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."

Panel Outlines Navy's Push for Accelerated Acquisition

ARLINGTON, Va. – With pressure and support from the Navy's top civilian leaders, key officials in the research, development and acquisition community are pushing an accelerated acquisition process that one key official said was aimed at rapidly moving "those programs we cherish most" to the fleet.

The concept focuses on ensuring that those programs picked as priorities by Chief of Naval Operations Adm. John Richardson

“meet the milestones” of the path from concept to deployment, Rear Adm. James Kilby, director Warfare Integration, said Jan. 16. Those include the MQ-25 Stingray unmanned carrier-based aerial refueling plane and numerous unmanned undersea systems, Kilby said in a panel discussion at the Surface Navy Association’s annual symposium.

That accelerated procurement process is pushed aggressively by James Geurts, the deputy Navy secretary for Research, Development and Acquisition, and supported by Navy Secretary Richard Spencer, panel members said.

William Bray, Geurts’ deputy, said his boss champions the four “Ds,” with a primary one being “decentralization” – with “differentiate,” “digitize” and “develop” as the others. Following that guidance, “we have pushed decisions down to” program executive officers (PEOs) and program managers (PMs), which “allows them to make real-time decisions,” Bray said.

Geurts also has put out guidance on the new authorities granted by recent congressional reforms to the cumbersome acquisition process, “making sure we’re moving the right things,” Bray said. He also has promoted other transactions authorities (OTAs), which give the PEOs and PMs the tools to do things differently than following the traditional acquisition rules.

“We’re not going to buy an aircraft carrier with OTAs,” but can acquire a lot of other systems that go into a carrier, Bray said.

Rear Adm. Douglas Small, PEO for Integrated Warfare Systems, which now includes unmanned systems, said in the process “from ideation to on ship, we’re setting a land speed record.”

Rear Adm. Ronald Boxall, director of Surface Warfare, said one of the systems that was moved to operational use on a ship was the experimental laser system initially deployed to the Persian Gulf on the USS Ponce.

Members of the audience, including former acquisition officials, questioned how the current procurement leaders were going to change the culture that tends to stay with the familiar, although slow, traditional process.

Bray noted that another of Geurts' four Ds was developing a workforce that will keep the process going.

And Boxall said that of all his program managers, "none say 'how can I slow this down?' What we love about accelerated acquisition is the ability to move forward."

Members of the panel sought to reassure skeptical members of the audience that the accelerated process did not look at just developing systems quickly but focused on how to get them integrated into ships and ensure they are useable by the warfighters.

Fleet Forces Commander: Careful Balance Needed Between Current and Future Readiness

ARLINGTON, Va. – The growing threat of great power competition and a shrinking industrial base means that being able to fight with the Navy the nation has now is as important as building the Navy the nation needs for the future, Adm. Christopher Grady said Jan. 17.

"That places greater emphasis on current readiness. … We must squeeze every ounce of readiness out of every dollar we get,"

Grady, the commander of Fleet Forces Command, told the Surface Navy Association's annual symposium.

Grady also warned that the Navy must rethink its traditional battle doctrine of concentrating forces against an enemy.

"We have to recognize that, given the reach and capabilities of our competitors, force concentration may be problematic," he said. That means commanders must think of "massing effects rather than massing forces."

That shift in tactics is indicated in Chief of Naval Operations (CNO) Adm. John Richardson's new concept for maritime dominance that advocates distributed maritime operations (DMO), Grady said.

After decades of unfettered control of the sea, "we are once again in a long-term strategic competition with nations that want to change the international order in their favor," he said. In addition to being in an era of great power competition, "we are in a maritime era," and with the CNO's naval strategy and the new National Defense Strategy, the Navy has a maritime strategy "to address the security challenges of this era."

Grady said the new strategic era ends the 18 years of focus on land warfare in which fleet commander served as force providers to the combatant commander. Now, fleet commanders once again "can command and control forces at the operational level of war," and employ the concepts of DMO to mass combat effects at the fight time, he said.

But in preparing the Navy for the new era, Grady noted the need to balance efforts to build the Navy the nation needs with the requirement to be able to fight today if necessary.

The Navy the nation needs is bigger, more capable and agile, he said. "But just as important as building the Navy the nation needs, is fighting with the Navy the nation has. … We

aim to both build and sustain a lethal force" and to maintain a balance "between future readiness and current readiness" to be able to fight today.

The need to sustain the current force is made more essential due to the shrinkage in the industrial base, particularly shipbuilding, since the end of the Cold War and during the time of budget constraints and threat of sequestration, Grady said. "We are no longer the world's largest manufacturer and have significantly less shipbuilding capacity that our rivals," he said, apparently referring more to China than to Russia.

The smaller industrial base is aggravated by the highly technical nature of war and combat systems, he added. "It simply takes more time and superior craftsmanship to build a fifth-generation fighter than it did to build a P-51 Mustang" for World War II.

That means the U.S. industrial base is unlikely to be able to provide the surge of combat systems as it did in the 1940s, he said. And that demands greater focus on sustaining the current fleet, speeding up the acquisition of new technologies and training the force to fight and win with the Navy the nation has, Grady said.

NAVSEA Officials Tout Progress in Building the Future Fleet

ARLINGTON, Va. – Two years of higher defense budgets and the 2019 funding approved early for the first time in a decade

enable Naval Sea Systems Command (NAVSEA) to make significant progress in building the future surface fleet, four of its top officers said Jan. 17.

The increased pace of surface ship construction also was helped by the new emphasis and authorities for accelerated acquisition from Congress and the Navy leadership, and by NAVSEA's drive for greater commonality and modularity in programs across the wide range of surface warfare platforms, the panel led by Vice Adm. Thomas Moore, NAVSEA commander, told a Surface Navy Association symposium audience.

Rear Adm. William Galinis, program executive officer (PEO) for ships, cited a long list of accomplishments, including the five-year contract for 10 DDG 51 Flight III destroyers, the contract for the first six of 12 John Lewis-class fleet oilers, delivery of the second DDG 1000 Zumwalt-class destroyer, advances on two major amphibious ship programs and continued work on defining the next large surface combatant.

"The big thing for us was getting funding in September," ahead of the Oct. 1 start of the 2019 fiscal year. "We were able to get a number of ships under contract," Galinis said.

Rear Adm. John Neagley, PEO for unmanned and small combatants, touted delivery of five littoral combat ships (LCSs) last year and four planned to deliver this year, nearing design completion for the new frigate and developmental work on a family of unmanned systems.

Getting the budget on time allows program officials to take advantage of economy of scale, Neagley said. He also noted being challenged by James Geurts, assistant Navy secretary for research, sevelopment and acquisition, "to go faster."

And Rear Adm. Douglas Small, PEO for integrated weapons systems, noted the "big push for us to get modular, scalable systems for a lot of ships," ranging from the LCS, proposed frigate and unmanned craft to aircraft carriers.

The common combat systems for a range of vessels will not only save money but reduce crew training as Sailors move between ship types, and could speed up integration of systems in new ships, Small said.

“We’re also pushing very hard on how we integrate new systems faster,” he said.

Moore asked his PEOs what they were doing to speed up ship programs and reduce costs, and they noted the advantages of block buys, applying lessons from early ships to cut time and cost of follow-on contracts, and earlier and expanded contact with industry.

The panel also talked about efforts to reduce life-cycle costs by considering sustainment factors in ship design and construction and allowing modernization of electronic systems by new software rather than hardware.

Moore said the effort to reduce costs and construction time went beyond surface warships. “We talk about one NAVSEA,” he said, noting the constant coordination with PEOs for submarines and aircraft carriers and more coordination between the public and private shipyards.

Getting more ships for a limited budget also can be aided by the push for more unmanned systems, which range from small to large diameter and include both surface and undersea vessels.

Navy FFG(X) Program Cost Estimates Trending Downward

ARLINGTON, Va. — The cost estimates of the Navy’s future

guided-missile frigate (FFG(X) are coming in under the required threshold and trending downward toward the cost objective, the program manager said.

Speaking Jan. 17 to an audience at the Surface Navy Association symposium, Dr. Regan Campbell noted that the cost threshold for the ship will be under the $950 million threshold (in fiscal 2018 dollars).

“We started close to the $950 [million],” Campbell said. “We’re trending close to the $800 [million].”

She estimated that government-furnished equipment will total to one-third of the cost of the ship. Most of the equipment is common with other ship types, its selection aiding in the control of costs.

The Navy plans to fund one FFG(X) in 2020 and two per year thereafter for a current requirement of 20 ships.

The program office has completed a set of initial design reviews of the five competing designs and is planning a second set this spring. The program is in the 11th month of the 16-month conceptual design phase competition.

“We now have a CDD [Capabilities Description Document] that has been Navy-approved,” Campbell said, noting that the program is soon coming up for approval before the Joint Requirements Oversight Committee. “Our requirements are secure.”

The program office expects to issue a draft request for proposals in the spring for a detailed design and construction contract award in the fourth quarter of 2020. The down-select will award only one design.

The FFG(X) will be equipped with the Raytheon-built Enterprise Air Search Radar, the Mk110 57 mm gun, the Mk41 Vertical Launching System – armed with the Standard Missile-2 surface-

to-air missile and Block II of the Evolved SeaSparrow Missile – the Block II of the SLQ-32 SEWIP (Surface Electronic Warfare Improvement Program), with a space reservation for SEWIP Block III. The ship will be able to carry one MH-60R Seahawk helicopter and one MQ-8C Fire Scout unmanned aerial vehicle.

Navy Surface Chief: Western Pacific Ship Readiness Improving

ARLINGTON, Va. – The readiness of the Navy's Forward-Deployed Naval Forces (FDNF) stationed in Japan is improving, the Navy's surface warfare chief said, crediting a new command, the Naval Surface Group Western Pacific, with driving much of the improvement.

"The ships are producing better readiness," Vice Adm. Richard A. Brown, commander, Naval Surface Forces and Naval Surface Force Pacific, told reporters in a Jan. 11 teleconference, noting that there was "a lot of hand-wringing" when the additional layer of command was added to the FDNF following the two 2017 at-sea collisions involving the Arleigh Burke-class guided-missile destroyers USS Fitzgerald and USS John S. McCain.

Investigations revealed that many FNDF surface ship crews were going on patrol without all of the certifications in specific warfare areas, caused in part by heavy operational schedules that hindered crew training in all of the required areas.

The Naval Surface Group Western Pacific was established to provide more supervision of the training and other support to

the FNDF surface ships.

“The Naval Surface Group Western Pacific is on point,” Brown said, noting that ships in the group are now “going out fully certified.”

LCS Mission Modules Progressing Toward Operational Capability

ARLINGTON, Va. – The various mission modules for the three mission packages designed for the Navy’s littoral combat ship (LCS) are progressing through their testing milestones toward their initial operational capability (IOC), a Navy official said.

“This is really a good time to be in mission modules,” Capt. Ted Zobel, the Navy’s mission module program manager, said Jan. 15 at the Surface Navy Association annual symposium, noting that two years ago progress was less impressive.

Zobel is in charge of development of mission modules for three mission packages currently in development for the LCS: Surface Warfare (SUW) Anti-Submarine Warfare (ASW) and Mine Countermeasures (MCM).

He said that the Surface-to-Surface Mission Module of the SUW package – a launcher that fires the Hellfire Longbow missile – has completed developmental test on USS Milwaukee (LCS 5) and USS Detroit (LCS 7) and is in operational test on Detroit. A total of 55 missiles have been fired to date with a greater than 91 percent hit rate. He showed a video of the missiles

being fired from an LCS and successfully destroying a swarm of six high-speed targets.

Zobel said the Hellfire missiles countered the targets that were “pretty representative of an attack by FIAC (fast inshore attack craft).”

The SSMM will reach IOC in the second quarter of 2019 on USS Jackson (LCS 6).

The preproduction test article of the ASW package’s Variable-Depth Sonar (VDS), delivered from Raytheon in November, is going through testing on board a ship at the Atlantic Underwater Test and Evaluation Test Center at Andros Island in the Bahamas. The VDS is scheduled for installation on USS Fort Worth (LCS 3) during the third quarter of 2019, with developmental test scheduled for August or September.

Zobel said the VDS “should be able to [reach] IOC in 2020.”

With the COBRA (DVS-1 Coastal Battlefield Reconnaissance and Analysis) sensor reaching IOC last year, all three aviation mission modules of the MCM mission package are certified to deploy on an Independence-variant LCS. During fiscal 2019, the MCM package will be integrated on a Freedom-variant LCS, Fort Worth.

Zobel said the Knifefish MCM autonomous underwater vehicle went through integration testing on an Independence-variant LCS in December. The UISS (Unmanned Influence Sweeping System) was in its last week of integration testing and is on track for developmental test and operational test by 2021. The full MCM package is slated to reach IOC in 2022.

Navy Starting Dialogue for Future Surface Combatant USVs

ARLINGTON, Va. – The Navy is beginning to move forward on its plans for a force of future combatants that will include three types of unmanned surface vessels (USVs), a service official said.

The Navy "is just starting a dialogue with industry," Capt. Peter Small, the Navy's program manager for Unmanned Maritime Systems, said Jan. 15 at the Surface Navy Association symposium.

The Navy envisions the Future Surface Force to include a Large Surface Combatant, a Small Surface Combatant, a Large USV, a Medium USV and a Small USV. The concept is in the technology maturation phase of development.

Under the concept, a Large USV is envisioned to provide distributed fires. The Medium USV is envisioned to provide distributed sensing and communications relay. The Small USV – the Mine Countermeasures USV – would provide mine sweeping, mine hunting and mine neutralization.

The Large USV could be partially manned or optionally manned, Small said.

A draft request for proposals is expected to be issued for the Medium USV within the next two months.

The Office of Naval Research (ONR) currently is experimenting with the Sea Hunter medium-displacement USV, a vessel developed by the Defense Advanced Research Projects Agency and turned over to ONR for further concept and technology development. A second Sea Hunter is being built by Liedos for the Navy.

Small said he expects the Sea Hunter to be transferred to the Unmanned Maritime Systems program office in the future and that his office is “working to extract all the information that we can.”

Small stressed that the Navy must be able to adapt and upgrade future USVs using a standardized architecture that will be streamlined enough to avoid complex intertwining as systems are added or changed.

Over the next two years, Small said, the Navy will develop the Unmanned Maritime Autonomy Architecture, which is intended to become a feature of future requests for proposals.

Small said the Navy is taking a “crawl, walk, run” approach to development of the future USVs and their command and control systems, stating that it needed to bring craft into service “such that we can learn along the way.”