NSWC Crane Electronic Warfare Center

MARITIME

CONTROL THE SPECTRUM
CONTROL THE FIGHT

Electronic Warfare (EW) Center at Naval Surface Warfare Center, Crane Division (NSWC Crane) supports the Warfighter by providing total lifecycle Electronic Attack, Electronic Protection and Electronic Support in the area of Maritime Electronic Warfare (EW). Maritime experts at the EW Center also provide total lifecycle support for the Navy Distance Support (DS) program.

Maritime EW Systems experts provide capabilities in early detection, analysis, threat warning and protection from Anti-ship Cruise Missiles (ASCMs).

Supporting the Warfighter

Electronic Warfare experts support Maritime systems with situational awareness, both detecting and tracking targets of interest and providing warnings of possible attacks by enemies.

Providing critical protection to Warfighters at sea, the AN/SLQ-32(V) system is installed on every combat surface ship in the Navy. The technology uses threat detection for electronic protection as well as active jamming for electronic attack capabilities, providing proven electronic support and countermeasure protection against enemy missile threats for both U.S. and coalition forces.

As the assigned Acquisition Engineering Agent (AEA), In-service Engineering Agent (ISEA), Software Support Activity (SSA) and Designated Overhaul Point (DOP) for the AN/SLQ-32(V), NSWC Crane responsibilities include: Systems Engineering, Software Engineering, Integrated Logistics Support (ILS), Test and Evaluation (T&E) and the planning and execution of performance enhancement installations for the AN/SLQ-32(V) and Surface EW Improvement Program (SEWIP).

NSWC Crane also provides protection through support of all decoys and the MK-36/53 Decoy Launching System. Decoy rounds include Chaff (MK-214/216), Infrared (MK-245) and Active (MK-234 Nulka) rounds. The Nulka decoy is a highly effective, rapid response electronic decoy that defends ships against modern radar-homing ASCMs. When the AN/SLQ-32(V) detects an ASCM, the Nulka decoy launches and creates a more desirable ship-like target while flying a pre-determined trajectory. This ship-like image seduces incoming missiles away from the target, protecting the ship and its crew from harm.

In addition to the assignments for Maritime EW Systems and decoys, NSWC Crane serves as the lead technical agent for the Navy DS program. The Navy Information/Application Product Suite (NIAPS) is installed across the entire fleet in both Non-Classified Internet Protocol Router Network (NIPRNeT) and Secret Internet Protocol Router Network (SIPRNet) environments. NIAPS provides a platform to host a wide variety of Information Technology (IT) business systems that would otherwise be unavailable to deployed sailors because of intermittent internet connectivity. NIAPS also provides two-way data transfers to ensure that both shipboard and ashore IT systems are kept updated with the most relevant and current data. NIAPS hosts applications for the following commands: NAVSEA, NAVAIR, SPAWAR, NAVSUP and Fleet Forces.

Products and Success Stories

NSWC Crane has supported the AN/SLQ-32(V) since 1984 and applies its expertise across the system's lifecycle. Today, the EW/IO Center supports all combat surface ships in the U.S. Navy and Coast Guard, as well as ships in a dozen allied nations.

Supporting the Surface Electronic Warfare Improvement Program (SEWIP), the Maritime experts at NSWC Crane look beyond current AN/SLQ-32(V) technology to replace outdated components with improved solutions, bringing integral technology to the next generation of EW.

As part of the first SEWIP development efforts, NSWC Crane teamed with private industry to develop and install a critical enhancement that allows increased AN/SLQ-32(V) system performance in high signal emitter environments. This Electronic Surveillance Enhancement (ESE) is the core of the signal processing capability for the AN/SLQ-32(V) and is now installed on more than 100 U.S. warships.

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NSWC Crane designed, built and installed the AN/ULM-4 test equipment currently utilized to conduct Operational Readiness Certification testing of deployed Surface Ship EW Systems.

As a joint program between Australia and the U.S., NSWC Crane collaborates with Australian experts to continuously improve the efficiency and effectiveness of the Nulka and its program. NSWC Crane personnel continue to work closely with Australia on design improvements and to share best practices with Australian Navy personnel.

NSWC Crane has been at the forefront as the technical lead for the Navy DS program. The Navy DS program began as an Advanced Concept Technology Demonstration (ACTD) program in 2002-2006. Since that time, NSWC Crane has delivered six base-lined versions of NIAPS. NIAPS is a key enabler for the reduced manning concept of the Littoral Combat Ship (LCS) platform.

Customers and Partners

Primary Maritime EW Systems customer is PEO IWS2 where the Command supports both the AN/SLQ-32(V) and Nulka programs. Customers supported with this PEO include:

- *PEO IWS 2E1 (SEWIP Block 1)*
- *PEO IWS 2E2 (Nulka)*
- *PEO IWS 2E3 (Future EW)*
- *PEO IWS 2E4 (Deployed Systems EW)*
- *PEO IWS 2E5 (SEWIP Block 2)*

The Primary customer for the Navy DS program is PEO EIS PMW-240.

NSWC Crane partners with numerous government organizations, including other Warfare Centers, the Naval Research Laboratory (NRL), Camp Atterbury Joint Maneuver Training Center and Muscatatuck Urban Training Center. These partnerships leverage current capabilities of each activity to increase Warfighter protection.

NSWC Crane also partners with all industry's leading experts in Maritime EW, including Raytheon, Northrop Grumman, General Dynamics, Lockheed Martin and ITT Corp. to keep the AN/SLQ-32(V) supported and viable in today's environment.

Leadership, Facilities and Capabilities

NSWC Crane's critical mass of Maritime EW civilian, contractor and military personnel provide expertise across multiple disciplines. Leadership assignments include In-service Engineering Agent, Acquisition Engineering Agent and Software Support Activity for the U.S. Navy's Maritime EW Systems.

NSWC Crane also holds the Technical Warrant for all surface ship EW systems and for special purpose equipment for submarines, aircraft and surface ships.

Maritime EW experts provide innovative application of system design and systems engineering to meet evolving Warfighter mission requirements. Other capabilities include:

- *Science and technology transition*
- *New Acquisition*
- *Lifecycle Support*
- *Software Development and Support*
- *System Installations and Removals*
- *Rapid prototyping*
- *System Integration*
- *Testing and Evaluation*
- *Shipboard Technical Assists*

Test and evaluation equipment include:

- *Four anechoic chambers equipped with Multi-Spectral Simulator/Stimulators*
- *Outdoor field testing facilities*
- *Mobile EW systems and signal simulators*
- *High-powered Radio Frequency test equipment*
- *Simulated shipboard Local Area Network (LAN) for NIAPS development and testing*

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