NAVSEA Commander: Bullish on Ford Aircraft Carrier; Columbia Submarine “On Track”

WASHINGTON – Despite the continuing problems with some of the advanced technology systems and the extensive overruns in cost and schedule with the next-generation aircraft carrier, “15, 20 years from now, we’re going to be very happy we have that Ford class carrier around. It’s an amazing platform that can do incredible things,” the Navy’s top shipbuilding official said Feb. 19.

“I’m very bullish on [Gerald R.] Ford. We will work our way through the technology challenges we have with that ship” and will have overcome those challenges for the next ships in the class, VADM. Thomas J. Moore, commander Naval Sea Systems Command (NAVSEA) said.

Moore also said the first Columbia-class ballistic-missile submarine is “on track” to meet the critical 2031 operational date to replace the aged Ohio-class boats in the strategic nuclear deterrence mission, but he is concerned about the potential impact the high cost of the 12 Columbias could have on other shipbuilding programs.

And Moore said increasing the capacity and performance of the private ship repair yards in order to keep existing ships in service longer, which could be key to reaching the goal of a 355-ship fleet, “is the number on challenge that I have in NAVSEA right now.”

Moore spent a large part of a breakfast session with the Defense Writers Group answering questions about the Gerald R. Ford, the first of a dramatically redesigned class of nuclear-powered carriers, which has become an example of the problems of attempting too much innovation in a single step.

“This is a completely new ship in almost every aspect beside the design, the shape of the hull. A lot of learning is going on there,” Moore said.

The admiral said the criticism that the Navy attempted too many technology leaps with Ford, designated CVN 78, was “probably a fair assessment. The original plan was not to put all the technology on the first ship, but to build it in stages… We probably bit off an awful lot on Ford, and we see the net result of that.”

Some of the biggest problems that are still being resolved were with the Electro-magnetic Launching System (EMALS) that replaced the traditional steam catapults, the Advanced Arresting Gear (AAG) in place of the hydraulically restrained system, and the Advanced Weapons Elevators.

Although the Pentagon’s operational test director faulted the performance of the first two systems in a recent report, Moore said: “We did more (aircraft) launches and recoveries than we had planned – almost double – during the shakedown

period. And the components of those systems got better as we learned how to operate them… So I’m not at all concerned that EMALS and AAG will ring out the technical issues and the reliability will go up.”

The Navy certified the first of the 11-planned weapons elevators in December, 18 months after accepting the Ford from Newport News Shipbuilding. Moore said the second one would be accepted “shortly,” and the goal was to have them all installed and tested before Ford finishes an extended yard period this summer.

The main problem was with software for the sophisticated electronic control systems, he said. NAVSEA has recognized that it made a mistake in not creating a land-based test facility to work out problems with the elevators, as it did with EMALS and AAG, and now is building that test site.

The Navy’s top procurement priority is the Columbia SSBN to replace the Ohio class subs that provide 60 percent of the nation’s strategic deterrence capabilities and are considered the most survivable element. Despite a problem with faulty welding on the missile tubes, Moore said, “we’re still on track to deliver the ship on time to start its first patrol” in 2031.

He said Electric Boat is “well on its way” to building the first hull and the powerful electric motor that will drive the sub is being tested at a facility in Philadelphia.

Key members of the congressional seapower panels have expressed concern that the estimated $7 billion cost of the Columbia boats will eat up a large share of the annual shipbuilding account when they go into serial production, starting in 2026.

To avoid that, they created the National Sea-based Deterrence Fund to pay for Columbia. But the Pentagon has not been putting money into the separate fund.

Moore said NAVSEA is a supporter of the Deterrence Fund and noted that when serial production of the Columbia’s start, the Navy also will be building the Flight III DDGs and the new frigates, starting the future surface combatants and committed to a two-ship buy for the aircraft carriers. “It’s an aggressive shipbuilding program and clearly the cost of the Columbia on top of that is a challenge.”

Moore explained that the Navy has determined that it cannot reach its 355-ship goal just by new construction and is working on keeping its existing warships in service for at least 45 years, rather than the normal 30 years. But key to that is regular and on-time maintenance, which is handicapped by the lack of capacity in the private repair yards. Designing policies that will give the private yards the predictability needed to maintain an adequate workforce and improve their

facilities is a priority, he said.

Mercury Systems Receives $3.5M Order for Rugged Servers for Naval Application

ANDOVER, Mass. – Mercury Systems Inc. has received a $3.5 million order from a leading defense prime contractor for rugged servers to be used in a naval subsurface application, the company announced in a Feb. 12 release. The order was booked in the Company's fiscal 2019 third quarter.

Mercury's EnterpriseSeries servers are currently deployed on over forty naval programs. Designed from the ground up for mission critical applications where interoperability, longevity, availability and performance are crucial, Mercury's servers feature commercial leading-edge technologies while providing superior resilience to shock, vibration and temperature extremes.

"We are proud to provide our customers with a wide variety of servers designed for suitability in a variety of military domains, in this case, the demanding environment of our Navy's subsurface fleet," said Scott Orton, vice president and general manager of Mercury's Trusted Mission Solutions group. "With a broad range of surface, subsurface, ground and airborne deployments, Mercury continues to develop and support server solutions that can be optimally configured to meet our customer's performance, reliability, environmental and security needs."

Department of the Navy Announces New Education Initiatives

WASHINGTON – The Department of the Navy (DoN) released its Education for Seapower report Feb. 12, along with the Secretary of the Navy's action memorandum, providing the way forward for the new education initiatives for the department, according to a release of the same date from the undersecretary of the Navy's public affairs officer.

The Education for Seapower study was a clean-sheet review of naval learning and focused on flagship institutions like the U.S. Naval Academy, Naval Postgraduate School, and Naval and Marine War Colleges, along with a fresh look at the relationships with civilian academic institutions and corporate learning structures.

Members of the Education for Seapower Executive Board included luminaries such as Adm. Mike Mullen, USN(Ret.), Gen John Allen, USMC(Ret.), Amb. Barbara Barrett, Vice Adm. Ann Rondeau, USN(Ret.), and Dr. Harlan Ullman.

"I am convinced, now more than ever before that the intellectual development of our naval leaders is the most critical warfighting capability for our national security," said the Navy Secretary Richard V. Spencer. "That is why the Department of the Navy intends to create a Naval University System that further integrates and aligns naval education to the need of the enterprise."

Highlights from the memorandum include a new secretary of the Navy staff assistant, Chief Learning Officer for naval

education, intent to establish a Naval Community College with universal transcripts so enlisted Sailors and Marines can soon earn accredited associate's degrees in technology-rich fields, and a new Naval University System that retains the strengths of current educational institutions, while aligning strategic intent in order to provide increased agility. While the Department of the Navy is enacting these changes, many initiatives within them will, over the next year, be evaluated for their efficacy before being fully implemented.

"Any success we may enjoy in the future will be enabled by an ever-more-agile force – led by agile people who thirst for knowledge and who are adept at thinking, learning, and processing information quickly," said Undersecretary of the Navy, Thomas B. Modly. "The development of such a force does not happen by accident. It must be constantly cultivated through a renewed emphasis on education, and the deliberate construction of a learning culture across the entire naval service."

Navy to Commission Littoral Combat Ship Tulsa

ARLINGTON, Va. – The Navy will commission its newest Independence-variant littoral combat ship, the future USS Tulsa (LCS 16), during a 10 a.m. PST ceremony Saturday, Feb. 16, at Pier 30/32 in San Francisco, the Defense Department announced in a Feb. 13 release.

U.S. Sen. James Lankford of Oklahoma will deliver the commissioning ceremony's principal address. Kathy Taylor, former mayor of Tulsa, Oklahoma, is the ship's sponsor. The

ceremony will be highlighted by a time-honored Navy tradition when Taylor gives the first order to “man our ship and bring her to life!”

“This ship is named in honor of Tulsa, Oklahoma, but represents more than one city,” said Navy Secretary Richard V. Spencer. “USS Tulsa represents an investment in readiness and lethality and is a testament to the increased capabilities made possible by a true partnership between the Department of the Navy and our industrial base.”

The future USS Tulsa is the second naval vessel to honor Oklahoma’s third largest city. The first USS Tulsa was an Asheville-class gunboat designated as PG 22 that served from 1923 to 1944 before being renamed Tacloban. She earned two battle stars for World War II service. A cruiser to be named USS Tulsa was also authorized for construction during World War II, but the contract was canceled before it was built.

LCS is a highly maneuverable, lethal and adaptable ship designed to support focused mine countermeasures, anti-submarine warfare and surface warfare missions. The ship integrates new technology and capability to affordably support current and future mission capability from deep water to the littorals.

The LCS class consists of two variants, the Freedom variant and the Independence variant, designed and built by two industry teams. The Independence variant team is led by Austal USA, Mobile, Alabama, (for LCS 6 and the subsequent even-numbered hulls). The Freedom variant team is led by Lockheed Martin, Marinette, Wisconsin, (for the odd-numbered hulls).

USS Tulsa will join USS Freedom (LCS 1), USS Independence (LCS 2), USS Fort Worth (LCS 3), USS Coronado (LCS 4), USS Jackson (LCS 6), USS Montgomery (LCS 8), USS Gabrielle Giffords (LCS 10), USS Omaha (LCS 12) and USS Manchester (LCS 14) in their homeport of San Diego.

The ceremony, using hashtag #USSTulsa, can be viewed on the Navy Live blog at http://navylive.dodlive.mil.

SPAWAR Systems Center Names Change to Naval Information Warfare Centers

SAN DIEGO – Space and Naval Warfare Systems Command (SPAWAR) announced it will change the names of its Echelon III systems centers, SPAWAR Systems Center Atlantic in Charleston, S.C. and SPAWAR Systems Center Pacific in San Diego, Calif., to Naval Information Warfare Center Atlantic and Naval Information Warfare Center Pacific, respectively, SPAWAR Public Affairs said in a Feb. 13 release.

The changes will be effective Feb. 18. The new language "Naval Information Warfare Center," with the acronym NIWC, (pronounced Nī' wick) will apply to the names of all Naval Information Warfare Center sites falling under NIWC Pacific and NIWC Atlantic worldwide.

SPAWAR Commander Rear Adm. Christian Becker made the announcement Feb. 13 in his address to attendees at the WEST 2019 conference co-hosted by the U.S.

Naval Institute (USNI) and the Armed Forces Communications and Electronics

Association (AFCEA) at the San Diego Convention Center.

The name change demonstrates that information is a fundamental element of warfare, an essential concept of the Navy's Design for Maritime Superiority 2.0.

Use of ‘warfare centers’ in the names reflects the centers’ focus, core capabilities and importance in the full spectrum of warfighting. It also improves clarity of mission and purpose with stakeholders across the fleet and industry and throughout the broader Information Warfare community and Naval Research and Development Enterprise.

The name Naval Information Warfare Center also aligns the centers with Naval Air Systems Command’s air warfare centers and Naval Sea Systems Command’s surface and undersea warfare centers.

The intent of the name change is to recognize the importance of the Information Warfare mission and does not signal a change in SPAWAR’s mission of identifying, developing, delivering and sustaining information warfighting capabilities.

“The advantage information warfare brings to the fight is at the core of our Navy’s ability to compete and win today and in the coming decades,” said Becker. “Recognizing our systems centers as Naval Information Warfare Centers reaffirms our commitment to accelerate the development and delivery of advanced warfighting capabilities to the fleet.”

OPT to Develop Fiber Optic Mooring Technology for the Naval Air Warfare Center

MONROE TOWNSHIP, N.J. – Ocean Power Technologies Inc. (OPT) has been awarded a contract award from the U.S. Navy valued at $125,000, and an additional three options totaling $100,000

for a total potential contract value of $225,000, the company announced in a Feb. 12 release. Under this contract, OPT will immediately begin the development of a buoy mooring system which incorporates fiber optics for the transmission of subsea sensor data to airplanes, ships and satellites. OPT will execute the work under its Innovation and Support Services line and will leverage its many years of experience with marine systems and U.S. Navy programs to address the Navy's need for reliable and low-cost "optical-mechanical mooring cables." Importantly, the fiber optic mooring concepts developed under this contract may be incorporated into OPT's PowerBuoy and Subsea Battery Module product lines.

"We're very excited for this Phase I award by the U.S. Navy to develop a fiber optic mooring line which may be used for both defense and commercial applications," said George Kirby, CEO of Ocean Power Technologies. "We believe that this new contract award further validates our technical expertise and experience with ocean energy systems and could also lead to additional future contract awards where we might utilize OPT technologies which are already in advanced stages of development. To date, OPT has earned 28 U.S. government awards, including eight Phase I awards, which led to five Phase II efforts and 15 Phase III efforts, all related to marine systems and applications. We welcome the opportunity that this new contract brings, and this award now allows us to immediately bid on a Phase II contract."

OPT has submitted several proposals to the U.S. Navy and the Office of Naval Research under its Innovation and Support Services line on topics such as powering acoustic and nonacoustic sensors and improving the persistence of unmanned underwater vehicles through battery recharging and critical data transfer. Additionally, OPT has successfully advanced its anchorless PowerBuoy design under a prior contract with the Office of Naval Research and is seeking to prototype the design for both defense and commercial applications.

“OPT has a long work history on Department of Defense projects,” Kirby said. “Our most recent government effort has been around advancing our anchorless PowerBuoy design, and we’re nearing the prototype stage. The anchorless PowerBuoy design is very encouraging to our customers due to its innovative and patented approach to power generation and also the need for a quick-deploy solution throughout markets such as defense and offshore oil and gas.

“In addition, these markets are undergoing a radical transformation to cleaner and more efficient all electric, all digital and all autonomous subsea operations,” he said. “Rapid deployment of persistent power and real-time subsea data communications is the enabling technology. Thanks to our efforts over the past few years, OPT is positioned and ready to enable this transformation today. In fact, we currently have one PowerBuoy deployed for a global oil and gas operator, another

which is undergoing preparation for deployment, and we have two additional PowerBuoys in various stages of production.

Final Resting Place of USS Hornet CV-8 Located in South Pacific

SEATTLE – Wreckage of the World War II aircraft carrier USS Hornet rests on the floor of the South Pacific Ocean around the Solomon Islands, 5,400 meters (nearly 17,500 feet) below the surface as discovered last month by the expedition crew of Paul G. Allen’s Research Vessel (R/V) Petrel, the Navy’s website said in a Feb. 12 post.

Hornet was best known for its part in the fateful Doolittle Raid that was launched in April of 1942, which was the first airborne attack of Japanese homeland targets including Tokyo. Led by U.S. Army Lt. Col. James Doolittle, all of the 16 B-25 planes that were launched from Hornet were unable to land at their designated airstrip in China, but the raid provided a boost to American morale, and put Japan on alert about our covert air capabilities.

In June, Hornet was one of three American carriers that surprised and sunk four Japanese carriers at Midway, turning the tide of war in the Pacific.

The ship was sunk during the exceptionally vicious Battle of Santa Cruz Island that started Oct. 25, 1943. Hornet proved an especially determined ship over the next 24 hours. Enduring a relentless, coordinated attack by Japanese dive-bombers and torpedo planes, her crew was ultimately forced to abandon the ship due to damage and resulting fires. She then defied American efforts to scuttle her with 16 torpedoes and 369 rounds of 5-inch shells. When Japanese forces approached shortly thereafter and fired four torpedoes from two Japanese destroyers late in the evening of Oct. 26, Hornet finally succumbed and slipped beneath the surface. She lost 111 Sailors from her crew of nearly 2,200.

“With the loss of Hornet and serious damage to Enterprise, the Battle of Santa Cruz was a Japanese victory, but at an extremely high cost,” said retired Rear Admiral Samuel Cox, director of Naval History and Heritage Command. “About half the Japanese aircraft engaged were shot down by greatly improved U.S. Navy anti-aircraft defenses. As a result, the Japanese carriers did not engage again in battle for almost another two years.”

“Naval aviation came of age in World War II and American Sailors today continue to look to and draw inspiration from the fighting spirit of ships and crews like USS Hornet (CV 8),” Vice Chief of Naval Operations Adm. Bill Moran added. “Although her service was short-lived, it was meteoric.

“In the dark days following the Japanese surprise attack on

Pearl Harbor, she and the Doolittle Raiders were the first Americans to punch back at Japan, giving hope to the nation and the world when things looked bleakest," Moran said. "She was there when the American Navy turned the tide in the Pacific at the Battle of Midway, and she was there when America started the long drive to Tokyo in the Solomon Islands. Mortally wounded during the vicious campaign at Guadalcanal and abandoned after all attempts to save her failed, she was finally sent below by the Japanese destroyers Akigumo and Makigumo.

"As America's Navy once again takes to the sea in an uncertain world, Hornet's discovery offers the American Sailor a timeless reminder of what courage, grit and commitment truly look like," Moran continued. "We'd be wise as a nation to take a long, hard look. I'd also like to thank the crew of Petrel for their dedication in finding and honoring her sacrifice."

The discovery of Hornet was made during R/V Petrel's first mission of 2019 after relocating from the Philippine Sea to the Solomon Islands to spend winter months in this arena. Operating out of Guadalcanal, the area is rich in history and prominence in terms of naval engagements.

"We had Hornet on our list of WWII warships that we wanted to locate because of its place in history as an aircraft carrier that saw many pivotal moments in naval battles," said Robert Kraft, director of subsea operations for Vulcan. "Paul Allen was particularly interested in historically significant and capital ships, so this mission and discovery honor his legacy."

The 10-person expedition team on the 250-foot R/V Petrel was able to locate Hornet's position by piecing together data from national and naval archives that included official deck logs and action reports from other ships engaged in the battle. Positions and sightings from nine other U.S. warships in the area were plotted on a chart to generate the starting point for the search grid.

In the case of Hornet, she was discovered on the first dive mission of Petrel's autonomous underwater vehicle and

confirmed by video footage from the remotely operated vehicle, both pieces of equipment rated to dive down to 6,000 meters.

Future LCS USS Cincinnati Completes Acceptance Trials

MOBILE, Ala. – The future USS Cincinnati (LCS 20) successfully concluded acceptance trials in the Gulf of Mexico Feb. 8, following a series of in-port and underway demonstrations for the Navy's Board of Inspection and Survey, the Program Executive Office-Unmanned and Small Combatants said in a Feb. 12 release.

Acceptance trials are the last significant milestone before the ship is delivered to the Navy, which is planned for this summer. During trials, the Navy conducted comprehensive tests of the Independence-variant littoral combat ship (LCS) to demonstrate the performance of the propulsion plant, ship-handling and auxiliary systems.

"I can't say enough about the positive results achieved by the Navy and industry team during these acceptance trials of the future USS Cincinnati," said Capt. Mike Taylor, LCS program manager. "She's well into her journey to be delivered to the Navy this summer and will provide needed and cost-effective warfighting capability to the fleet and the nation."

Following delivery and commissioning, Cincinnati will join her nine sister ships already homeported in San Diego, USS Independence (LCS 2), USS Coronado (LCS 4), USS Jackson (LCS 6), USS Montgomery (LCS 8), USS Gabrielle Giffords (LCS 10), USS Omaha (LCS 12), USS Manchester (LCS 14), the future USS Tulsa (LCS 16) and the future USS Charleston (LCS 18).

Four more Independence-variant ships are under construction at Austal USA in Mobile. Final assembly is well underway on the future USS Kansas City (LCS 22) and Oakland (LCS 24). Modules for the future USS Mobile (LCS 26) are under construction in the module manufacturing facility and construction on the future USS Savannah(LCS 28)commenced last summer. Additionally, Austal is preparing for construction of the future USS Canberra (LCS 30), Santa Barbara (LCS 32), Augusta (LCS 34), Kingsville (LCS 36) and Pierre (LCS 38).

LCS is a highly maneuverable, lethal and adaptable ship designed to support focused mine countermeasures, anti-submarine warfare and surface warfare missions. The Independence-variant LCS integrates new technology and capability to affordably support current and future mission capability, from deep water to the littorals.

LCS is now the second-largest surface ship class in production. In 2018, five LCSs were delivered to the Fleet and three will be delivered in 2019 – a pace not seen since the 1990s.

SECNAV Spencer: Navy Problem Solvers 'Need to Look Outside the Wire'

WASHINGTON – Naval officials need to seek solutions from industry and academia to meet the technological and acquisition challenges of the future, the civilian head of the Navy and Marine Corps said.
"One of the drums that I beat to everybody up and down the ladder is, if you are acquiring things, if you are looking for

solutions to your problem, look outside the wire," said Navy Secretary Richard V. Spencer, speaking Feb. 8 at the Center for Strategic and International Studies (CSIS), a Washington think tank. "Because I will almost guarantee you: some organization out there, whether large corporate, middle corporate, or small company has probably gone through the same problem you are or have a solution or something that looks like your solution.

"This goes to 'should cost' before you find out what it does cost," he said. "Frame your argument, frame your data which you can glean from the outside. One thing that we have learned in this exercise is that corporate America and academic America will bend over backwards to help the services of this country."

Spencer said that the Department of the Navy and the defense industry are partners in solution-providing and that the department needs to be a "responsible client" of the defense industry.

"I have to be clear on what I need and what I can provide," he said, speaking of the need to set clear and firm requirements in an acquisition program.

With the additional resources for readiness provided by Congress in the fiscal 2017 to 2019, "the foundation for readiness has been set," Spencer said. "Everyone understands they have the resources. This is all being done now to the mantra of urgency.

"We have money, we have plans, we cannot buy time, and that is the biggest stressing point we have right now," he said.

Spencer said the department is "reviewing every single platform that we have as far as how we're going to go forward with modernization, what we're looking at to acquire, and what I call the Force 2.0, which are those weapons systems and concepts that we're developing."

Spencer was appearing at CSIS with his Army and Air Force counterparts, Secretary Mark Esper and Secretary Heather Wilson, respectively.

Analyst: Navy Needs to Re-Configure Carrier Air Wings for Future Fight

WASHINGTON – The Navy needs to change the structure of its future carrier air wings (CVWs) in the future to meet future threats, particularly in high-end combat against potential adversaries such as China and Russia, a team of defense analysts said in a published report.

"If the U.S. Navy is going to continue to invest in aircraft carriers, it need to re-consider how it's going to configure its [carrier] air wings," said Bryan Clark, a senior fellow at the Center for Strategic and Budgetary Assessments, a Washington think tank, speaking Feb. 7 at the center about the new report, Regaining the High Ground at Sea: Transforming the U.S. Navy's Carrier Air Wing for Great Power Competition.

The Navy's current CVW "is not designed for the way we're going to operate in the future," Clark said. "I would even go further to say, unless the Navy is going to re-configure its air wings, it should reconsider its continued investment in aircraft carriers."

Clark briefed the audience on worst-case scenario where an adversary such as China could launch a salvo of 600 1,000-

pound-class weapons at a carrier strike group and recommended the type of defenses, including a CVW, that would be needed for a carrier to operate in the ocean in a high-end fight.

The report said that today's CVWs "lack the reach to operate at sufficient ranges from operational areas; the stealth to fight in contested environments; and the specialized capabilities in IRS&T [infrared search and track], EMW [electromagnetic warfare], and ASW [anti-submarine warfare] needed to defeat adversary platforms and systems."

Clark sees the need for a CVW to move toward including more unmanned aircraft. He recommended development of three new aircraft types: an unmanned air combat vehicle (UCAV); an unmanned refueling aircraft, initially the MQ-25; and FA-XX, a new fighter with a longer strike range.

The report's recommendations for re-configuring the carrier air wing by 2040 include:

* Sustaining planned procurement of the F/A-18E/F strike fighter through fiscal 2023.

* Sustaining procurement of the F-35C strike fighter through the first half of its planned production, ending in fiscal 2024.

* Develop an FA-XX fighter, a derivative of an existing fighter, by 2024.

* Develop a low-observable UCAV attack aircraft for production by 2025.

* Continue development of the MQ-25 aerial refueling UAV and increase overall number of tanker aircraft to 12 per air wing. Also,
develop the UCAV as a tanker for the mid-to-late 2030s.

* Retire the EA-18G electronic attack aircraft as they reach the

end of their service lives during the 2030s and replace them with
UCAVs equipped with the Next-Generation Jammer and also with expendable UAVs and missiles.

* Field a rotary wing MALE [medium-altitude, long-endurance] UAV
(in concert with the Marine Corps) to augment the carrier-based
helicopter squadrons and assume some of the ASW missions.

Clark’s team for the report included Adam Lemon, Peter Haynes, Kyle Libby and Gillian Evans.