LPD 17 Program Manager: These Ships 'Can Do Anything'

ARLINGTON, Va. – The San Antonio-class amphibious transport dock ships (LPD 17s) in production are incorporating improvements as the class progresses to the Flight II configuration, the Navy's program manager said.

"The mission remains the same," Capt. Brian Metcalf, the LPD 17 program manager, noted Jan. 16 at the Surface Navy Association symposium of the role of the 14 older Flight I LPDs and the forthcoming Flight II ships.

The Flight II LPD 17 ships, beginning with LPD 30, will incorporate improvements that include the Enterprise Air Search Radar (EASR), Consolidated Afloat Networks and Enterprise Services (CANES) architecture, a destroyer-style mast, boat deck, SLQ-32 Surface Electronic Warfare Improvement Program Block, and the Rolling Airframe Missile. The Flight II will retain the same hull form and propulsion plant as a Flight I ship but have improved fuel efficiency and electrical distribution. The Flight II will be capable of handling the CH-53K King Stallion heavy-lift helicopter.

The future USS Fort Lauderdale (LPD 28), a Flight I ship, will be the first LPD to have CANES installed and be fitted with a destroyer-style mast. The ship is scheduled for delivery in fall 2021. Metcalf said CANES will be back-fitted to older ships of the class.

The future USS Richard M. McCool Jr. (LPD 29), the last Flight I ship, will have the EASR installed. The ship is scheduled for delivery in 2023.

The Flight II ships will replace the Navy's eight Whidbey Island-class and four Harpers Ferry-class dock landing ships.

Metcalf said the Flight IIs will be interchangeable with and operate in the same manner as Flight I ships and improve an amphibious ready group's (ARG's) communications, enhancing the ARG's ability to operate in a disaggregated manner, which is more typical of operations in recent years.

"They can do anything," Metcalf said of the San Antonio class, including "recovering spacecraft or put 800 Marines in your back yard."

The 11 commissioned ships of the San Antonio class have completed 21 deployments, he said.

USS Portland (LPD 27) is the next to deploy, departing in 2020. It will have a solid-state laser weapons system installed.

Metcalf stresses that the LPDs were not just troop carriers, but are combatants built to military specifications.

"They will have to fight to get to the fight," he said, speaking of the need to operate in a high-threat environment.

The Navy plans to procure 13 Flight II ships. Metcalf said the Navy has the option of a block but not yet the authority for one from the Congress.

Leonardo DRS to Extend GE LM2500 Gas Turbine Packaging for U.S. Navy

ARLINGTON, Va. – Leonardo DRS Inc. has extended its LM2500 Gas Turbine packaging supply agreement with GE's Marine Solutions

through the end of 2024, with an option to extend through 2029, the company announced in a Jan. 16 release.

This strategic agreement covers the manufacture of GE-designed LM2500 packages for U.S. Navy and selected international platforms. For the three LM2500 engine sizes (LM2500, LM2500+ and LM2500+G4), Leonardo DRS provides the baseplate, enclosure, and a fully instrumented, wired and piped package for turbine start and fire protection systems. It represents a continuation of the long and successful relationship with GE which started in 2011. This relationship recently reached a significant milestone when Leonardo DRS recently delivered its 100th LM2500 enclosure package.

“The long-term partnership between GE and Leonardo DRS has provided our U.S. Navy customer with high-quality gas turbine package systems giving the needed power and propulsion for our country’s naval fleet,” said Greg Reed, senior director for business development of the DRS Naval Power Systems Group. “This agreement continues that strong partnership between Leonardo DRS and GE’s Marine Solutions to ensure our customer receives the best quality systems.”

Leonardo DRS builds naval power systems to meet stringent U.S. military and GE specifications and quality requirements. DRS ships the U.S. Navy packages to GE in Evandale, Ohio, where the gas turbine is inserted, and the package is subjected to full-load production qualification testing.

Raytheon Selected for Marine

Corps Hornet AESA Radar Upgrade

EL SEGUNDO, Calif. – The U.S. Marine Corps has selected Raytheon's APG-79(v)4 AESA [active electronically scanned array] radar to equip its F/A-18C/D Hornet fleet, the company said in a Jan. 15 release. Raytheon will begin delivering radars in 2020 and complete deliveries by 2022.

The APG-79(v)4 is a scaled version of the APG-79 AESA radar integrated on the U.S. Navy and Royal Australian Air Force's Super Hornets and EA-18G Growlers. Along with improved targeting capabilities, crews gain an edge in crucial operations across the spectrum – including air dominance, maritime strike and air-to-surface missions.

"With AESA radars, fighter jet pilots and crews tip the scales in their favor over their adversaries," said Eric Ditmars, vice president of Raytheon Secure Sensor Solutions. "Now that the APG-79(v)4 is slated to fly on the classic Hornet, Marine Corps pilots will be able to identify, track and engage more targets over a greater distance than ever before."

Crews will see improved radar reliability, reducing maintenance hours while increasing availability for flight. Because the APG-79(v)4 shares more than 90 percent commonality with the APG-79, the Marine Corps will benefit from the same global sustainment and upgrade path already in place for the system.

Huntington Ingalls Industries to Acquire Fulcrum IT Services

NEWPORT NEWS, Va. – Huntington Ingalls Industries (HII) has entered into an agreement to acquire Fulcrum IT Services LLC, an information technology and government consulting company headquartered in Centreville, Virginia, HII said in a Jan. 18 release.

The planned acquisition is expected to close in February. Financial terms of the transaction were not disclosed.

Fulcrum expands HII's capabilities in enhanced situational awareness and predictive threat analytics through its advanced engineering, cybersecurity, software development, big data engineering, and intelligence and special operations experience. Fulcrum will join HII's Technical Solutions division.

"Fulcrum's capabilities in software development, data analytics, cybersecurity and advanced engineering are strongly aligned with national security priorities and complement our priority practice areas," said Andy Green, executive vice president of HII and president of Technical Solutions. "The company's unique experience and capabilities across the C5ISR [command, control, communications, computers, combat systems, intelligence, surveillance and reconnaissance] domain grow our reach and support in the intelligence and special operations communities."

HII's Technical Solutions division provides a wide range of professional services through its Fleet Support, Mission Driven Innovative Solutions, Nuclear & Environmental, and Oil & Gas groups.

Leonardo DRS to Provide Advanced Hybrid Electric Drive for Second Coast Guard OPC

ARLINGTON, Va. – Leonardo DRS Inc. will provide a second hybrid electric drive (HED) system for the U.S. Coast Guard's next offshore patrol cutter (OPC) under a contract from Eastern Shipbuilding, the company announced in a Jan. 15 release. Eastern Shipbuilding is the prime contractor and builder of the next-generation OPCs.

Under the contract, originally announced in 2017, Leonardo DRS would provide the HED systems for the first nine ships of the OPC program with a contract value totaling $10.7 million. The first HED system is set to be delivered in mid-2019.

Under the contract, Leonardo DRS will provide its high-performance, permanent magnet motor-based Auxiliary Propulsion System. This integrated hybrid electric drive system provides capability for the ship to operate much more efficiently at slower speeds, increases mission duration capability, reduces emissions and provides emergency take-home capability in the event of a failure of the main propulsion diesel engines. When coupled to the main propulsion gearbox, the system allows the ship to operate quietly and efficiently during loitering operations while providing superior fuel economy for increased on-station operations and capability.

"Our hybrid electric drive will offer crews of these new ships operational flexibility when they need it, while significantly increasing cost savings in yearly maintenance and fuel," said

Christine Borglin, senior program manager for DRS Naval Power Systems. “As we move from design and development onto production of the first HED system, and now to this second drive, we are proud to continue to be a part of the Eastern Shipbuilding team for this vital program.”

The Auxiliary Propulsion System includes two of the most power-dense permanent magnet motors on the market today. They have significant advantages in size, weight, efficiency and performance over conventional electric induction motors and produce more torque from the same amount of supplied current. Their smaller footprint allows greater flexibility in engine room design and increased cargo space, while the simpler more rugged construction results in proven reliability and durability.

Using propulsion diesel engines at slow speeds adds significant wear and tear on the engines and increases the potential for coking/wet stacking. By adding this electric Auxiliary Propulsion System, the Coast Guard will have a built-in advantage of reducing fuel, maintenance requirements and lifecycle costs, while increasing safety for the fleet.

U.S. Navy, Air Force Award Lockheed Martin Second Production Lot for LRASM

ORLANDO, Fla. – Lockheed Martin has received a $172 million contract from the U.S. Navy and Air Force for Long Range Anti-Ship Missile (LRASM) production, the company said in a Jan. 15 release.

The contract continues the production for the air-launched variant of LRASM, including a full production run of missiles and engineering support. This is the second of several expected annual production lots that will deliver next-generation anti-ship missiles to the U.S. Navy and U.S. Air Force.

“LRASM brings a game-changing capability to both the U.S. Air Force and the Navy,” said David Helsel, LRASM director at Lockheed Martin Missiles and Fire Control. “This second production lot will provide anti-ship missiles for both the B-1B and F/A-18E/F, bringing sea control back to our warfighters.”

LRASM is designed to detect and destroy specific targets within groups of ships by employing advanced technologies that reduce dependence on intelligence, surveillance and reconnaissance platforms, network links and GPS navigation in electronic warfare environments. LRASM will play a significant role in ensuring military access to operate in open ocean/blue waters, owing to its enhanced ability to discriminate and conduct tactical engagements from extended ranges.

LRASM is based on the successful Joint Air-to-Surface Standoff Missile-Extended Range. It is designed to meet the needs of U.S. Navy and U.S. Air Force warfighters in contested environments. The air-launched variant provides an early operational capability for the U.S. Navy’s offensive anti-surface warfare Increment I requirement. With the recent early operational capability declaration by the U.S. Air Force for the B-1B, the focus is now on the U.S. Navy’s F/A-18E/F Super Hornet in 2019.

Coast Guard's Only Heavy Icebreaker Arrives at Antarctica

ALAMEDA, Calif. – The 150 crew members of the U.S. Coast Guard Cutter Polar Star arrived Jan. 17 in Antarctica along with a resupply vessel during Operation Deep Freeze – a joint military service mission to resupply U.S. interests in Antarctica, the Coast Guard Pacific Area said in a release.

Homeported in Seattle, the 42-year-old cutter is the United States' only operational heavy icebreaker, and the crew is making their sixth deployment in as many years to directly support the resupply of McMurdo Station – the United States' main logistics hub in Antarctica.

Operation Deep Freeze is a joint military service mission in support of the National Science Foundation – the lead agency for the United States Antarctic Program. Since 1955, U.S. Indo-Pacific Command has assisted in providing air and maritime support throughout the Antarctic continent. This year marks the 63rd iteration of the annual operation.

Each year, the Polar Star crew creates a navigable path through seasonal and multiyear ice, sometimes as much as 21-feet thick, to allow a resupply vessel to reach McMurdo Station. The supply delivery allows Antarctic stations to stay operational year-round, including during the dark and tumultuous winter.

The 399-foot, 13,000-ton Polar Star arrived after completing an 18-mile trip through the ice to McMurdo Sound, where 400 containers will be offloaded from the supply ship Ocean Giant.

Presently, the U.S. Coast Guard maintains two icebreakers –Healy, which is a medium icebreaker, and Polar Star.

Protecting national interests in the polar regions is essential to ensure the Coast Guard's national defense strategy and search-and-rescue capabilities are ready for action, but in order to do so, the icebreaker fleet requires modernization.

Commissioned in 1976, the Polar Star is showing its age. Reserved for Operation Deep Freeze each year, Polar Star spends the winter breaking ice near Antarctica, and when the mission is complete, it returns to dry dock in order to complete critical maintenance and repairs in preparation for the next Operation Deep Freeze mission. Once out of dry dock, the ship returns to Antarctica, and the cycle repeats itself.

During this year's deployment, one of the ship's electrical systems began to smoke, causing damage to wiring in an electrical switchboard, and one of the ship's two evaporators used to make drinkable water failed.

The ship also experienced a leak from the shaft that drives the ship's propeller, which halted icebreaking operations in order to send scuba divers in the water to repair the seal around the shaft. A hyperbaric chamber on loan from the U.S. Navy aboard the ship allows Coast Guard divers to make external emergency repairs and inspections of the ship's hull.

Mercury Receives Integrated Subsystems Order for Naval Electronic Warfare

Application

ANDOVER, Mass. – Mercury Systems Inc. has received a $9.8 million follow-on order from a leading defense prime contractor for advanced subsystems with integrated radio frequency and digital microelectronics for a naval electronic warfare (EW) application, the company announced in a release. The order was booked in the company's fiscal 2019 second quarter and is expected to be shipped over the next several quarters.

Mercury Systems is a pioneer in high-performance, modular, open-system architectures integrating mixed-signal processing technologies for the most demanding electronic warfare applications. The company offers a complete portfolio of electronic warfare building blocks including OpenVPX microwave transceivers, field programmable gate array-based intermediate frequency and direct conversion solutions, and clock generation and distribution modules. Through adherence to the OpenVPX standard, these products support rapid development of front-end digitization and real-time processing technologies for next-generation EW systems.

"This prominent order further reaffirms Mercury's leadership position in the design and manufacturing of affordable, high-performance microelectronics delivering a strategic and tactical advantage to our nation's warfighters operating in harsh and unpredictable electromagnetic environments," said Neal Austin, vice president and general manager of Mercury's Embedded Sensor Processing group.

L3 ASV and Dstl Complete Reconnaissance Missions at Autonomous Warrior

PORTCHESTER, England – L3 ASV has completed a series of demonstrations at the Australian Defence Showcase, Autonomous Warrior 18, in Jervis Bay, Australia, the company announced in a Jan. 15 release. In support of the Defence Science and Technology Laboratory (Dstl), L3 ASV operated a 9-meter (30-foot) vessel outfitted with advanced autonomous navigation capability for reconnaissance, interdiction and patrol tasks.

The vessel, dubbed MAST-9, operated in fully autonomous mode, including COLREG-aware collision avoidance, navigating the waterways at speeds of up to 40 knots, for over 80 hours, across the two-week event. MAST-9 successfully executed seven different task types comprising loiter, shadow, interdict, survey, patrol, target tracking and inspection.

“The reliability and consistency of the system was solid proof of the use case for autonomous surface platforms for persistent inspection and tracking at range, particularly in challenging environmental conditions,” said Dr. Howard Tripp, autonomous systems research and development lead, L3 ASV. “There were instances where the weather dictated that manned vessels had to return to harbor – the autonomous vessel, by its nature, was not subject to these concerns and was able to operate normally. This is where the real value in autonomy lies.”

“The exercise successfully showcased an integrated system of systems approach to executing autonomous defence tasks with little or no human intervention,” said Ian Campbell, Defensive Surface Warfare, Platform Systems Division, Dstl. “The ability to interface with the Maritime Autonomous Platform

Exploitation [MAPLE] system, coupled with the reliability of the vessel system, was key to the success of this demonstration."

MAST-9 completed approximately 100 tasks commanded from the MAPLE system. Operational status and payload feedback were communicated to and from MAPLE using ASView, L3 ASV's proprietary autonomous control system. Using an optical and infrared camera, MAST-9 demonstrated high-speed inspection capability. The ASView control system allowed the remote mission commanders to track and follow target vessels for interdiction tasks. The vessel, designed and built by L3 ASV, used radar to provide situational awareness, making it possible to detect and avoid other vessels accordingly.

SPAWAR Awards First IWRP Contract

CHARLESTON, S.C. – Space and Naval Warfare Systems Command (SPAWAR) Systems Center (SSC) Atlantic awarded the first prototype project agreement (PPA) under the Other Transaction Agreement (OTA) for the Information Warfare Research Project (IWRP) on Jan. 8 for $1.3 million.

The focus of the prototype is for a new Low-Altitude Range Communication System (LARCS) for the U.S. Marine Corps.

The goal of the upgraded technology is to replace the current LARCS in order to meet the critical communication requirements for Marine training ranges. Once completed, the system is slated for installation at the Townsend Bombing Range at Marine Corps Air Station Beaufort, South Carolina, where the LARCS will undergo testing and field user evaluation in the

final operational environment and configuration.

“This first award is a significant milestone for the IWRP,” said Pete Reddy, SSC Atlantic deputy executive director. “This effort will not only provide inherent value to the project sponsor and warfighting capability, but it also validates and sets into motion the awesome capability that IWRP is for the SPAWAR enterprise and entire naval research and development establishment.”

The IWRP consortium utilizes white papers for prototype proposals versus the traditional acquisition request for proposal process. The LARCS prototype whitepaper was submitted Sept. 11, and from concept to award took the team only 119 days to accomplish.

“The IWRP enabled us to quickly make our way to a prototype award that will rapidly provide a new capability to the warfighter,” said John Larson, project lead and Enterprise Systems and Services (ES2) team lead. “We learned a lot through collaboration with the IWRP consortium, and I anticipate that as IWRP matures it will only become quicker.”

The combined efforts from the IWRP team, Advanced Technology International (ATI) and contracting were instrumental in both the speed of awarding the first project and ensuring the level of quality in the technology.

“We view the IWRP as a critical tool that will enable SSC Atlantic to achieve ‘Pivot Speed’ in rapidly responding to emerging business IT and warfighter needs,” said Erik Gardner, E2S2 division head. “The IWRP, when combined with other tools, processes and environments, has proven to foster innovation and is a new way of thinking about our problems and their solutions.”

The project was awarded to ATI on behalf of Booz Allen Hamilton in collaboration with Intuitive Research Technology Corp. (IRTC). A significant portion of the work will be

performed by IRTC, a non-traditional defense contractor, and is scheduled to be completed in 10 months.

“The collaboration and teamwork on this process allowed for a prototype to be awarded which has potential for more advanced technologies at a cheaper cost and a faster timeline than was expected,” said Don Sallee, SPAWAR IWRP program manager.

The management of the IWRP consortium was awarded by SPAWAR to ATI on June 26. The IWRP allows the use of an alternative acquisition process, called an OTA, that works to streamline acquisition processes, develop prototypes, and rapidly provide advanced technologies to the fleet. Since opening the consortium, membership has grown to 219 and approximately 81 white papers have been submitted for review to address potential information warfare needs.