



AOC POST-EVENT REPORT

Program Manager Briefing Series

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Introduction

The PEO IWS 2.0 mission is developing, delivering, and sustaining the radar, electronic warfare (EW), directed energy, and imaging systems that ensure operationally dominant combat systems for our Sailors. The office is responsible for the acquisition and logistics support of all U.S. Navy Above Water Sensors and Lasers. CAPT Jason Hall, Major Program Manager for PEO IWS 2.0, provided an update during the AOC Program Manager Briefing Series on February 16 on key programs, including the Surface Electronic Warfare Improvement Program (SEWIP), Nulka and Advanced Offboard Electronic Warfare (AOEW) systems designed to counter current and future threats. These systems help protect our Joint Forces against a range of threats, sea-skimming anti-ship missiles that can travel three times the speed of sound and that can evade top defensive systems with radio frequency jamming to defeat the ship-killer missiles.

CAPT Hall discussed each of the three system categories spanning the PEO IWS 2.0 portfolio, including Development Systems, Production Systems, and In-Service Systems. The portfolio's emphasis is to develop the next generation of Navy EW and Decoy systems to extend functionality and address capability gaps. These systems will be more integrated and interoperable and therefore utilize all platform assets in the warfare system.

Brief Overview of Current Operations



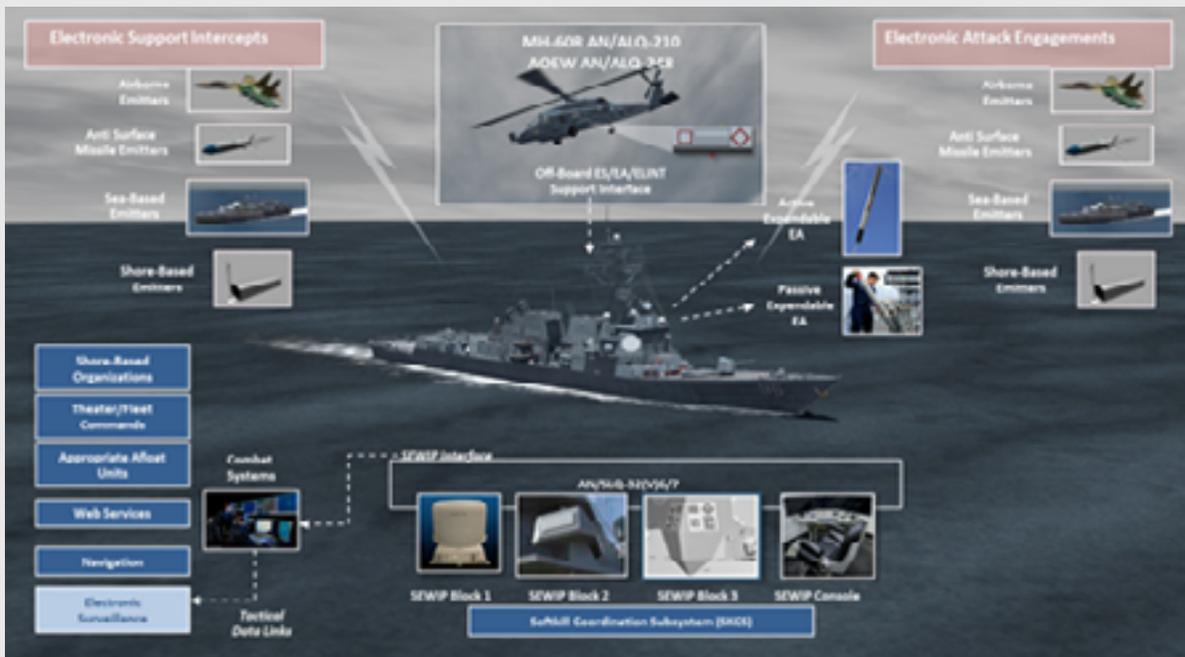
The development systems are a collaborative effort with the fleet, industry partners, small businesses, and other relevant stakeholders. This category includes some systems that AOC is closely monitoring, including AOEW (ACAT II), Nulka CAT (ACAT III), and SEWIP Block III.

The second category, production systems, includes the SEWIP Block II (v6-7), AN/SLQ-32(v)6 ACAT II, AN/SLQ-32(v)6C ACAT IVT, AN/SLQ-32(v)7, AN/SPQ-9B ACAT III, and AN/SPY-6(V)1 AMDR (ACAT IC), the centerpiece for the Flight III destroyer variants, including USS Jack H. Lucas (DDG125).

Finally, the in-service systems are currently supported in the fleet. Even though they might be referred to as legacy systems, they are heavily used by the fleet and are continuously upgraded for capability sustainment.

Surface EW OV-1

CAPT Hall focused on a few programs of special interest to AOC, which are integrated in the surface electronic warfare overview below.



Surface Electronic Warfare Improvement Program (SEWIP) - AN/SLQ-32(V)6

The Surface EW Improvement Program (SEWIP) is an evolutionary development block upgrade program for the AN/SLQ-32(V) EW system. SEWIP provides a modern, highly capable family of EW systems by block upgrade of the current AN/SLQ-32 system that is robust in detecting and countering current and future threats and will extend the service life of this legacy system. The Navy's new SLQ-32 SEWIP EMS warfare system was launched early in the 2000s and the mission was to provide shipboard EW, electronic support (ES), and electronic attack (EA), for early detection, analysis, threat warning, and protection from anti-ship missiles. The ES

capability is the centerpiece of the SEWIP Block I: 1B1, 1B2, 1B3, and SEWIP Block II. SEWIP Block I focuses on Specific Emitter Identification (SEI) and Human System Integration & Display upgrades for AN/SLQ-32(V). SEWIP Block 2 provides enhanced ES capability via an upgraded ES antenna & receiver and open combat system interface for the AN/SLQ-32(V)6/7. The SEWIP Block III adds additional antennas that provide electronic attacks. There are currently 225 AN/SLQ-32 systems deployed worldwide: 116 on USN ships (CVN, DDG, CG, LCC, LHA, LHD, LPD, and LSD), 22 systems on USCG Cutters, and 87 FMS (11 countries).

SEWIP Lite and SEWIP Block 3

SEWIP Lite also known as AN/SLQ-32(v)6 is a variant designed for small ships that leverages SEWIP Block 2 technical investments and has logistics commonality to provide enhanced ES capability for small ship classes, including as the US Coast Guard Off-shore Patrol Cutter. On the other hand, SEWIP Block 3 provides enhanced EA capability via an upgraded EA transmitter & receiver and advanced techniques to keep pace with the evolving anti-ship missile threat. It has an EA capability that provides increased frequency coverage and Effective Isotropic Radiated Power to address current threats. The EA techniques provide multifunctional apertures that support simultaneous engagements, rapid responsive engagements, advanced waveform generation, and advanced techniques. It also integrates an EA subsystem with a Soft Kill Coordination System as well as other ES capabilities. AN/SLQ-32(V)7 will be fielded on DDG 51, LHD, and CVN class ship.

Advanced Off-Board Electronic Warfare (AOEW)

The mission of the AOEW is to provide long endurance off-board decoys integrated with onboard systems for EW coordination to counter identified threats. DDE is a System of Systems consisting of the electronic attack (EA) active mission pod (AMP), also known as AN/ALQ-248 on the MH-60 helicopter, and a Soft Kill Coordination System. The Rapid Response Effort (RRE) provided an initial, limited decoy capability to the fleet in 2014. It consists of the evaluation, integration, and fielding of commercially available decoys (designated MK59 Mod 0). The installations were completed in FY18. The Decoy Development Effort (DDE) will provide an extended duration EW decoy to support the anti-ship missile (ASM) defense of naval forces in an anti-access environment. It enables an earlier ASM detect and engagement timeline given the active decoy's extended mission profile and optimal placement relative to the intended target. The decoy will influence an ASM's threat behavior prior to acquiring its intended target when sufficient indication or warning allows the active decoy to be on the station before or shortly after an ASM launches. AOEW can function as a distraction or counter-targeting asset for the Navy and other friendly ships' defense. The AOEW operates on a range of Navy and Coast Guard vessels, including the DDG-51, aircraft carriers, and amphibious assault ships.

Nulka

Finally, the Nulka Radar Decoy System is also a phenomenal tool that can deceive incoming anti-ship cruise missiles (ASCMs) away from their intended target. Nulka is a part of a great history and cooperative program between the U.S. and Australia that developed an active off-board decoy that uses a broadband radio frequency (RF) repeater mounted atop a hovering rocket. The mission of Nulka is set to provide a quick reaction off-board electronic

countermeasure decoy to defeat advanced radar homing Anti-Ship Missiles (ASMs). It is designed to counter a wide variety of present and future radar-guided ASMs by radiating a large radar cross-section while flying a ship-like trajectory. While the U.S. developed the electronic payload and fire control system, Australia created the hovering rocket system. There are also current and future development upgrades to counter emerging threats and attacks. Nulka operates on multiple platforms such as CG 47, DDG 51, LPD 17, LSD 41/49, LHA6, FF, CVN 68, CVN78, and FFG(x) Class ships and Coast Guard WMSL 750 and OPC.

Conclusion

In closing, the PEO IWS 2.0 portfolio plays a central role in the U.S. Navy's pursuit of EMS superiority in the Sea Domain. CAPT Hall emphasized evolving opportunities to improve EW capabilities for naval operation in the open sea and littorals. He challenged the AOC community to continue support for international cooperation to enhance interoperability and to challenge the status quo by bringing unique solutions to the table for testing in different environments that can lead to innovative operational capability to maintain our advantage at sea.