLQ-32A(V)6 in November 2022.
- CVN 78 cyber survivability test plan that included test of AN/SLQ-32B(V)6 in February 2024.

The Navy expects to deliver the cyber survivability test plan in early FY25 for Aegis Advanced Capability Build 16 Baseline 9.C2.3 that will include cyber survivability of AN/SLQ-32(V)6. DOT&E will submit a classified FOT&E report, after SEWIP Block 2 FOT&E, which the Navy expects to complete in FY25.

## » MAJOR CONTRACTOR

- Lockheed Martin Corporation – Syracuse, New York

## TEST ADEQUACY

Between February and March 2024, OPTEVFOR conducted cyber survivability testing of AN/SLQ-32B(V)6 aboard USS *Gerald R. Ford* (CVN 78), in accordance with a DOT&E-approved test plan and with DOT&E observation. The test occurred with CVN 78 pierside and was informed by the land-based test site evaluation detailed in the FY23 Annual Report. The shipboard testing was adequate to evaluate the cyber survivability of AN/SLQ-32B(V)6.

OPTEVFOR will use results from the AN/SLQ-32B(V)6 cyber survivability testing, cyber survivability testing of AN/SLQ-32A(V)6 detailed in the FY23 Annual Report, and AN/SLQ-32(V)6 system scans during *Arleigh Burke*-class destroyer platform testing in FY25, to complete cyber survivability evaluation of SEWIP Block 2. As documented in the FY21 Annual Report, the cyber survivability test of AN/SLQ-32(V)6 was expected to be conducted in 1QFY23, but it has been repeatedly delayed due to *Arleigh Burke*-class destroyer availability.

The Navy conducted no operational test to determine effectiveness and suitability of any of the SEWIP Block 2 variants in FY24 due to limited ship and test resource availability. The Navy now plans to complete the remaining test events for AN/SLQ-32(V)6 and AN/SLQ-32A(V)6, and end FOT&E of SEWIP Block 2, in FY25. OPTEVFOR completed operational testing of AN/SLQ-32B(V)6 in FY21. Adequate evaluation of SEWIP

Block 2 depends on data from AN/SLQ-32(V)6 (*Arleigh Burke*-class destroyers) and AN/SLQ-32A(V)6 (*Zumwalt*-class destroyers) test events in a comprehensive and complex electromagnetic spectrum environment.

SEWIP Block 2 FOT&E has included additional threat stimulators from those available in IOT&E. However, several stressing threats that the system could encounter remain unavailable for test. The Navy has yet to fund required programming of these threats within threat emulators for test.

## PERFORMANCE

### » EFFECTIVENESS AND SUITABILITY

Insufficient data are available to determine operational effectiveness and suitability of SEWIP Block 2 due to outstanding FOT&E test events. DOT&E will deliver a classified report on SEWIP Block 2 operational effectiveness and suitability after testing that the Navy expects to complete in FY25.

### » SURVIVABILITY

Insufficient data are available to determine cyber survivability of SEWIP Block 2 due to outstanding testing on AN/SLQ-32(V)6. DOT&E will deliver a classified report for SEWIP Block 2 cyber survivability after testing that the Navy expects to complete in FY25.

## RECOMMENDATIONS

The Navy should:

1. As recommended since the FY21 Annual Report, fund the programming of more stressing threats within threat stimulators and incorporate them into remaining SEWIP Block 2 test events as they become available.
2. Schedule and complete remaining tests for operational effectiveness, suitability, and cyber survivability of AN/SLQ-32(V)6 in FY25.
3. Schedule and complete remaining tests for operational effectiveness and suitability of AN/SLQ-32A(V)6 in FY25.