LPD to be Named for Navy Medal of Honor Recipient

ARLINGTON, Va. – The Navy's 13th San Antonio-class amphibious dock ship (LPD) will be named for a naval officer who was awarded the Medal of Honor for gallantry during a kamikaze attack during the 1945 Okinawa campaign.

Speaking May 2 to reporters at the Pentagon, Navy Secretary Richard V. Spencer said the next LPD would be named for Capt. Richard M. McCool Jr., the former commanding officer of a landing craft support ship, large, Mark 3, that went to the aid of the crew of a sinking destroyer, USS William D. Porter, and then came under attack itself, but saved his ship despite being wounded and knocked temporarily unconscious.

Below is the text of the official citation for the Medal of Honor presented to then-Lt. McCool by President Harry S. Truman on Dec. 18, 1945:

"For conspicuous gallantry and intrepidity at the risk of his life above and beyond the call of duty as Commanding Officer of the U.S.S. LCS 122, during operations against enemy Japanese forces in the Ryukyu Chain, 10 and 11 June 1945. Sharply vigilant during hostile air raids against Allied ships on radar picket duty off Okinawa on 10 June, Lieutenant McCool aided materially in evacuating all survivors from a sinking destroyer which had sustained mortal damage under the devastating attacks. When his own craft was attacked simultaneously by two of the enemy's suicide squadron early in the evening of 11 June, he instantly hurled the full power of his gun batteries against the plunging aircraft, shooting down the first and damaging the second before it crashed his station in the conning tower and engulfed the immediate area in a mass of flames. Although suffering from shrapnel wounds and painful burns, he rallied his concussion-shocked crew and

initiated vigorous fire-fighting measures and then proceeded to the rescue of several trapped in a blazing compartment, subsequently carrying one man to safety despite the excruciating pain of additional severe burns. Unmindful of all personal danger, he continued his efforts without respite until aid arrived from other ships and he was evacuated. By his staunch leadership, capable direction and indomitable determination throughout the crisis, Lieutenant McCool saved the lives of many who otherwise might have perished and contributed materially to the saving of his ship for further combat service. His valiant spirit of self-sacrifice in the face of extreme peril sustains and enhances the highest traditions of the United States Naval Service."

McCool, an Oklahoma native, served in the Korean and Vietnam wars as well, retiring with the rank of captain. He died in 2008.

Spencer broke the tradition of naming LPDs for cities and counties in the United States by naming the ship after a naval hero.

LPD 29 will be built by Huntington Ingalls' shipyard in Pascagoula, Mississippi, under a $1.4 billion contract awarded in February.

Aircraft Carrier John F. Kennedy Reaches 75 Percent Structural Completion

NEWPORT NEWS, Va. – The nuclear-powered aircraft carrier John F. Kennedy (CVN 79) is 75 percent structurally complete

following the recent installation of the forward area of the ship’s main deck, Huntington Ingalls Industries announced in an April 30 release.

Kennedy, the second ship in the Gerald R. Ford class of carriers, has been taking shape at the company’s Newport News Shipbuilding division since the ship’s keel was laid in August 2015. The ship is being built using modular construction, a process where smaller sections of the ship are welded together to form a structural unit, known as a superlift. The superlift is then outfitted with piping, electrical equipment, cable, ventilation and joiner work, and is lifted from the assembly area into the dry dock.

The 750-metric-ton forward section of the main deck includes the machinery spaces located over the ship’s forward diesel generators. Also installed was the first piece of the aircraft carrier flight deck, which includes command and control, pilot ready rooms and additional support spaces, a jet blast deflector and components of the advanced arresting gear system.

With the recent superlifts, 341 of the total 447 sections are currently in place. Kennedy stands about 100 feet in height in the dry dock with only the island and main mast remaining to bring the ship to its full height of 252 feet.

A third key milestone also was achieved recently when the first two generators supporting the electromagnetic aircraft launch system were installed.

“We are very proud of the progress we are making on the Kennedy,” said Lucas Hicks, Newport News’ vice president, CVN 79 program. “The ship now is 75 percent structurally erected and more than 40 percent complete. Many of the improvements we have made over the construction of CVN 78, including increased pre-outfitting and performing more complex assemblies in our shops, will allow us to launch the ship three months earlier

than planned.”

Kennedy is scheduled to be christened in the fourth quarter of 2019 and delivered to the U.S. Navy in 2022.

HASC Seapower Chairman’s Mark Pushes Two-CVN Buy, Study of Nimitz Extension

WASHINGTON – The markup of the National Defense Authorization bill by the chairman of the Seapower and Projection Forces subcommittee of the House Armed Services Committee advocates a two-carrier buy to save Navy funds and a study of another life extension of the USS Nimitz to enable the fleet to maintain a force level of 12 aircraft carriers.”

“The Secretary of the Navy may enter into one or more contracts, beginning with the fiscal year 2019 program year, for the procurement of one Ford-class aircraft carrier to be designated CVN–81,” the markup said. “The aircraft carrier authorized to be procured may be procured as an addition to the contract covering the Ford-class aircraft carrier designated CVN–80 that is authorized to be constructed under Section 121 of the John Warner National Defense Authorization Act for Fiscal Year 2007. … The Secretary of the Navy may use incremental funding to make payments under the contract.”

Navy leaders have encouraged a two-carrier buy as a way to reduce the carrier construction cost while building up the fleet faster to the 12-CVN part of the 355- ship requirement.

“With the delivery of the USS John F. Kennedy (CVN 79) in

2023, the Navy will reach their 12 aircraft carrier goal but will quickly lose this overall capacity with the programmed retirement of USS Nimitz (CVN 68) in fiscal year 2023," the markup said. "The committee believes that there are several options to retain required aircraft carrier force structure to include accelerating construction of the Ford-class carriers. Additionally, the committee believes that service life extension options may be available for USS Nimitz. Therefore, the committee directs the Secretary of the Navy to provide a briefing to the House Committee on Armed Services by March 1, 2019, on options that exist to extend the service life of USS Nimitz, to include the extension of major components. Additionally, such a briefing should include cost estimates and major modernization components."

The bill as marked up also would:

■ Require the Secretary of the Navy to procure the data rights to the new guided-missile frigate and recompete the frigate not later than the contract award of the 10th frigate.

■ Authorize the Secretary of the Navy to enter into one or more multiyear contracts for 625 Standard Missile-6 missiles beginning in fiscal 2019.

■ Authorize the Secretary of the Navy to enter into one or more multiyear contracts for up to 52 C-130J aircraft beginning in fiscal 2019.

■ Authorize the Secretary of the Navy to enter into one or more multiyear contracts for up to 24 E-2D Advanced Hawkeye aircraft beginning in fiscal 2019.

■ Authorize the Secretary of the Navy "to procure up to 10 foreign-constructed ships if the secretary certifies that the U.S. Navy has initiated an acquisition strategy for the construction of 10 new sealift vessels. Additionally, this section would limit 25 percent of the U.S. Navy Military Sealift Command's fiscal year 2019 expenditures until the

Secretary of the Navy enters into a contract for the procurement of two used National Defense Reserve Fleet vessels and completes the capability development document for the common hull multimission platform."

■ Limit the Maritime Administration from "procuring used training vessels for use as school ship replacement vessels," noting that the Maritime Administration's "short-term strategy would not support the long-term maritime academies' interests. The committee continues to support the new construction of these training vessels in the United States."

■ Support development of the Advanced Low-Cost Munition Ordnance, a guided 57 mm projectile, to counter the growing threats posed by small boat swarms, unmanned aerial systems and other emerging threats.

■ Directs the Secretary of the Navy to provide to the HASC "an assessment of the current and foreseeable torpedo threats facing high-value units and the Navy's plan to adequately protect them, a description of the requirements for SSTD [surface ship torpedo defense], an assessment of the development program concerning each of the SSTD capability elements, the plan to consolidate responsibility of the SSTD program, and the plan to manage and sustain currently fielded SSTD systems."

NRL Testing New Structural Acoustic Sonar for AUV Mine

Hunter

NATIONAL HARBOR, Md. – The Navy is pushing out new autonomous underwater vehicles (AUVs) that utilize low-frequency wavelengths to identify objects deep underwater. The Office of Naval Research (ONR) and the Naval Research Laboratory (NRL) presented data at their Sea-Air-Space booth April 11 showing how this method makes it easier for ships to see mines below the sea bottom.

Zachary Walters, researcher at NRL, noted that every object has a unique acoustic fingerprint, and with the new method, structural acoustic (SA) sonar, AUVs can determine what each individual object is.

The low-frequency wavelengths used in SA also offer the chance to "punch into the deeper sediment" in the ocean, Walters said.

Of course, there are infinite number of objects potentially hidden in the sea, so NRL is focusing more on target recognition rather than identifying every bit of clutter.

"We do know what our targets that we are interested in look like, either through laboratory measurements, at-sea measurements or through forward numerical modeling," Walters explained. "And, so, we use those … to build up a library of objects that we are interested in, and we pass this on, along with the data we measure at sea, to our automated classifiers."

According to Waters, SA is currently being transitioned out to the field for testing with Knifefish, a mine-hunting AUV. As it gathers more research, NRL hopes to "extend to much larger ranges and higher area of coverage," which will be transitioned to Knighfish in later updates.

The NRL's ultimate goal for SA is to create AUVs that run

fully autonomous operations. Walters believes that effort will rely on the continued cooperation of ONR and NRL.

Sea Services Feel More Prepared After Complicated 2017 Hurricane Season

NATIONAL HARBOR, Md. – What has been described as a complicated hurricane season brought new challenges for the maritime forces in 2017. With hurricanes hitting Texas and Florida in back-to-back months, it was the first year on record that two category four storms made landfall in mainland United States.

On top of that, islands such the Virgin Islands and Puerto Rico were hit hard by Hurricane Maria, causing massive wind damage and power outages.

While taxing at first, sea service leaders at the Hurricane Update Panel at the Sea-Air-Space Exposition April 11, said they were pleased with their combined efforts to help the affected areas during the time of crisis and feel more prepared for the expected above-average 2018 hurricane season.

The panelists collectively had years of storm relief experience but even that wasn't enough to fully prepare for the four major hurricanes in 2017.

Maj. Gen. Pat Murphy, director of the National Guard Bureau Joint Staff, led the National Guard's response efforts for Hurricane Sandy when it hit the Northeast in 2012. But not even Sandy could compare to Hurricane Harvey, Irma and Maria

individually, let alone collectively.

“Hurricane Sandy was originally referred to as ‘Super Storm Sandy,’” Murphy joked, “but since the summer of 2017, I’ve not heard it called ‘super’ anymore. Because it really paled in comparison to what happened in 2017. I would categorize Sandy as a different type of event and not to the magnitude of the past summer’s events.”

Handling the historic meteorological events quickly became a joint command effort once Hurricane Irma and Maria left, according to Rear Adm. Jeffery Hughes, former commander, Expeditionary Strike Group.

“Relationships are absolutely critical,” Hughes said. “At no point in my near 30-year career have I ever placed a higher premium on relationships, because it drives that unity of effort.”

Hughes also was reassured that they had full control on when and where they were allowed to respond.

“At no point did I ever not have the authorities to allow me to respond immediately,” he said. “At no point was I waiting to say, ‘I would really like to do something, but I’m waiting to be told that I could.’ We had the authorities in place, and we had the unity of effort throughout the entire response team, from the federal and territorial level, to allow us to go in and save lives.”

However, the response effort didn’t go as smoothly as anticipated, at first. Most of the relief-related issues stemmed from Hurricane Maria’s damage to the Virgin Islands and Puerto Rico. The sea services successfully sent the needed resources to the islands, but the lack of power and the situation of the islands slowed down the distribution process.

Of course, lack of power wasn’t the only challenge for the relief effort. Murphy later pointed out the limited capability

of Puerto Rico's resources also made delivering equipment in a timely fashion difficult.

Winter: F-35 Test Flight This Week Will Wrap Up SDD Flight Tests

NATIONAL HARBOR, Md. – The joint program manager for the F-35 joint strike fighter said the last test flight of the aircraft's system design and development (SDD) program is imminent.

Speaking April 11 to an audience at the Sea-Air-Space Exposition, Vice Adm. Mat Winter said, "the last SDD test flight event will occur this week, maybe even today."

Winter said the SDD program has accrued 9,000 flight and 67,000 test points. So far, 82 percent of the specification verification has been completed, with 100 percent completion scheduled by the end of the year.

Winter also said the program has "started some of the pre-IOT&E [initial operational test and evaluation]," with formal operational test scheduled for the fall.

Full-rate production, scheduled for the fourth quarter of 2019, will formally mark the end of SDD.

So far, the program has delivered 280 F-35s of all types out of a planned total of 3,220 aircraft for all nations involved in the program. All aircraft rolling off the line now are equipped with the Block 3F software, which brings all combat capability developed in the SDD program. The first post-3F

software will be delivered in June, Winter said.

The Navy eventually will procure 353 F-35Cs and the Marine Corps will procure 273 F-35Bs and 67 F-35Cs.

The Marine Corps F-35B deployed with a detachment of Marine Fighter Attack Squadron (VMFA) 121 on board the USS Wasp last month, and the USS Essex will take on board a detachment from VMFA-211 this summer for deployment. VMFA-211's F-35Bs will mark the first deployment of the 3F software. The USS America and the USS Makin Island will be the next amphibious assault ships to operate the F-35B.

The Navy's first operational fleet squadron, Strike Fighter Squadron 147 (VFA-147) is in F-35C training and is scheduled to become safe for flight in October, the same month it will conduct its carrier qualifications. The squadron is scheduled to deploy on board USS Carl Vinson.

The USS Abraham Lincoln will be the second carrier to deploy with the F-35C. This ship also will host the F-35C's at-sea IOT&E in August with Carrier Air Wing Seven.

By the end of 2024, the F-35 is scheduled to be operational on eight amphibious assault ships and four aircraft carriers.

Winter said the prices for Lot 10 F-35s, being delivered in 2018, are: F-35A, $94.3 million; F-35B, $122.4 million; and F-35C, $121.2 million.

He said that for Lots 14/15, "all three will be under $100 million."

The current production rate for the F-35 is seven to nine per month. The goal for full-rate production is 12 to 15 per month.

New Technologies Drive Demand for More Power Aboard Ships

NATIONAL HARBOR, Md. – The rapid growth of power-hungry new technologies and the accelerating drive for directed-energy weapons is requiring the Naval Sea Systems Command (NAVSEA) to put increasing efforts into new means to generate, control and store electrical energy aboard Navy ships, the director of the electric ship office said April 11.

Although NAVSEA has been working on providing electrical power to Navy ships for more than a century, what is different from the past are the "notion of directed energy," and the need for higher power radars and other sensors that reach out farther, said Stephen P. Markle, director and program manager of the electric ship office.

So the concern for designing new ships is "not only the hull, but at the end of the day, it's a combat system. The real focus has to be on the warfighting capability," Markle said at a briefing at the Sea-Air-Space Exposition.

Markle noted the extensive effort in his office over the last several years on meeting the higher energy demands for the DDG 51 Flight III ships, with the powerful SPY-6 radars and other sensors. That was in addition to the ongoing work on the energy requirements for the still undefined future surface combatants, which he said would be a "family of systems," including both large warships and unmanned vessels.

Markle referred the industry representative in the audience to the upcoming 2018 Naval Power and Energy Technology Development Road Map, which would describe "the product areas we're interested in."

Those include control, energy storage, generators, motors, prime movers and power converters.

A major problem with electrical energy on warships, he noted, was the frequent and massive surges in power demands with activation of sensors, which requires means to stabilize the electrical systems.

There also are increasing needs to reduce the size of the electrical generators and to meet the demand for directed-energy weapons – such as lasers and the proposed electromagnetic railgun – that require instant bursts of massive amounts of power and much greater ability to store energy, he said.

Current batteries able to provide those high-levels of power would be too large, so they are experimenting with new batteries made with lithium iron and phosphate, and with fly wheels, Merkle said.

Accelerated Acquisition Taking Shape, Producing Results

NATIONAL HARBOR, Md. – The upbeat tone for a panel discussion on accelerated acquisition April 11 was set at the start when Vice Adm. David C. Johnson declared that “accelerated acquisition is not just a theory, but something we’re doing today.”

Johnson, the military deputy assistant secretary of the Navy for research, development and acquisition, went on to cite the

rapid movement of the Long-Range Anti-Ship Missile from concept to testing in three years and the truncated procurement process for the new frigate, which is expected to have contract award by 2020.

Speaking at the panel at the 2018 Sea-Air-Space Exposition, Brig. Gen. Joseph Shrader, commander, Marine Corps Systems Command, described a similarly reduced process for the new armored reconnaissance vehicle to replace the aged Light Armored Vehicles, and Rear Adm. Douglas W. Small, program executive officer, Integrated Warfare Systems, mentioned the accelerated action to field a new shipboard laser weapon system.

Michael W. Derrios, senior procurement executive and head of contracting for the Coast Guard, touted the high-speed movement toward procurement of a new polar icebreaker, which was finally authorized and partially funded by Congress last year.

Johnson and other officials on the panel attributed their ability to move quicker on acquisition to new authorities from Congress and process-cutting directives from the Navy and Marine Corps leadership and from James F. Guerts, the new assistant Navy secretary for research, development and acquisition, who brought a record of accelerated procurement from his previous position with the Special Operations Command.

“These new approaches make maximum use of the new authorities” from Congress and the service chiefs, Johnson said.

Panel member also listed a top-down drive to decentralize acquisition authority and to delegate decision-making down to the program managers, cultural changes to shed old habits and policies, and a greater willingness to take the risk of failure for pushing new systems.

William P. Bray, deputy assistant Navy secretary for research,

development, test and evaluation, said his office was studying "how do we create change in culture so we don't go down old roads."

The panelists discounted the risk associated with rapid acquisition, with Schrader saying the actions were "not just rolling the dice" but taking "intelligent risks" based on knowledge of the requirements and available technology. Shrader mentioned the series of advanced technology demonstrations the Marines have held, in cooperation with the Navy, to find promising innovation and putting them in the hands of young Marines for field testing.

Small said of his office, "we are absolutely rigged for speed. … Getting rid of layers helps a lot."

Unmanned Systems Earning Their Spot in Sea Services' Toolboxes

NATIONAL HARBOR, Md. – Unmanned and autonomous systems aren't new to the armed forces, but in many ways the tools are still evolving and, along with that, the sea services are evolving alongside them to determine their proper place in their toolboxes.

Rear Adm. David Hahn, chief of naval research and director of innovation, technology requirements, and test and evaluation, likened the sea services' unmanned needs to deciding which 14 clubs you need to win the Masters.

"Today, as we look at the tools provided, most of those legacy

tools require a lot of human interaction. Do we think that the unmanned tool set that we can provide our Navy and Marine Corps is ready to go in the bag? Do we think that we're going to get an expert result … by completing the job? Not just a better drive, not just a better putt, but completing it all across that kill chain."

Hahn said here has been "tremendous success" with platforms, like larger unmanned underwater vehicles, but often they increase the need for manpower. His No. 1 ask for an unmanned system today would be an unmanned vessel that can sea at sea for 70 days without intervention that operates in concert with other maritime vessels.

As these systems progress, they are going to grow in their autonomous capabilities, said Rear Adm. Mark W. Darrah, program executive officer for Unmanned Aviation and Strike Weapon for the Navy, migrating into stochastic behaviors through machine learning that will enable them to do their own mission planning.

"We have to set the parameters for what it will base its decisions on," he said. "There's a lot of work that needs to be done there."

Currently, there is a healthy appetite in the Navy for what unmanned and autonomous systems offer.

"I will tell you, when I arrived we had an $850 million contract for ISR [intelligence, surveillance and reconnaissance] services in theater. In three years, we were at ceiling," he said.

And, at the same token, very sophisticated unmanned systems that are flanked by poor legacy systems would be akin to driving a Lamborghini at 25 mph, he said, so the Navy must focus on improving the entire kill chain, not just the platform.

Brig. Gen. Christian Wortman, vice chief of naval research, commander, Marine Corps Warfighting Lab, Office of Naval Research, said he's focused on Commandant Gen. Robert Neller's orders to be "faster, more effective, more responsive."

Instead of homing in on a certain vehicle or vessel, he said his needs today center on defending networks, and any autonomous system that enhances the Marine Corps' sense of environment that it's operating in.

Though the Coast Guard has had a lot of success with the unmanned systems it has deployed, Rear Adm. Michael Ryan, assistant commandant for capability, said it is still working to leverage all they have to offer.

"The Coast Guard is probably late to the table in some regards. … We are working diligently to close those gaps. These are a force multiplier," he said.

Though the service now has the funding to integrate more unmanned assets into its portfolio, Ryan said the Coast Guard has to be careful on how it applies its funds, capabilities and labor to maximize mission effectiveness.

"Our mission set, our area of operations are ripe for leveraging this type of capability and technology," he said.

Navy's New LCAC Hits the Water

NATIONAL HARBOR, Md. — The Navy's newest ship-to-shore connector, the LCAC 100 (Landing Craft, Air Cushion 100), entered its first testing in the water April 10, a Textron

official said, and is on path for delivery this summer.

In an April 11 interview with Seapower, Scott Allen, vice president of Marine Systems for Textron Marine and Land Systems in Slidell, Louisiana, said the underway test was an important milestone that brings the LCAC 100 class closer to service entry.

The lead craft in the new class, LCAC 100, will go through Builder's Trials later in April and then will be prepared for the Navy's acceptance trials, Allen said. The craft will be delivered to the Navy in the summer for further testing in at the Naval Surface Warfare Center in Panama City, Florida.

The LCAC 100 class is being procured by the Navy to supplement and eventually replace the older LCAC class that has been in service for decades. The LCAC 100 has many features that improve operation and maintenance, especially through use of composite materials.

The new LCAC is driven by two Rolls-Royce MT7 engines, a derivative of the AE1107 that powers the V-22 Osprey tiltrotor aircraft. The MT7 provides 5,300 shaft horsepower as compared with 3,945 for the engine on the older LCAC.

Compared with the older LCAC, the new one features two gear boxes versus four and two lip bands versus four. The engine drive shafts, propulsor shrouds, variable-pitch propellers and impeller housings are all made of composite material, which reduces corrosion and, accordingly, maintenance.

The LCAC 100 is designed to operate with a crew of three versus the four on the older craft. It is designed to carry a 74-ton load, including an M1A1 tank with a mine plow attached.

So far, Textron is under contract to build nine LCAC 100s, 100 through 108. The latter eight currently are under construction at Textron's facility in Slidell. LCAC 101 is scheduled to be delivered by the end of April. LCACs 101 through 108 will be

the first to enter fleet service, with 101 through 106 used to establish initial operational capability.

Allen said Textron is preparing to respond by the end of April to the Navy’s request for proposals for follow-on production.

Japan is the only other nation that operates LCACs and is a possibility for a foreign sale of the new LCAC.