Navy is Pushing Advances in Offensive Mine Warfare

ARLINGTON, Va. – While mine countermeasures dominate the Navy's efforts in mine warfare, the service has accelerated improvements over the last two years in its weaponry in offensive mine warfare, the ability to lay anti-ship and anti-submarine mines.

The service now is developing the Clandestine Delivered Mine (CDM), Capt. Danielle George, the Navy's mine warfare program manager, said Jan. 17 at the Surface Navy Association convention in Arlington. The Navy is conducting testing of the new cylindrical-shaped mine and is scheduled to conduct end-to-end testing during the second quarter of fiscal 2019. Initial deliveries are scheduled for 2020. George said she was not at liberty to reveal the delivery platform(s) for the CDM.

Another new mine program, started in 2018, is the Hammerhead, an encapsulated torpedo designed to lie in wait for submarines. The capsule for the torpedo would be anchored to the ocean floor, much like the Mk60 CAPTOR mine of Cold War vintage that housed a Mk46 anti-submarine torpedo. (The CAPTOR was withdrawn from the Navy's inventory in 2001.) The Hammerhead will be designed to have modular architecture to allow for technology insertion. The Navy expects to issue a classified request for information for the Hammerhead this year.

Until recently, the Navy's mine inventory was limited to the Mk62, 63 and 65 Quickstrike air-delivered mines and the Submarine-Launched Mobile Mine. The Mk62 and Mk63 Quickstrike mines are blast/fragmentation 500-pound Mk82 and 1,000-pound Mk83 bombs, respectively, equipped with influence target-detection devices for use in shallow water. The Mk65 is a thin-walled casing with a 2,000-pound warhead and equipped

with a target-detection device for magnetic, seismic and pressure detonation.

For these air-delivered mines, the Navy has ordered new target-detection devices and adapters from Sechan Electronics Inc. during the last quarter of fiscal 2018. The Navy also has adapted the Joint Direct-Attack Munition (JDAM) guidance kit for the Quickstrike weapons, allowing for more precise seeding of the mines. This capability was demonstrated in Exercise Valiant Shield in 2018. In addition, an extended-range version of the JDAM Quickstrike – through installation of a wing kit – will be tested during the third quarter of fiscal 2019.

The Navy has not laid aerial mines in a conflict since Operation Desert Storm in 1991, when A-6E aircraft seeded mines in Iraqi waters. The capability remained intact, though low-key, in subsequent years.

VT Group Acquires National Technologies Associates Inc.

CHANTILLY, Va. – VT Group announced in Jan. 22 release the acquisition of National Technologies Associates Inc. (NTA), a Patuxent River, Maryland-based firm specializing in program management, engineering and logistics services for military aviation platforms and systems.

Founded in 1981, NTA's 300 employees provide research, development, test and evaluation support and a full spectrum of mission-critical maintenance and sustainment services for fixed and rotary-wing, tilt-rotor, and unmanned aircraft. The acquisition of NTA positions VT Group as a key industry partner to the Defense Department on several high-priority

initiatives, including the U.S. Navy's Presidential Helicopter and V-22 Osprey programs.

"NTA shares the VT Group passion for engineering excellence and our commitment to meet the critical needs of the warfighter," said John Hassoun, VT Group president and CEO. "This acquisition adds unique and differentiated expertise to VT Group's aviation solutions portfolio. It will be a force-multiplier for our customers and a catalyst for further growth."

Chief Growth Officer Sunil Ramchand added, "The acquisition of NTA is another important step on our journey to become the industry leader in the C4ISR modernization and sustainment market."

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.

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.

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.

Navy Awards Lockheed Martin Contract for LCS 31

ARLINGTON, Va. – Naval Sea Systems Command has awarded to the Lockheed Martin LCS team a fixed-price, incentive-fee contract for an additional littoral combat ship, LCS 31, the company said in a release.

LCS 31 will be built in Marinette, Wisconsin, at teammate Fincantieri Marinette Marine’s (FMM’s) shipyard. The ship will

be the 16th Freedom-variant LCS ordered by the U.S. Navy to date.

“The team will leverage capital investment and improvement in the shipyard and efficiencies created with serial production to maintain high quality at an affordable cost,” said JoAnn Grbach, senior manager, Naval Programs Communications, Lockheed Martin Rotary and Mission Systems. “Today, there are seven ships in various stages of construction. The Navy just commissioned LCS 13 (Wichita) and we’re preparing to lay the keel for LCS 25 (Marinette).

“We are excited to continue our partnership with the U.S. Navy and FMM to build and deliver capable ships to the fleet,” said Joe DePietro, vice president and general manager, Lockheed Martin Small Combatants and Ship Systems. “With the Freedom variant in serial production, we continue to enhance efficiency and incorporate capability while maintaining ship and program affordability.”

The value of the contract was not released by the Navy yet because of ongoing competition.

USS Gerald R. Ford Accepts First Advanced Weapons Elevator

NEWPORT NEWS, Va. – The Navy’s newest aircraft carrier, USS Gerald R. Ford (CVN 78), closed out 2018 on a high note with the acceptance of the ship’s first advanced weapons elevator (AWE), setting the tone for more positive developments in the year ahead, the ship’s public affairs department said in a

release.

AWE Upper Stage No. 1 was turned over to the ship on Dec. 21 following testing and certification by engineers at Huntington Ingalls Industries-Newport News Shipbuilding, where the ship is currently working through its post-shakedown availability (PSA). The acceptance marks a major milestone for the ship and the Ford-class of aircraft carriers to follow.

USS Gerald R. Ford is the first Ford-class aircraft carrier and is the first new carrier design in over 40 years. Unlike Nimitz-class carrier elevators that utilize cables for movement, the Ford-class elevators are commanded via electromagnetic, linear synchronous motors, allowing for greater capacities and a faster movement of weapons.

The new design will allow the ship to be able to move up to 24,000 pounds of ordnance at 150 feet per minute. This is in contrast to the 10,500 pounds at up to 100 feet per minute on a Nimitz-class carrier.

“This will allow us to load more aircraft faster, and in the long run, increase our overall sortie generation rates,” said Lt. Cmdr. Chabonnie Alexander, Ford’s ordnance handling officer.

But aside from the advantages of the new AWE, the new ship design also offered a chance to streamline the overall movement and assembly of weapons to allow for even greater efficiencies. Ford features three upper-stage elevators that move ordnance between the main deck and flight deck, and seven lower-stage elevators that move ordnance between the main deck and the lower levels of the ship. Ford also features a dedicated weapons handling area between the hangar bay and the flight deck that eliminates several horizontal and vertical movements to various staging and build-up locations. This ultimately offers a 75 percent reduction in distance traveled from magazine to aircraft.

An additional benefit of the ship’s design is a separate utility elevator that can serve as a dedicated elevator to move both ordnance and supplies, and serve as a means to medically evacuate injured personnel from the flight deck to the hangar bay. This allows the 10 main AWEs and Ford’s three aircraft elevators to be dedicated to their primary missions of ordnance and aircraft movement during real-world operations.

To keep up with the new technologies and radical changes that the AWEs offer, Ford Sailors recently completed newly developed familiarization, operations and maintenance training in Newport News to become better educated on how to work with and maintain the elevators. The

crew is now conducting hands-on training where they will validate technical manuals and maintenance requirements cards against the elevator’s actual operation. Their feedback and observations will ultimately inform future Sailors how to properly and safely operate the elevators.

Alexander said Sailors are now training with the elevator, which will complement the classroom instruction they have received to this point.

“Getting this elevator turned over to the ship and allowing our Sailors to get hands-on training on the elevator will help in two ways,” said Alexander. “One, it will help in the training and understanding of the system itself, and, two, to work out any bugs that remain with the system during our PSA.”

Though the first elevator has been accepted, work still remains on the remaining 10. Currently, all shipboard installation and testing activities of the AWEs are due to be completed prior to the end of Ford’s PSA, scheduled for July. However, some remaining certification documentation will be performed for five of the 11 elevators after PSA completion.

According to Alexander, while there was sense of

accomplishment and satisfaction in having the first elevator turned over, the team working on the elevators can't rest on this single event.

"We're all 100 percent invested in this, but there's still work left to do," Alexander explained. "We're all one big team with the same goal in mind: to get these systems operational and turned over to the ship.

"I think it was a greater sense of accomplishment to my Sailors that have been working on these systems for the last four to five years," he said. "To be able to finally push the buttons and watch it operate like it's designed to do was a great feeling. Once these systems are proven, they are going to pay huge dividends for naval strike capability."

Austal USA Reveals Features of Its FFG(X) Conceptual Design for Navy Competition

ARLINGTON, Va. – Austal USA officials have revealed features of its conceptual design for the Navy's competition for the Future Guided-Missile Frigate (FFG(X)), an evolution of its Independence-class littoral combat (LCS) design.

The company has provided an artist's concept and displayed a model Jan. 15 -17 at the Surface Navy Association symposium.

The general form of the Independence is preserved – the trimaran hull, the large flight deck aft, the Mk110 57 mm gun – but many changes are featured.

The Austal FFG(X) design has a longer hull with deck space aft

of the flight deck. Occupying that space is a 32-cell-array Mk41 Vertical Launching System battery and two sets of tube launchers for the Naval Strike Missile. The SeaRAM launcher is forward of the bridge rather than on the aft super structure atop the helicopter hangar.

The helicopter hangar is large enough to accommodate an MH-60 helicopter and an MQ-8C Fire Scout unmanned aerial vehicle. On top of the hangar, where the SeaRAM launcher is on the Independence class, the space was blank.

Terry O'Brien, Austal USA's vice president of business development, said the space was reserved, per the Navy's requirement, for a future directed-energy weapon.

The face of the deckhouse superstructure is not as streamlined as on the Independence. The ship's speed requirement is less than the 40-plus knots of the LCS, and, accordingly, it would be driven by twin controllable-pitch propellers rather than waterjets.

Navy's DDG 51 Manager Revels in Program Stability

ARLINGTON, Va. – The program manager for the Navy's new-construction Arleigh Burke-class (DDG 51) guided-missile destroyers reveled in the stability of the program in wake of the passage of the 2019 defense budget and the approval of multiyear procurement of 10 destroyers.

The first passage of a defense budget in 10 years without a continuing resolution enabled the Navy to proceed early in the fiscal year with a multiyear procurement for fiscal 2018

through 2022 of six DDGs for Ingalls Shipbuilding and four for Bath Iron Works, with each contract offering an option for five more DDGs.

Each shipyard was awarded a DDG in the 2019 budget and Congress awarded a third DDG, with the Navy giving the ship award to Bath Iron Works.

“You know, here we are in January and all my ships are awarded,” Capt. Casey Moton, the DDG 51 program manager, said Jan. 16 at the Surface Navy Association symposium. “It’s a good deal. I like that.”

Moton said the multiyear procurement was “very important to us” and would bring cost savings in terms of economic quantity of order.

He said that the program has 22 ships under contract, 10 of them currently under construction. The first Flight III version, DDG 125, is one of the ships under construction at Ingalls. Its keel-laying is scheduled for June. The first Flight III ship to be built at Bath Iron Works is DDG 126, the construction of which will begin this year. A total of 13 Flight III ships are under contract.

The Flight III has capability enhancements including the Raytheon-built SPY-6 Air and Missile Defense Radar and Aegis Baseline 10/Technical Insertion 16 software. The SPY-6 gives a 15-decibel increase in sensitivity over the SPY-1 radar on the earlier DDG flights. An air conditioning capacity of more than double the current capacity will give the increased cooling needed by the Flight III ships.

Moton said the testing of the SPY-6 “has gone very well” and has performed successfully in 14 ballistic-missile tracking events, with one more test to go.

He said that a SPY-6 radar will be installed at the Lockheed Martin facility in Moorestown, Pennsylvania, for “full array

integration with the Aegis Baseline 10 Combat System.

Despite the favorable fiscal climate, Moton stressed that “shipbuilders need to continually work to get cost down.”