Boeing Is Refurbishing Harpoon Missiles for U.S. Navy Submarines

The Arleigh Burke-class guided missile destroyer USS Fitzgerald (DDG 62) conducts a live fire of a ship-launched variant Harpoon missile during Multi-Sail 2016. Boeing has now begun work to return Harpoon cruise missiles to operational status with the Navy's submarine force. U.S. Navy / Mass Communication Specialist 3rd Class Eric Coffer

ARLINGTON, Va. – Boeing has begun work to return the Harpoon cruise missile to operational status in the U.S. Navy's submarine force after a more than 20-year absence.

Boeing received an $10.9 million Naval Sea Systems Command contract late last month to refurbish 16 Harpoon missile capsules and four all-up rounds of encapsulated Block 1C

Harpoon missiles for the Navy's submarines. Work is scheduled for completion by December 2022.

The UGM-84A Harpoon Block 1C missiles will be integrated on the Navy's Los Angeles-class submarines. The UGM-84A is encapsulated to be fired from a torpedo tube and has a rocket booster to propel it above the surface of the water and into flight.

"I am happy to report that we will have the first refurbished [Harpoon] missiles delivered to the fleet in [fiscal] '21," said Rear Adm. Thomas Ishee, director of undersea warfare in the Office of the Chief of Naval Operations, speaking Nov. 7 at the Naval Submarine League's annual symposium in Arlington.

In a demonstration in the 2018 Rim of the Pacific exercise, a Harpoon was fired from the Los Angeles-class attack submarine USS Olympia at a target ship, the first time one was fired from a U.S. Navy submarine since the UGM-84A Harpoons were withdrawn from the force in 1997.

The UGM-84A is encapsulated to be fired from a torpedo tube and has a rocket booster to propel it above the surface of the water and into flight.

"The Navy has a deep inventory of Harpoon Block IC missiles," said Sally Seibert, director, Cruise Missile Systems at Boeing, in a statement. "These missiles can be refurbished and reintegrated into the fleet in a shorter timeframe, and at a fraction of the cost, compared to purchasing new missiles – and that is exactly what our team is doing."

The Harpoon cruise missile is a combat-proven, all-domain anti-ship missile used by the Navy and more than 30 international customers, a statement from Boeing said. "Evolving over the years to keep pace with emerging threats, the Harpoon Block II includes a GPS-aided guidance system that allows for autonomous, all-weather capability – and can

execute both anti-ship and land-strike missions. The more advanced Harpoon Block II+ adds a data link that allows for in-flight targeting updates."

"The shelf life of the Harpoon missile allows us to maximize existing capability by bringing this weapon back to the submarine fleet," Seibert said. "Customers who currently have Harpoon missiles in their inventory are prime candidates for refurbishments, or even upgrades, to add this extremely viable and cost-effective weapon to their arsenal."

Currently, more than 600 ships, 180 submarines, 12 different types of aircraft and several land-based launch vehicles across the world are integrated with Harpoon missiles, Boeing said.

NAVAIR Orders Five VH-92 Presidential Helicopters from Sikorsky

Marine Helicopter Squadron (HMX) 1 conducts test flights of the new VH-92A helicopter over the South Lawn of the White House, Sept. 22, 2018, in Washington, D.C. U.S. Marine Corps / Sgt. Hunter Helis

ARLINGTON, Va. – Naval Air Systems Command has awarded Sikorsky a third production contract to build five VH-92A helicopters for the U.S. Marine Corps.

The Naval Air Systems Command awarded Sikorsky Aircraft Corp. – a Lockheed Martin company – a $478.6 million firm-fixed-price contract modification to build five Low-Rate Initial Production Lot III VH-92As, according to a Feb. 5 Defense Department announcement. The award also includes orders for "interim contractor support, two cabin interior reconfiguration kits, support equipment, initial spares and system parts replenishment," the release said. Work on the contract is expected to be completed by December 2023.

The VH-92A was selected in 2014 to provide transport for the

president of the United States, the vice president and other high-level government officials. The helicopter will replace the 19 VH-3D Sea King and VH-60N "White Hawk" helicopters operated by Marine Helicopter Squadron One. The Corps plans to acquire a total of 23 VH-92As, 21 for operations and two for testing. The May 2014 engineering and manufacturing development contract procured two test aircraft and four production aircraft. Six VH-92As were ordered in June 2019, followed by six more in February 2020.

The presidential helicopter fleet is operated by Marine Helicopter Squadron One, based at Marine Corps Air Station Quantico, Virginia, with a detachment at Joint Base Anacostia-Bolling in Washington.

"Government testing to validate system performance and prepare for Initial Operational Test and Evaluation is progressing on schedule and will support an Initial Operational Capability (IOC) planned for July 2021," a Navy spokeswoman said. "The VH-92A will enter service post IOC at the determination of the White House Military Office."

Marine Corps Adds 5th F-35B Squadron to its Force

U.S. Marine Corps Lt. Col. Alexander Goodno, the incoming commanding officer, left, and Sgt. Maj. Collin Barry, the

incoming sergeant major, with Marine Fighter Attack Squadron (VMFA) 225, Marine Aircraft Group 13, 3rd Marine Aircraft Wing, exchange the organizational colors during the redesignation and assumption of command ceremony at Marine Corps Air Station Yuma, Ariz., Jan. 29, 2021. U.S. Marine Corps / Lance Cpl. Juan Anaya

ARLINGTON, Va. — The Marine Corps is converting a fifth squadron to the F-35B Lightning II strike fighter.

In a Jan. 29 ceremony at Marine Corps Air Station (MCAS) Yuma, Arizona, the "Vikings" of Marine All-Weather Fighter Attack Squadron 225 (VMFA(AW)-225) were re-designated Marine Fighter Attack Squadron 225 (VMFA-225) as they engaged in the process of learning to operate and maintain the F-35B version of the Lightning II, according to a release from the 3rd Marine Aircraft Wing.

The squadron retired its last F/A-18D Hornet strike fighter a year ago, on Jan. 23, 2020.

VMFA-225 follow VMFAs 121, 211, 122, and 242 as the Corps' fifth operational F-35B squadron. VMFA-225 moved from MCAS Miramar, California, to MCAS Yuma, Arizona, to join 211 and 122, both of which have flown combat missions in the Middle East. VMFAs 212 and 242 are based at MCAS Iwakuni, Japan.

"It's an exciting day for [VMFA-225]," said Lt. Col. Alexander Goodno, the commanding officer of VMFA-225, in the release. "We will grow over the next 18 to 24 months to a full, combat-ready, capable squadron and be ready to do the nation's bid in the war."

"We have aircraft afloat right now from VMFA-122; we're flying combat missions," said Col. Benjamin Hutchins, commanding officer of Marine Aircraft Group 13, in the release. "We have VMFA-211 getting ready to deploy on [HMS Queen Elizabeth]. This is a busy business, this is our nation's business, this is our Corps' business."

The Corps’ single F-35C squadron, VMFA-314, is scheduled to be ready for a deployment on the USS Carl Vinson in early fiscal 2022.

Lockheed Martin’s SPY-7 Radar Is Going to Sea

An artist’s rendering of a Spanish future F-110 frigate equipped with AN/SPY-7(V)2. Navantia

ARLINGTON, Va. — Lockheed Martin’s new SPY-7 radar will be sailing to sea on the ships of three navies as the company highlights the radar’s capabilities for application to other navies, including the U.S. Navy.

The SPY-7, which uses gallium nitride modules, initially was developed for the Navy’s Air and Missile Defense Radar competition. It was adapted into the Long-Range Discrimination Radar (LRDR) procured by the U.S. Missile Defense Agency (MDA)

as a sensor of the Ground-Based Midcourse Defense system. Being installed at Clear Air Force Station in Alaska, the LRDR is designed to discriminate between incoming warheads and decoys.

The core building blocks [of the LRDR] are the same core building blocks in SPY-7," said Jon P. Rambeau, vice president and general manager, Integrated Systems & Sensors, Lockheed Rotary and Mission Systems, during a Feb. 2 interview with *Seapower*. "[SPY-7] is a modular radar that allows us to build different configurations for both land-based and sea-based applications."

The SPY-7 has been selected by the Spanish navy to integrate it with the Aegis Combat System on its F110 frigates. The Canadian navy is procuring the radar to install it on its new Halifax-class surface combatant.

Japan had selected the SPY-7 for its two planned Aegis Ashore ballistic-missile defense sites, but when the plans were cancelled in part out of concern for missile debris falling on populated areas, Japan shifted to a plan to deploy the SPY-7 on some future, unspecified sea-based BMD platform. Japan already has BMD capabilities in its Kongo-class guided-missile destroyers with Aegis systems using the SPY-1 radar.

Japan, which already has placed an order for the SPY-7, "is going through a process now to determine exactly what that platform is going to look like," Rambeau said. "We are pleased with the progress that the technology has made, and we're starting to see some uptake both here in the U.S. as well as abroad."

"SPY-7 is part of the Aegis common source library (CSL) and the interfaces are understood," said Patrick W. McNally, director of communications for Integrated Warfare Systems & Sensors, in a statement to *Seapower*. "For Japan, we have completed the first of three releases which were recently

demonstrated to MDA. Starting from the CSL, with over one million lines of code, Japan will be receiving the best of both Baseline 9 and 10 [Aegis software].”

The U.S. Navy is considering backfitting some Flight IIA Arleigh Burke-class guided-missile destroyers with a radar more modern than the SPY-1, and Lockheed is keeping a watch on developments in the event the SPY-7 could complete in the program if it comes to pass.

Rambeau said his company also “has some more affordable options available to upgrade some of the SPY-1 arrays to provide improved sensitivity and improved resistance to electronic attack and we think we can do that at a fraction of the cost of a wholesale replacement, so we’ve put forth a couple of options for upgrades to SPY-1 to both MDA and the Navy.”

Galinis: Navy Considering Land-Based Test Site for Integration of Frigate Systems

An artist’s rendering of the Constellation-class guided-missile frigate (FFG), which may have some of its systems tested on land. U.S. Navy

ARLINGTON, Va. — The commander of Naval Sea Systems Command (NAVSEA) praised the risk-mitigation qualities of land-based testing and prototyping of ship systems and said the Navy said the Navy is considering it for some level for the Constellation-class guided-missile frigate (FFG).

NAVSEA Commander Vice Adm. William Galinis, speaking during a webinar of the National Defense Industrial Association’s Expeditionary Warfare Conference, said the Navy is using more land-based testing and integration to reduce risk before the systems are installed on a ship.

Land-based testing “is not something we can do for every platform, but judicious use of land-based testing where it makes sense is a good engineering development tool and a risk mitigator.”

Galinis noted that extensive land-based testing is being conducted for the Flight III Arleigh Burke-class guided-

missile destroyer (DDG) at the Naval Surface Warfare Center Philadelphia Division.

“As we upgrade to the Flight III [of the Arleigh Burke class], we need additional cooling capacity, additional power-generation capacity, higher voltage level,” he said. “That electric plant is being tested right now in Philadelphia from the prime mover all the way to the power conversion modules.”

The SPY-6 radar, built by Raytheon Technologies for the Flight III DDG, is being tested at the Lockheed Martin Aegis test site in Moorestown, New Jersey, with the combat systems software, “from the power-conversion unit all the way out through the array face.”

Major propulsion components of the new Columbia-class ballistic-missile submarine, being built by General Dynamics Electric Boat, also are going through extensive land-based testing at Philadelphia.

“We will probably do something along that line for the Constellation-class frigate,” Galinis said. “We’re working through the details of that right now.”

Because the hull and propulsion of the Constellation is from a proven, parent design – the Fincantieri FREMM frigate – land-based testing is likely to focus on integration of systems, particularly combat and sensor systems.

Galinis said there are changes to the frigate in terms of “buy America” requirements and certain Navy requirements.

Mine Warfare Director: Detect-to-Engage Timeline Needs to be Speeded Up

Avenger-class mine countermeasure ships USS Pioneer (MCM 9), USS Chief (MCM 14) and an MH-53 helicopter from Helicopter Mine Countermeasures Squadron 14 conduct mine hunting training exercises in this 2020 photo. U.S. Navy / Information Systems Technician 2nd Class James Greeves

ARLINGTON, Va. – The Navy official in charge of mine warfare development said strides are needed to decrease the search and neutralization time of mine counter-measures operations.

"We need to get faster; we need to speed the timeline up," said Capt. Robert Baughman, director, Mine Warfare Division at the Naval Surface and Mine Warfighting Development Command in San Diego, speaking at a Feb. 2 webinar of the National Defense Industrial Association's Expeditionary Warfare

Conference. “Improving the detect-to-engage timeline is vital as we shift from a ship in a minefield to off-board and autonomous systems.”

For single-pass detect-to engage, with “on-board processing and high-end autonomous target recognition, we can neutralize the mine immediately,” Baughman said. “Machine learning is improving this capability, but we need systems to either pass contacts during the mission cycle, or immediately upon recovery in the interim, telling what it assesses to be a mine.

“In the meantime, industry can help us with in-stride data transfer, transmitting high-quality data beyond line of sight that will help us get data back to the ship to start the post-mission analysis, and not wait till the end of a 20-hour mission, which then requires 20 hours of post-mission analysis on the back side,” he said.

The captain also said, “capabilities need to be smaller, more expeditionary, and more reliable. Unmanned systems need to be highly modular, built with open architecture in mind, with hi-rez sensors, and to be networked systems of systems. Sailors must be able to fix them on the ship and easily modify them for specific missions. We can’t rely on a team of contractors or Ph.D.’s to effect repairs or change out sensors in the field.”

Being acoustically quiet and having a low signature overall are important, Baughman said.

Single-use minesweepers are not affordable at this point, he said. “All future systems and enabling technologies should have this as a consideration in their design and development.

“Communications and navigation systems must be resilient and also be able to operate in denied environments for sustained periods of time,” he said. “Having a clandestine capability can help with this, especially when we talk about mining

technology. If they’re networked, we can control them better, turning them on or off as required to avoid detection at a time of our choosing.

“For all of these systems, power and portability are extremely important,” the captain said. “We need systems with long duration that can conduct surveys and persistent station keeping for whatever we tack UUVs to do. We need to be platform agnostic.

“We are a more expeditionary, off-board, distributive force than we were even five years ago, and regularly integrate with our coalition partners,” Baughman said. “So, being able to rapidly and seamlessly share info and make timely decisions as necessary though our tactical decision support aids, up and down the decision process. File size, classification, bandwidth and latency constraints can’t hinder our ability to share data across the force. Data management is becoming more and more of an issue.”

Burke: Keflavik Important to North Atlantic Operations

Sailors assigned to Patrol Squadron (VP) 4 shovel snow away from the port engine of a squadron P-8A Poseidon maritime patrol and reconnaissance aircraft on the the apron of Keflavik Air Base, Jan. 03, 2020. U.S. Navy / Lt. Cmdr. Ryan McFeely

ARLINGTON, Va. – The U.S. Navy's top admiral in Europe highlighted the importance of using the airfield in Keflavik, Iceland, in the current era of great power competition, as a base for maritime patrol and anti-submarine warfare (ASW) aircraft.

"We need to operate there," said Adm. Robert Burke, commander, U.S. Naval Forces Europe/Africa, speaking Feb. 2 at a webinar sponsored by the U.S. Naval Institute and the Center for Strategic and International Studies, funded by Huntington Ingalls Industries. "There were 12 P-8s on the ground when I was there at the end of October. They were very busy. I can tell you it wasn't an exercise and it's not hard to imagine why."

Burke referred the listener to 2019 when "there were open-

source reports of 10 Russian submarines operating in the Arctic and the North Atlantic. From there, they head into the Atlantic and they go there to exercise their ability to hold Europe and the continental United States at risk with land-attack cruise missiles."

The admiral pointed out that "[s]ome of those missiles, in the not-to-distant future, will be capable of hypersonic speeds. That's a real threat and that's something we have to be ready to address."

The international airport in Keflavik was the site of a U.S. naval air station during the Cold War, with an ASW operations center. A squadron of P-3 Orion maritime patrol aircraft was deployed there on a rotational basis. A detachment of U.S. Air Force F-15 Eagle fighters also was present to intercept Soviet bombers that ventured over the Atlantic.

Iceland has no armed forces other than a coast guard, but Keflavik represents an important contribution to the U.S. and NATO's capabilities with Keflavik's airfield.

With mobile operations command centers, the Navy rapidly can deploy one to Keflavik to stand up an ASW command, control, and analysis capability for deployed maritime patrol aircraft.

Two other North Atlantic nations are acquiring P-8A aircraft. The U.K. Royal Air Force already is operating its new P-8s, having reconstituted a maritime patrol capability after the 2011 retirement of its Nimrod aircraft. The first P-8A for the Royal Norwegian Air Force is now under construction to replace its P-3 aircraft. Other NATO nations including Germany, Spain, Portugal and Greece operate P-3s, and France and Italy operate Atlantique aircraft.

Burke praised the P-8 for its "incredible legs, incredible capabilities."

While the Russian submarine force is much smaller than its peak during the Soviet era, it has continued to push development of modern submarines, now in their sixth generation.

Q&A: Rear Adm. John Korka, Commander, Naval Facilities Engineering Systems Command


NAVFAC

Rear Adm. John Korka, commander, Naval Facilities Engineering Systems Command and chief of Civil Engineers, assesses progress on a construction project at the U.S. Naval Observatory in Washington, D.C., Nov. 16, 2020. U.S. Navy / Mass Communication Specialist 1st Class Gary Granger/Released)
Rear Adm. John Korka, Civil Engineer Corps (CEC), is the commander of Naval Facilities Engineering Systems Command (NAVFAC) and chief of Civil Engineers. He leads NAVFAC's CEC officers, civilians and contractors who serve as engineers, architects, contract specialists and technical professionals. His command delivers facilities engineering, expeditionary, and acquisition support to the Navy and Marine Corps, Unified Commanders, and Department of Defense agencies.

Korka discussed NAVFAC's activities with Senior Editor Richard R. Burgess. Excerpts follow:

The Navy acquisition community has pushed contracts ahead of schedule to help industry get through the COVID crisis. What has NAVFAC done to advance contract awards or task orders to help in the current pandemic?

KORKA: At the start of this global pandemic, the CNO [chief of naval operations] and [James F. Geurts, assistant secretary of the Navy for research, development and acquisition] did something that I thought was critical. They set the tone and established priorities for operating in the COVID-19 environment. First and foremost, the health and safety of our military and civilian workforces was absolute. Second, we needed to maintain readiness and ensure the Navy does not come to an all stop. Lastly, it was important to support the whole of government approach in tackling COVID-19. Along with these priorities, Secretary Geurts released policy and emphasized our responsibility to keep execution moving forward smartly, support efforts to sustain a healthy industrial base, and to make sure that we did not use COVID as a rationale to stop efforts – I am talking primarily our construction work and sustaining functions to support base operations.

We used the priorities from the CNO and secretary to quickly move out as a SYSCOM [systems command] along three fronts – safety protocols, operating virtually and ceaseless communications. From the onset we strictly enforced adhering and complying with COVID-19 protocols. We were not going to compromise safety in any evolution, and we also wanted to make sure that our contractors were mindful of these requirements since protocols would be enforced.

The next leap was even more important – our jump into the digital domain. By that I mean we already had a good plan to move into online processing and pressing ahead into the virtual front. The pandemic actually accelerated that effort for us. Since the start of the COVID-19 emergency, we've had virtual site visits to accommodate contractors who were restricted in movement; we've held virtual safety training to educate contractors on bidding government work; and we've established policy and procedures for accepting electronic proposal submissions. All these happened quickly and allowed us to still do things that, typically, would have required a physical presence.

Lastly, we implemented a pretty aggressive outreach campaign with our industry partners to improve lines of communication. We held monthly virtual roundtable discussions with the construction/engineering industry, base operating support services contractors, and small business. These efforts definitely helped us better understand some of their challenges and recognize if industry needed our help with any policy relief. The monthly communication meetings are still occurring and have proven to be very successful.

Overall, I am proud of how everything came together within NAVFAC to continue to award and manage contracts during an unprecedented and challenging period of time.

Last year you discussed NAVFAC's efforts to help the Columbia-class submarine join the fleet in the future. What major

projects do you have in work right now, particularly in the Shipyard Infrastructure Optimization Program (SIOP)?

KORKA: In August, NAVFAC celebrated its 178th birthday, and what is interesting is that since the command's commissioning we have always been responsible for building, maintaining, and recapitalizing shipyards. In fact, that is why we were established as a SYSCOM. Right now, our infrastructure recapitalization efforts remain ongoing, which is at the heart of our heritage, so that is pretty motivating.

When it comes to SIOP – this massive and daunting 20-year, $20 billion plus program – we continue to stay in close alliance with the fleet from a requirements standpoint which rests at NAVSEA [Naval Sea Systems Command], as well as supporting the shore enterprise at CNIC [Commander, Navy Installations Command]. Right now, we are looking at the development of "digital twins" at each of the shipyards [which] should really help us understand the optimal workflow configuration. This initiative will allow us to develop plans and engineering designs for specific projects with the proper sequence. Today, work is ongoing across all the shipyards – Portsmouth Naval Shipyard in Maine; Norfolk Naval Shipyard in Portsmouth, Virginia; Pearl Harbor Naval Shipyard in Hawaii; and Puget Sound Naval Shipyard in Washington – at each one of these locations, we have planning and construction efforts underway.

We are furthest along at the Portsmouth Naval Shipyard, where we have over $300 million worth of projects associated with the new multi-mission drydock facility and planning to support the future construction of a super flood basin project. All this work supports the future refueling of the SSN-688 [Los Angeles-class attack submarines]. At Norfolk Naval Shipyard, over $320 million in construction and repair work is going towards drydock and utility upgrades. In Pearl Harbor, we are doing some of the design to support the Virginia class Block V extension for the drydock. At Puget Sound Naval Shipyard, we are doing preliminary design and environmental work. All of

this shipyard work is aimed at repairing, modernizing, and returning ships back to the fleet and preparing infrastructure for the fleet of the future.

Without question, this effort is probably one of the most significant and direct contributions that we will be making as a SYSCOM for enabling lethality and maximizing our Navy readiness for many years to come. We are pretty charged up and inspired by the challenges and opportunities provided by SIOP.

Jonathan Feng, a civilian assigned to the Naval Facilities Engineering Command Southeast (NAVFAC SE) Community Emergency Response Team (CERT), pre-flight checks a camera drone for damage assessment at Naval Air Station Pensacola, Florida. CERT was providing disaster relief efforts following Hurricane Sally. U.S. Navy / Mass Communication Specialist 2nd Class Anderson W. Branch

With the nation being hit with a lot of hurricanes and an earthquake in the last couple years, what progress has been made by NAVFAC in those recovery efforts?

KORKA: NAVFAC has a lot to be proud of with regard to

responding to natural disasters that damaged infrastructure at our Navy and Marine Corps bases over the past two years. We showed our agility and technical know-how as a SYSCOM with these events – the hurricane that hit [Marine Corps bases at] Camp Lejeune, Cherry Point and New River [in North Carolina] pretty hard, as well as the earthquake at China Lake, California – tested our technical and acquisition acumen. Thanks to our responsiveness, agility, and technical and contracting authorities, we were able to get a significant number of construction projects awarded.

To support the surge of construction and repair work, we established two new commands, OICC [Officer in Charge Construction] China Lake, and OICC Florence [for bases in North Carolina] that are solely responsible for directing and managing these efforts. We have about 200 people on the ground today at both locations that we did not have in the past to oversee all the construction work. At China Lake, we are looking to award 18 military construction projects valued at $2.3 billion in total. So far, we awarded nine of these projects at a little over a billion dollars, only 14 months after the earthquake occurred, which alone is an impressive feat. The projects consist of an array of work, from an advanced weapons hangar to a mission integration lab, weapons magazines, an aircraft control tower, and even a new aircraft-parking apron. In fiscal year 2021, we plan to award an additional $1 billion dollars for work in China Lake. The teams are in place, projects have been awarded, and we are making good progress.

For the Hurricane Florence recovery, we have 30 military construction projects underway valued at $1.7 billion. Some of these projects include a Marine special operations training facility, maintenance hangars, service support facilities, a logistics operations school, and an array of troop support facilities.

For both disasters, we greatly benefitted from swift funding

support as well as tremendous coordination with the Office of the Secretariat, OPNAV and Headquarters Marine Corps staff, NAVAIR [Naval Air Systems Command], and CNIC for defining requirements. We are pressing ahead even in the face of COVID, which has not slowed us down. I see this as a great testament to our resiliency, commitment, and our technical competence.

What are the trends with building and operating military housing, public and private?

KORKA: Quality housing is probably one of the most important contributions to enabling warfighter lethality. Giving our men and women in uniform places that they can call home and where their families will be safe is something that helps them to focus on their mission while they are deployed. We've gotten some unfavorable media coverage regarding the PPV [public-private venture] housing program over the past two years, so we looked at four main efforts to improve the quality of our military housing to ensure that our warfighters and their families live in safe, quality homes.

First, about a year ago we refocused our efforts, exercising our authorities under the Housing Revitalization Act in 1996 to regain the trust of our residents by reinforcing the Navy's oversight role and responsibilities.

Second, early in 2020 we conducted a thorough review of how we work with our PPV partners to ensure that they were responsive to the residents' work orders with quality results. We used data analytics, developed a standardized way to measure their performance and took a hard look at the recurring problems to figure out root causes and develop long-term solutions.

Third, we also shifted our focus from just property management to evaluating the financial management of our public/private ventures. This meant improving and standardizing some of the financial reporting and performing portfolio reviews in greater detail to recognize and prevent deficiencies.

Lastly, to address the health of these agreements, we are working with OSD [the Office of the Secretary of Defense] as well as Congress to make policy changes and apply lessons learned from our sister services, the Army and Air Force. In the end, we owe it to our Sailors, Marines and their families to provide them safe and quality homes. It's important to remember that these are long-term agreements, 30-50 years in length, so effective sustainment and oversight of our DoN PPV housing portfolio must be taken seriously. Regaining the trust of our families is the most important outcome here, and we are committed to success in this area.

Sailors assigned to Task Force 75.5 assemble a tent during construction of a 150-bed Expeditionary Medical Facility on board Naval Base Guam. The EMF will provide expanded medical capabilities in support of DoD's COVID-19 response and will enable forces to be postured to support Guam and the region if a Defense Support of Civil Authorities mission is requested. U.S. Navy / Chief Mass Communication Specialist Matthew R. White

NAVFAC has been building and upgrading facilities on Guam and

the Marianas to host the Marine Corps forces. What progress has been made in those facilities?

KORKA: My previous flag assignment was as the commander, NAVFAC Pacific, in Hawaii, where I was dual-hatted as the U.S. Pacific Fleet engineer. We had the responsibility of overseeing all the work in Guam and throughout the Marianas Islands, and across the Pacific theater. The posturing of forces is extremely critical in this era of great power competition and the construction work underway in that region is an important element of the strategic objectives in the Pacific AO [area of operations]. We are still doing a lot of the environmental impact statements, and some training requirements are still being finalized. Work is definitely underway, and our job is to support Marine Corps needs.

In Guam, we have 103 projects valued at $6.5 billion. So far, more than 500 acres have been cleared, we have completed 14 projects, 15 are still underway, and five more are in the process of being awarded. These projects are spread across Andersen Air Force Base, Apra Harbor, Finegayan, and Marianas islands. They cover everything from aviation to sea embarkation, non-live firing training, some off-base improvements in the utility system, and roads. Today, you can now see a base called Camp Blaz that did not exist over a year ago.

Our Pacific work goes beyond the Marianas islands. We have projects that support the posture initiatives throughout the Indo-Pacific region to include Darwin, Australia, Indonesia and Palau. The bottom line is our SYSCOM is taking on this once-in-a-lifetime construction surge with urgency and flexibility. We're on the right course and vector to continue to deliver at the speed of relevance for the Marine Corps.

How are the Seabees performing in the COVID environment?

KORKA: The Seabees that were deployed in Guam played a role in

the construction of a 150-bed Expeditionary Medical Facility onboard Naval Base Guam for expanded medical capabilities in support of DoD's COVID-19 response. Their performance personified our "can do" rally cry.

Some deployment cycles were affected in terms of extensions or delays, but in the end, our Seabee units continued the mission our Navy and Marine Corps called upon them to execute.

From a readiness standpoint, we've been very disciplined on adhering to the CNO's priorities and following the established COVID protocols, which has gone a very long way to maintaining our level of readiness.

Anything else you would like to add?

KORKA: Thank you. I would like to take advantage of this question to brag a little bit about NAVFAC. As a SYSCOM, we have done a lot this year around the world. I believe that our SYSCOM has shown the responsiveness, resiliency and agility that our Navy and Marine Corps needed. It was a record-breaking year… the volume of work was about $13 billion in contracts – the prior year was only $10.9 billion, the highest since 2009 – and we did all this while facing COVID. I think that says a great deal about the talent and commitment of the people of this command.

In response to the global pandemic, we were able to assist the Army Corps of Engineers in the conversion of hotels to alternative care facilities. We supported the Corps at 14 locations in the Midwest and Mid-Atlantic [states], as well as in the Southeast and Guam.

Over the last 18 months, we have put a special focus on our technical and contracting authorities and capabilities to better enable warfighting and also support of distributed maritime operations and expeditionary advanced base operations. As an example, our warfare center in Port Hueneme, California, executed the first ever landing of the rotary-wing

aircraft on a Navy lighterage system. This proved out a viable concept of refueling and re-arming in a contested environment.

Using a Perform to Plan (P2P) approach, we are employing data and analytic capabilities to inform investment priorities and focus leadership engagement … at every echelon around the globe our sights are squarely aimed on speed, agility, and costs in support of fleet readiness. We stood up an analytics office to better monitor and accelerate our performance and to improve our execution. We also stood up a real estate acquisition office to promote projects that enhance warfighting readiness and avoid costs. Overseas, our team designed and deployed two miles of port security barriers for the Navy's Fifth Fleet within nine months of request.

While this was a big year in terms of business volume, we still have a lot of work ahead of us. However, I believe that we are on the correct vector and we are moving ahead with urgency to support the Navy and Marine Corps. It is a unique period with great power competition and I believe we are adjusting to this in the right ways. It is an honor for me to serve in this command and support the fleet and our great nation.

U.S., Swedish Naval Leaders: Total Defense Requires a Maritime-Aware Society

Artwork marks the spot in Sweden where a Soviet Whiskey-class submarine ran aground in 1981, and was spotted by a Swedish civilian. Wikipedia / Kallegauffin

ARLINGTON, Va. — Senior officers in the U.S. and Royal Swedish navies said that even with modern systems, maritime defense is enhanced by a maritime-aware society. Security is a function of a whole-of-society approach.

Speaking Jan. 26 in an American Enterprise Institute (AEI) webinar, U.S. Navy Vice Adm. Andrew Lewis, commander, U.S. Second Fleet, and Rear Adm. Ewa Skoog Haslum, chief, Royal Swedish Navy, discussed "gray zone" threats in the maritime domain, with emphasis on the northern European waters.

"We need to think this as a total defense task to solve, because it's not only the military force that can provide security," Haslum said. "In Sweden we are rebuilding the total defense. We are looking at civilian authorities together with the military and together we a rebuilding a new kind of

defense that really includes the whole society, because all of the agencies need to work together."

Haslum stressed the importance of reliable and trustworthy information flow nationally and internationally, describing that flow as key to nations working together to maintain maritime security and a free flow of commerce. She also emphasized being ready to respond to unexpected scenarios, including being cut off from digital information or being subjected to manipulated information.

The moderator, AEI Resident Fellow Elizabeth Braw, recalled the "whiskey on the rocks" incident, a surprise appearance of a Soviet navy Whiskey-class submarine that ran aground on the coast of Sweden in 1981. She noted that it was a Swedish civilian who spotted the submarine.

Lewis praised the maritime awareness of Scandinavian societies.

"We have a lot to learn, not just in our military but in our society writ large, as a seagoing nation," Lewis said. "That's something we can take away from our partners. That is not something quite as lost in Sweden or Norway. They are very much maritime nations."

He cited a loss of awareness in such institutions at coastwatchers and of the loss of skill such as celestial navigation, which the U.S. Naval Academy recently restored to is curricula.

"When we lose Global Positioning [System], when we lose exquisite communications, or satellite communications – as we see in higher latitudes that's very difficult to maintain – even when we lose line-of-sight electronic communications or digital capability, it goes back to a visual world, a world in which we need to rely upon [the] senses of our eyes and ears to do the things that we need to do.

“More and more, as the electromagnetic spectrum is infringed upon, and manipulated by nefarious actors, we have to rely upon what I would call mission orders, the way to operate tactically, operationally and strategically on intent, where you have very young operators and civilians who understand what they’re seeing and know how to report it or how to defend themselves,” he said. “That’s something we could educate our entire societies on, the existential threat to our way of life.”

Navy Planning Major Combat System Upgrades to Littoral Combat Ships

An MH-60S Sea Hawk assigned to the "Wildcards" of Helicopter Sea Combat Squadron 23 picks up pallets of food from Chilean Navy replenishment oiler CNS Almirante Montt (AO 52) to deliver to the Independence-class littoral combat ship USS Gabrielle Giffords (LCS 10) during a vertical replenishment Nov. 25, 2020. U.S. Marine Corps / Cpl. Camila Melendez

ARLINGTON, Va. — While grappling with reliability and maintainability of its littoral combat ships (LCSs), the Navy this year is planning major upgrades to the ships' combat systems in 2023.

Rear Adm. Casey Moton, program executive officer for Unmanned and Small Combatants, speaking Jan. 15 at a webinar in the Surface Navy Association virtual symposium, said the LCSs "right now are starting to get Over-the-Horizon [for the RGM-184 Naval Strike Weapon) but starting in [fiscal 2023] they will get a more comprehensive update to improve their lethality and survivability. Design efforts are proceeding in earnest this year along with PEO IWS [Integrated Warfare Systems]."

The admiral said the current main focus of the LCS program is improving the reliability and maintainability of the ships.

"The bottom line is that the availability of the ships to the fleet commanders has not been what it needs to be in reliability areas such as propulsion, cranes, radars and some other areas," Moton said. "We set up a strike team that is a cross-functional mix of our shipbuilders and sustainers and they are working very hard going after specific problems, an effort first looks at reliability to makes sure that we have all the feedback from our recent deployments in terms of what systems need to be reworked."

The admiral said the program also is "working hard to reduce the amount of time once a system does go down how long it's going to take to get that system up."

He said the team is "working with industry how to get the

original equipment manufacturers out there where we need to get the repairs. The other aspect is to improve the Navy's self-sufficiency."

A specific focus of the strike team is the Freedom-class LCS's combining gear, which is being looked at as a material issue.

"We're very close to wrapping up a root-cause assessment," he said. "Clearly, coming through hat is going to be critical."

Moton said the LCSs are proceeding well through trials.

Fabrication has begun on all but two LSCs, both Independence-class ships being built at Austal USA in Mobile, Alabama.