ESM System on Navy E-2 Aircraft Set for Digital Upgrade in 2022

WASHINGTON – Lockheed Martin is developing a digital upgrade of the analog electronic surveillance measures (ESM) system installed on the Navy's E-2D Advanced Hawkeye carrier-based early warning aircraft and plans to complete development by 2022.

The current ALQ-217 is the analog ESM system that alerts operators to radar activity and identifies the emitter.

Under a $65 million contract awarded in June, Lockheed Martin Rotary and Mission Systems is developing the digital upgrade and is scheduled to complete the engineering and manufacturing development phase – including design, qualification testing, acceptance testing and flight testing by 2022, Max Pelifian, Lockheed Martin's program manager for Advanced Airborne Electronic Warfare, told reporters Nov. 27 at the Association of Old Crows International Symposium. The next phase will bring the digital system to initial operational capability.

The ALQ-217 includes eight line-replaceable assemblies – antennas, antenna front ends and a receiver/processor – of which five will be upgraded under the contract.

Lockheed has been providing the analog ALQ-217 to the E-2 aircraft since 1999. Lockheed Martin has delivered 28 ALQ-217 analog sets for the E-2C Hawkeye and 46 sets for the E-2D Advanced Hawkeye. The company has 29 more on order for the E-2D, some of which could receive the digital upgrade on the production line if the timing permits.

The company completed the Navy's system requirements review for the digital upgrade this month. The critical design review

is anticipated by the end of 2019.

Marine Corps' Sea Dragon Effort Turning Focus to Information Operations

STAFFORD, Va. – After two years focusing on increasing the lethality of the small ground units and providing logistical support in the contested littorals, the Marine Corps Warfighting Laboratory (MCWL) is moving into intensive trials on information operations and ways to more fully integrate the naval forces to fight the maritime campaign, which will include a search for Marine-operated anti-ship weapons.

The focus of the Sea Dragon force development effort in the current fiscal year will be on "a handful of select, high-value capabilities" that will enable Marine expeditionary forces to maintain their "battle networks in the most highly contested environments," providing a "high degree of domain awareness" through experimental technologies for sensing the environment and feeding that "into networks we can fire and fight from," Brig. Gen. Christian F. Wortman, the MCWL commander, said Nov. 27.

They also will be testing capabilities to disrupt an enemy's ability to sense the environment and target Marine units, Wortman told reporters at an office near Marine Corps Base Quantico.

Then, the gains from the first three years of the re-energized Sea Dragon will culminate in fiscal 2020 experiments to address Marine "contributions to a maritime expeditionary

campaign," with close cooperation with the Navy, Wortman said.

Those efforts will be in direct support of Marine Corps Commandant Gen. Robert B. Neller's commitment to an integrated naval force, he added.

"We know that fleet and Marine forces are far more lethal, survivable and effective when they fight as an integrated team. So we're approaching naval and Marine Corps development as an integrated team, to the maximum extent possible."

As a key part of Neller's commitment to the integrated naval campaign and the Corps' effort "to support the sea fight in contested maritime domains," Marine elements will conduct, in partnership with the Navy staff, the research establishment and industry, a series of "fight the naval forces forward" advanced naval technology exercises (ANTX) in 2020, Wortman said.

The ANTX series will focus on "naval fires, technology to close the kill chain in highly contested environments and to deny the enemy the ability to target our forces."

A key part of that will be a search for land-based, long-range, anti-ship missiles that Marines could employ from advanced expeditionary bases within an enemy's defensive shield to support the Navy's fight for sea control.

"The commandant is determined to provide a capability to strike a killing blow against advanced surface ships from our tac [tactical] air assets or land-based locations," Wortman said.

Where the first year of the new Sea Dragon campaign resulted in major changes to enhance the lethality of the infantry squad and other small ground combat elements, 2018 focused on the logistical and sustainment challenges of distributed operations in contested areas. Those experiments identified unmanned and autonomous logistics distribution assets "as high

value. We are working aggressively" on unmanned underwater, surface, air and ground vehicles "to support our logistics distribution requirements," the general said.

The goal is to sustain the expeditionary forces in high-tempo operations "while dramatically reducing the risk to our Marines and frustrating the ability of potential adversaries to interrupt our sustainment operations."

In response to a question on the possible role of underwater vehicles, Wortman said "anything that offers us the ability to move bulk liquids, ordnance or other consumables over extended range in a manner that is hard for an enemy to target is really attractive to us."

They also see the potential of those systems in the sea-control fight by "employing unmanned underwater systems from expeditionary advanced bases with a wide range of payloads that will challenge or destroy adversary capabilities in some of these contested environments."

Wortman said the 2018 experiments also introduced the new "experimental opposing force," a cadre of eight to 10 civilian experts who will challenge the MCWL experimenting units and the technologies and concepts they are testing.

Vice Adm. Merz: New Round, Gun Removal Options for Zumwalt DDG

WASHINGTON – The Navy is looking at options for the Advanced Gun System (AGS) on the Zumwalt-class guided-missile destroyer

(DDG) as it completes mission systems installation, options that include developing a new round or removing the guns all together.

The Zumwalt DDG is equipped with two 155 mm AGS guns – built by BAE Systems – for which the Long-Range Land-Attack Projectile (LRLAP) was developed by Lockheed Martin. The LRLAP, however, proved too costly and its range too short, resulting in its cancellation. The Navy has been exploring options to develop a new round but is not letting the lack of one delay the ship's entry into the fleet.

"We determined that the best future for that ship is to get it out there with the capability that it has and separate out the Advanced Gun System, leaving everything else in place," Vice Adm. William R. Merz, deputy chief of naval operations for Warfare Systems, testified Nov. 27 before the Senate Armed Services Seapower subcommittee, in response to a question from Sen. Angus King, I-Maine, the state in which the Zumwalt class has been built.

"[The Zumwalt] is a very capable platform with or without that gun," Merz said. "We will be developing either the round that goes with that gun or what we are going to do with that space if we decide to remove that gun in the future. The ship is doing fine, on track to be operational in 2021 in the fleet."

Merz said the Zumwalt, built as a land-attack platform, has been "remissioned to a strike platform, whether sea targets or land targets. It takes advantage of its tremendous arsenal of VLS [vertical launching system] cells. Those VLS cells are larger than any other surface ship VLS cells so that opens up an aperture of more weapons options for that ship."

He termed the projectile challenge "as a science and technology challenge, not an engineering problem. We just cannot get the thing to fly as far as we want."

Asked by King if the Zumwalt would be a platform for a future

directed-energy weapon, Merz said the ship had the “balance of SWAPC – space, weight, power and communications – that allows us to expand this ship over time. She is going to be a candidate for any advanced weapon system that we develop.”

Coast Guard Repatriates 27 Migrants to Cuba

MIAMI – The Coast Guard Cutter Charles David Jr. crew repatriated 27 Cuban migrants Nov. 22 to Cuba, the 7th Coast Guard District said in a release.

A Coast Guard Air Station Miami HC-144 Ocean Sentry airplane crew located a rustic vessel traveling northbound approximately 29 miles north of Cuba Nov. 17. Charles David Jr. arrived on scene and safely embarked 27 Cuban migrants who attempted to enter the United States illegally.

“The Coast Guard diligently patrols the Florida Straits and Caribbean Sea to ensure the safety of life at sea and the security of the United States. United States policy is to promote safe, orderly and legal travel and migration,” said Rear Adm. Peter Brown, commander of the 7th District and director of Homeland Security Task Force Southeast. “When unsafe, disorderly and illegal maritime migration attempts are discovered by the Coast Guard or our partners, migrants are rescued from distress, humanely treated and promptly repatriated to their country of origin or departure.”

Once aboard Coast Guard cutters, all migrants receive food, water, shelter and medical attention.

Approximately 296 Cuban migrants have attempted to illegally

enter the U.S. via the maritime environment since Oct. 1 in fiscal 2018 compared to 2,098 Cuban migrants in fiscal 2017. These numbers represent the total number of at-sea interdictions, landings and disruptions in the Florida Straits, the Caribbean and Atlantic.

Charles David Jr. is a 154-foot Sentinel-class cutter homeported in Key West, Florida.

Panelists Make Pitch for More Robust Integrated Air and Missile Defense

WASHINGTON – The growing capabilities of potential adversaries in the Indo-Pacific Command area has led the U.S. services to better integrate their air and missile defense systems, but more needs to be done in that effort and the available resources are not adequate to the threat, two Army officers with recent experience in the theater said Nov. 26.

“The requirements out there exceed the capacity we have,” Brig. Gen. Clement Coward, currently commander of 32nd Army Air and Missile Defense Command and a former Joint Integrated Air and Missile Defense Organization (JIAMDO) director, told a Center for Strategic and International Studies forum.

From the view of the military commanders, “we don’t have what we need,” in theater air and missile defenses, he said.

While serving in the joint command, “I saw the same interest from a Marine leader as an Air Force leader” for integrated air and missile defenses, Coward said.

But Coward questioned if the services have the right procedures, the right framework to set the conditions for truly integrated air and missile defense.

Col. Sean Gainey, the current JIAMDO director and deputy director for force protection on the Joint Staff who previously led an Army air and missile defense command in the Indo-Pacific, said because of the capabilities shortage, “we had to prepare to fight with what we had.”

To do that, the services took capabilities like the Aegis ballistic missile defense systems and the TPY-2 radars on the Navy’s warships and synergized them with the Army’s Patriot and Terminal High-Altitude Area Defense system, Gainey said.

But he asked how the services will get the joint “sensor-shooter interface” they need to synergize all the separate capabilities in the theater.

In a second panel, four retired officers, all of whom had served as directors or as the technical director at JIAMDO, noted the deep cuts in funding, staffing and authority that have hit the joint organization and argued that the military cannot get to truly integrated air and missile defenses without someone able to force the services to buy the systems and create commands that put the overall requirements ahead of their own priorities.

Retired Air Force Col. Richard Glitz, who served as JIAMDO technical director for nine years, cited the drop in annual funding from $100 million to $20 million while the missile threat to the U.S. homeland from Russia, China and North Korea has increased.

Retired Navy Rear Adm. Archer M. Macy Jr. emphasized the new threats from hypersonic weapons and electromagnetic effects, which reduce the time to respond from hours to minutes and seconds. Macy and others on the second panel said the nation needed an organization directly under the Joint Chiefs

chairman or vice chairman who could force decisions on research and procurement to meet the greater threats, instead of what each service believes it needs.

“The only ones interested in SHORAD are the Army and Marines,” said retired Air Force Brig. Gen. Kenneth Todorov, referring to short-range air defense systems the ground services are seeking. And the services also see the threat from cruise missiles differently, he added.

Gainey suggested the joint staff is “starting to touch the fringes of global force integration,” but may need to force the combatant commanders “to accept some tough risks” in allocation of resources across the threat.

Because any major conflict is likely to involve more than one of the regional combatant commands (CoComs), it will take the chairman to ensure “there are “no seams between the CoComs.”

EdgeTech 2205 AUV-based Sonar Aids in Discovery of Missing Argentine Submarine

WEST WAREHAM, Mass. – EdgeTech, the leader in high-resolution sonar imaging systems and underwater technology, is honored to learn that its industry-leading side scan sonar technology was used to help find the missing Argentine submarine, ARA San Juan, the company said in a Nov. 19 release.

The deep-water search was performed by Ocean Infinity and its advanced fleet of 6,000-meter-rated autonomous underwater vehicles (AUV) equipped with EdgeTech 2205 side scan sonars.

EdgeTech’s unique tri-frequency side scan sonar frequency combination of 75/230/410 kHz enables the host AUV to perform long-range searches in deep water, with the middle and higher frequency providing added resolution for better target identification.

The ARA San Juan was imaged by the EdgeTech sonar operating at a frequency of 230 kHz and a 400-meter range scale. The submarine, which had been missing for one year, was discovered in more than 900 meters of water.

EdgeTech side-scan sonar systems provide operators the ability to image large areas of the sea floor during important deep-water searches when the whereabouts of sunken objects are largely unknown. EdgeTech takes great pride in knowing its high quality reliable underwater acoustic imaging systems continue to assist in these demanding endeavors.

State Department Approves Standard Missile-3 for Japan

WASHINGTON – The State Department has made a determination approving a possible Foreign Military Sale to Japan of eight Standard Missile-3 (SM-3) Block 1B Missiles and 13 SM-3 Block 2A Missiles for an estimated cost of $561 million, the Defense Security Cooperation Agency (DSCA) said in a Nov. 19 release.

\The DSCA delivered the required certification notifying Congress of this possible sale on Nov. 16.

Also included in the proposed sale are SM-3 1B and 2A missile canisters, U.S. government and contractor provided technical assistance, engineering and logistical support services, and

other related elements of logistical and program support.

The proposed sale will provide Japan with an increased ballistic missile defense capability to assist in defending the Japanese homeland and U.S. personnel stationed there. Japan will have no difficulty absorbing these additional munitions and support into the Japan Maritime Self Defense Force, the release said.

The principal contractor for the SM-3 Block 1B and 2A all-up rounds will be Raytheon Missile Systems, Tucson, Arizona. The prime contractor for the Mk-21 and Mk-29 canisters and packing, handling, shipping and transportation kits will be BAE Systems, Minneapolis.

Mercury Systems Receives Integrated Subsystems Order for Naval EW Application

ANDOVER, Mass. – Mercury Systems Inc. has received a $6.7 million follow-on order from a leading defense prime contractor for custom-engineered, high-performance subsystems with integrated radio frequency (RF) and digital microelectronics for a naval electronic warfare (EW) application, the company announced in a Nov. 20 release. The order was booked in the company's fiscal 2019 first quarter and is expected to be shipped over the next several quarters.

Mercury Systems is a leader in the development and commercialization of EW solutions optimized for ground, sea, and airborne applications. Engineered to reliably operate in the harshest of environmental conditions, Mercury's EW

solutions densely integrate both analog and digital technologies using open architecture standards to reduce the risk of schedule of cost overruns while providing an affordable path for upgradeability in the future.

“Receiving this order from our valued customer exemplifies Mercury’s market-leading position in the design and manufacturing of affordable microelectronics solutions spanning the RF and digital domains,” said Neal Austin, vice president and general manager of Mercury’s Embedded Sensor Processing group. “We are fully committed to supporting the U.S. warfighter with commercial innovations delivering critical electronic warfare information required to make timely and accurate operational decisions.”

Navy Awards Contract to VT Halter for New Oceanographic Survey Ship

ARLINGTON, Va. – The Navy has awarded a contract to shipbuilder VT Halter Marine toward advance work for the eighth Pathfinder-class oceanographic survey ship (T-AGS).

The Naval Sea Systems Command awarded to VT Halter Marine a “not-to-exceed $9 million undefinitized contract action for functional design engineering, procurement of long-lead time material, and limited advanced production to support the Oceanographic Survey Ship (T-AGS 67),” the Defense Department announced on Nov. 19.

VT Halter Marine, based in Pascagoula, Mississippi, has built seven Pathfinders, six of which were delivered between 1994

and 2001. One of these, USNS Sumner, was withdrawn from service in 2014. A seventh, USNS Maury, was delivered in 2016. It is 15 feet longer than the earlier Pathfinders and features a moon pool to facilitate operation of unmanned underwater vehicles.

The Pathfinder class is operated by the Military Sealift Command for the Naval Meteorology & Oceanography Command.

Rite-Solutions Awarded NUWC Division Newport IT Services Contract

MIDDLETOWN, R.I. – Rite-Solutions recently was awarded a $49.6 million contract to support the Naval Undersea Warfare Center's (NUWC's) Activity Chief Information Officer (ACIO)/Information Technology (IT) division, which is responsible for strategic planning, operations, maintenance, and compliance of the center's IT systems and infrastructure, the company said in a Nov. 19 release.

"We are thrilled that NUWC chose to renew the contract with us," says Rocky Reeves, Rite-Solutions vice president and director of IT services.

The company will provide IT services in several areas including software engineering, client support services/help desk, Navy Marine Corps Intranet support, IT governance and application portfolio management support, and more.

"Cybersecurity touches every one of these areas," Reeves said. Over one-half of the personnel supporting this contract must

meet the Navy’s strict Cyber Information Technology/Cybersecurity Workforce requirements.

“This was a major reason Rite-Solutions won the contract. Many of our employees have degrees in cybersecurity or computer science as well as security and operating system certifications,” added Reeves.

Rite-Solutions will support NUWC headquarters in Newport, Rhode Island, as well as NUWC locations in Connecticut, Virginia, Florida, and the Bahamas.