Navies Face Future Fight in Undersea Defense

Innovation is key to advancing the U.S. Navy's long-term dominance of the undersea domain. "We need to think about how do we do battlefield innovation … We are focusing on expanding the reach, the depth, and the lethality of our conventionally manned fleet through disruptive and emerging technologies, that includes unmanned systems," Chief of Naval Operations Admiral Lisa Franchetti said at a recent defense forum.

Through technological innovation including advanced undersea sensing and detection, the U.S. Navy has enjoyed unchallenged dominance of the undersea domain from the Cold War to the present day. This dominance has ensured that maritime highways are open to the vital transportation of goods among nations. Maintaining freedom of navigation in the face of potential adversaries who are fielding increasingly capable undersea threats is also a defining technical challenge for the Navy and its allies.

Advanced Acoustic Concepts, LLC (AAC) a wholly owned subsidiary of Thales Defense & Security, Inc. (TDSI) headquartered in Hauppauge, New York, is providing the Navy with proven combat systems that address the current undersea warfare challenges of anti-submarine warfare and mine countermeasures (MCM) solutions.

AAC capability is enabling the Navy's surface force to be more effective at hunting enemy submarines with the Combined Active/Passive Towed Array Sonar (CAPTAS)-4. The Navy selected the CAPTAS-4 Variable Depth Sonar system for installation onboard the new Constellation Class Frigates in May 2022. The CAPTAS-4 transmitter provides an unmatched sound source for detecting submarines and larger UUVs at significant distances. In October 2023, TDSI's AAC delivered the first CAPTAS-4 to

the FFG-62 program ahead of schedule. The complete manufacturing and assembly of all follow-on CAPTAS-4 systems will take place at a state-of-the-art production facility in Lemont Furnace, Pennsylvania.

CAPTAS-4 manufacturing production is underway.

While identifying undersea threats is crucial in naval operations, it is only one piece in a larger group of needs. Combined data, computing power and artificial intelligence for command and control of an entire operation are all vital for success.

For this reason, AAC offers system integration and sensor signal processing through command-and-control suites such as the Littoral Combat Ship (LCS) Mission Module common compute environment for mine detection and targeting. This portable control station solution offers a real-time data-fused common operational picture of undersea objects of interest, transmitted from data captured by the Thales Synthetic Aperture Mine Detection Imaging Sonar (SAMDIS).

The SAMDIS underwater solution, being introduced to market by AAC, uses three acoustic beams to accurately identify an object instead of one. Harnessing three acoustic beams allows users to detect undersea objects accurately while determining which are mines faster than current synthetic aperture sonar systems. The mission module combat system processes the ultra-high resolution SAMDIS imagery and uses AI-enhanced Automatic Target Recognition (ATR) software applications to quickly analyze the object and provide leaders with a detailed situational awareness picture for more informed decision-making. To complete this real-time detect-to-engage mission, AAC also offers a mine neutralization capability in the form of a small unmanned underwater vehicle (UUV).

Additionally and to date, TDSI has delivered over 300 Airborne Low Frequency Sonars (AN/AQS-22) to the U.S. Navy for employment onboard the MH-60R helicopters. These dipping sonars provide the MH-60R platform with long-range detection and a wide coverage rate to clear an area of interest or as a complementary anti-submarine warfare asset to sonars onboard surface vessels for target localization and engagement.

ALFS Airborne dipping sonar onboard MH-60R helicopter © Lockheed Martin.

The comprehensive innovative approach Thales has taken in the undersea domain will enable the Navy to detect, understand and eliminate underwater threats in tactically relevant timeframes. By providing a family of sensing and situational awareness capabilities, Thales is enabling the Navy and international security partners together to stay ahead of the worldwide near-term threat.

Naval Supply Systems Command introduces Naval Sustainment System- Supply 2.0

The guided-missile destroyer USS Arleigh Burke (DDG 51) transits through the Mediterranean Sea in 2023. NSS-Supply is helping meet fleet readiness goals using an agile framework driven by data analytics. CREDIT: U.S. Navy | Mass Communication Specialist 2nd Class Omar Rubi

By Kirk Engler and Melissa Olson

Naval Sustainment System-Supply (NSS-Supply) 2.0 is focused on delivering fleet outcomes and supply's contribution to fleet readiness, whereas NSS-Supply's original focus was to capture supply chain value.

Navy fleet readiness goals fall into three categories: Subsurface, Surface, and Aviation, allowing NAVSUP to focus on supply's contribution to meeting fleet readiness goals.

How? NSS-Supply uses the "Agile" framework driven by data analytics. NSS-Supply is currently analyzing data to see what supplies are keeping the Surface Warfare community from reaching their North Star readiness target of 75 mission capable ships. A good example is the targeting of on-board sparing for systems that have outdated spares modeling. Getting the right mix of spares on board increases readiness and improves endurance.

Simply stated, NSS-Supply 2.0 moves away from a monetized-value calculation to a readiness calculation directly linked to fleet readiness goals.

NSS-Supply is built on the CNO's priorities of warfighting, warfighters, and the foundation that supports them. The essential element is the Agile approach which quickly assesses problem areas and rapidly deploys innovation into the E2E supply chain using the Get Real, Get Better mindset to deep-dive supply chain issues that accelerate the Navy's warfighting advantage.

Initiatives are built from the Chief of Naval Operations, Navigation Plan Implementation Framework (NIF) priorities and objectives. Additionally, Performance-to-Plan (P2P) is inculcated in the NSS-Supply culture to drive baseline Get Real readiness performance and NSS-Supply is the Get Better engine that allows accountable commanders to implement world-class readiness solutions across the Navy's E2E supply chain.

NSS-Supply has undertaken 33 initiatives since 2021. The following examples provide a few highlights:

- Achieved average RTAT reduction of 40% in aviation and

30% in maritime repairs.

- Established first Regional Maintenance Center reoccurring repair agreements to repair 104 parts for wholesale stocking.
- Increased nuclear submarine capabilities through improved spares pool health and enhanced policies to increase critical submarine parts inventories.
- Engaged key suppliers to improve contract performance, expanded contract strategies, and improved inventory performance.
- Built and implemented E2E Naval Shipyard Supply Chain Management tool to significantly improve submarine material support.

NSS-Supply continues to tackle supply chain initiatives directly supporting the warfighter as a multi-year journey to transform the end-to-end supply chain and provide the sustainment outcome the fleet needs that responds to the VCNO directive that designated the Commander, Naval Supply Systems Command as the Navy's E2E Navy Supply Chain Integrator.

CDR Kirk Engler is director of Naval Sustainment System – Supply, Naval Supply Systems Command and Melissa Olson is deputy director.

L3Harris Moves Ahead with Disruptive Capabilities

L3Harris successfully launched a recovered a Iver4 UUV from a submarine. Photo Credit: L3Harris

L3Harris (Booth 1037) hopes to use its expertise in autonomy software, uncrewed surface vessels and uncrewed underwater systems to help the Navy counter the looming threat of China and get more systems into service.

The company has a lot of interest in what Jon Rambeau, president of L3Harris' Integrated Mission Systems segment, called "disruptive capabilities," which includes moving airborne ISR capabilities from military aircraft to business jets and focusing on passive sensing and targeting for autonomous surface and subsurface vehicles.

"In the maritime domain … [we do] a lot of work around autonomous surface and subsurface vessels, and also a focus on passive sensing and targeting for the surface to allow the manned fleet to operate without having to light up their radars so often," Rambeau told Seapower in an interview. "We think that's a capability that can be deployed very rapidly, it's very mature and it's also very low cost."

The company also recently successfully deployed and recovered an uncrewed underwater vessel from a submarine's torpedo tube,

using one of its Iver4 vehicles.

“We were the first company to be able to demonstrate the capability to retrieve a UUV through a submarine torpedo tube while it was underway,” Rambeau said. “A pretty big accomplishment. Others had tried and failed and we were able to be successful on our first try, which was pretty impressive and not only that, but twice in one day, so pretty neat. That team just won our corporation’s top technology innovation award this year across the entire company.”

Replicator

The U.S. Department of Defense last year announced the Replicator program, a still largely undefined effort to launch thousands of attritable, autonomous aerial and surface systems to help counter China’s growing fleet.

“That’s something we’re very interested in being a part of,” Rambeau said. “I think some of those decisions are still being made about who and how we’ll participate, but we know there’s an initiative, obviously, to drive the large-scale deployment of unmanned systems, and we think the work we do is right in the heart of that. We’ve deployed hundreds of small, undersea vessels, we’ve deployed hundreds of small surface vessels over a number of years, some in the commercial side, some in the military side of our business, and that’s where a lot of our concentration has been, small and medium vessels for subsurface and surface operations, and a lot of work particularly around the autonomy capability.”

L3Harris has an in-house autonomy development team, a capability Rambeau said is very mature, and had two autonomous ships deployed under an urgent operational needs statement with Task Force 59 out of Bahrain, which has been demonstrating uncrewed surface vessel capabilities. The submarine-launched UUV effort also stemmed from an urgent needs requirement.

“One of the areas that we continue to focus on is that we know the customer pull is there for these, I would say disruptive capabilities, we have the technology well matured,” Rambeau said. “I think the question is, how do we quickly get from proof of concept to prototyping to production as fast as possible? Initiatives like Replicator are designed to try to move that along, and we’re hopeful that there will be opportunities for us to be part of that.”

Passive Sensing

Some of the passive sensing and targeting capabilities the company has developed for uncrewed systems can also be deployed on manned vessels, and L3Harris is planning to do some prototyping work with the Navy on that later this year.

“We’re still working through the details of how and where and when that will take place,” Rambeau said, “but we are looking to prove out the ability to sense and target an adversary without having to use a radar onboard a ship at all. That is our hope.”

Rambeau said he is seeing growing interest from the military in manned-unmanned teaming, a concept that has been around for years but which could gain new potency under a Replicator-type effort.

“I won’t speak for the Navy, but from my point of view I think that being able to link a small group of unmanned surface vessels with the manned fleet and allow those to be companions to get out ahead a little bit, do some reconnaissance, feed information back, there certainly are a lot of opportunities to employ the vessels in that way,” he said.

“… With the ability now to launch and recover an unmanned vessel from a submarine, that really gives an opportunity to extend the reach of the submarine fleet and also to provide greater survivability, because they may not have to go into harm’s way as deeply to gather data if they have an appendage

that can be set free and then recovered back with some information. Minehunting, that sort of thing."

Insitu Going Strong at 30, Focusing on Maritime Operations

Insitu's FLARES system carries an Integrator SUAS aloft to launch it. Photo Credit: Insitu

By Richard R. Burgess, Senior Editor

NATIONAL HARBOR, Md. – Insitu, one of the most experienced companies in the small unmanned aerial systems (SUAS) market, will mark 30 years of operations in May.

The company (in parent company Boeing's Booth 1337), noted for its ISR (intelligence, surveillance, and reconnaissance) services and sales of modular SUAS such as ScanEagle and Integrator, especially for U.S. and allied operations in Afghanistan, is emphasizing maritime deployment of its SUAS with the shift of U.S. focus to the Indo-Pacific region, Diane Rose, president and CEO of Insitu, said in an interview with Seapower.

The Integrator UAS gets VTOL capability using the FLARES system. Photo Credit: Insitu

Insitu's SUAS have flown 175,000 sorties, accumulating 1.5 million flight hours, including 70,000 hours of maritime operations, Rose said. The SUAS are operated by or for 40 customers – to include 20 navies and coast guards – in 35 countries. The SUAS have been operated from 28 classes of naval vessels.

Insitu's SUAS have been provided to Ukraine via Foreign Military Sales and have been "very successful in that space," she said, and Insitu will "continue to support that effort."

Insitu continues to manufacture air vehicles and provide spare parts, system upgrades, and training to users. Modular sensors, provided by partner companies, can be swapped in the field to flexibly meet mission requirements.

“Our architecture allows us to integrate very quickly third-party sensors and payloads,” Rose said. “With the customer’s interests and missions in mind, we have a unique capability to offer solutions that support whatever the customer’s needs may be.”

Rose said there was a downtick in ISR services at land-based sites for the United States military since the end of the war in Afghanistan, but an uptick in international interest in Insitu’s products and services, especially focused on the maritime domain in the Indo-Pacific region, with an associated evolution in technology to satisfy emerging and changing customer needs.

The U.S. Navy and Coast Guard continue to use Insitu’s ISR services. The Navy also has procured Insitu SUAS. Navy units continue to use the RQ-21A Blackjack version of the Integrator, while Navy Special Warfare units use the RQ-27B version of the ScanEagle.

“Maritime operations are hard, and this is what 30 years of experience gives us,” Rose said. “Shipboard movement, shipboard radars and antennas, the EMI [electro-magnetic interference] environment, the harsh weather conditions, global logistics – how do you re-supply your systems, how do you meet the ships at the various ports?

“There’s a lot to supporting maritime operations, and I think that’s really why you see the success of our systems’ enduring,” she said, speaking of the long service of ScanEagle in the ever-evolving field of uncrewed aerial systems.

For customers who procure Insitu SUAS, the company provides training on how to operate the systems and also operates a

24/7 Operations Action Center, which provides customers engineering support and responses to trouble reports.

This year at the Navy League's Sea-Air-Space (SAS) Expo, Insitu will be highlighting its vertical takeoff capability in the FLARES (Flying Launch and Recovery System (FLARES) octocopter, which it introduced at the 2023 SAS. FLARES can carry an Integrator UAS aloft 500 feet and launch it on its mission, enabling the Integrator to maintain its range, endurance, and payload capacity. The octocopter alleviates the need for a launch rail, reducing the footprint of the system and making shipboard and expeditionary operation easier. The recovery method remains the same.

Rose said Insitu has one customer so far for FLARES that carries a ScanEagle aloft.

At Sea-Air-Space, Insitu will highlight its FLARES systems, which provides VTOL capability to fixed-wing UAS Photo Credit: Insitu

She said the 570-employee company is interested in growing its

technical talent but emphasizes lean and efficient operations in a highly competitive industry.

Insitu continues to press forward to address battlespace challenges, including SUAS operations in a GPS-denied environment and with kinetics. The company has conducted inert-drop flight tests from Group2/3 SUAS.

Gaming to Win and Learn at Sea Air Space

The Center for Maritime Strategy “Gaming to Win” event is in its second year at Sea Air Space and offers a little for everyone within the wider wargaming community.

It features the presidents of the Naval Postgraduate and Naval War College and directors of wargaming from NWC and the Marine Corps University Krulak Center. It also highlights top-flight wargames and their designers who will invite participants to

play along, and then be part of a panel on the design and use of games.

The first panel on wargaming will Tuesday, April 9 from 2:45 to 3:45 p.m., followed by an interactive wargaming demonstration from 3:45 to 5:00 p.m. and a second panel from 5:00 to 5:45 p.m., all in the Cherry Blossom Ballroom.

Discussion at last year's inaugural wargaming eventDiscussion at last year's inaugural wargaming event. Photo Credit: Dan Goodrich

While the panel is called "Gaming to Win," that is really not what wargames actually do for military commanders and civilian leaders. They perform a vital role in testing assumptions that commanders might possess, as well as offering them the opportunity to explore multiple "what if" scenarios. The late Peter Perla, a famous wargamer, described them as "a dynamic representation of conflict or competition, in a synthetic environment in which people make decisions and respond to the consequences of those decisions." Wargames do not answer the question of which side will win, or what weapon system(s) are

most effective in war. War games build confidence or raise doubts in existing plans. They are a useful tool in evaluating plans but come with limitations that are not always apparent.

Limitations on Wargaming

Some wargame results are interpreted as the “sure path to victory,” or the “inevitable road to defeat” depending on who reads the results and how they interpret them. Wargame results are sometimes seen as either confirming the rise of a specific weapon system or the condemnation of another to obsolescence. These are false interpretations of game results. First, wargames are only as “good” as their input data. That not only includes order of battle being correct, but also, when available, aspects of gaming that the Naval War College calls “the intangible aspects of military planning.” How “ready is any one opponent ship, aircraft, or submarine in terms of material readiness? Can that platform perform its intended mission as designed?

The board at last year’s wargaming event. Photo Credit: Dan

Goodrich

What looks good on paper is not always what it appears. The Russian missile cruiser Moskva was generally rated by Cold War and 1990s-era wargames as able to sustain at least four hits from a medium-sized cruise missile like the U.S. Harpoon weapon and remain afloat. In the real world, the Moskva was sunk by two such weapons, with some reports suggesting the Russian crew immediately abandoned the stricken vessel and did not undertake damage control actions to save her.

Another intangible aspect of wargame design and conduct is the leadership and conduct of the Red Cell, the team of experts who simulate what the opposing forces do. This has in some cases been a past challenge. From the late 1940s to the late 1970s, U.S. Navy leaders believed the growing force of Soviet submarines had only one main purpose, and that was to attack NATO resupply routes from North America to Europe. Russian leaders like fleet commander Admiral Sergei Gorshkov proclaimed the Soviet navy would confront Western navies on the high seas. The large German submarine fleets of World Wars I and II were designed to break Allied supply routes across the Atlantic. Why else would the Soviets build such a force? Intelligence gathered from wiretaps on Soviet undersea communications cables in fact revealed the Soviet navy's main purpose for its submarines was defense of its ballistic missile submarine force and the protection of the Soviet Union from nuclear attack by Western naval forces. Soviet doctrine said the war would be over before the West could even consider reinforcing NATO by sea.

Getting all of these aspects of wargaming as accurate as possible from the start is essential to setting the stage for game results that can be used by commanders to evaluate plans and the systems to execute them in both peace and war. Wargaming is pursued with victory as the goal, but if it is not sourced with accurate information, it can be a futile exercise.

HII Responds to Post-COVID World with Flexibility, Supply Chain Support

Sailors man the rails during the commissioning ceremony for the Arleigh Burke-class Flight III guided-missile destroyer USS Jack H Lucas (DDG 125) in Tampa, Florida Oct. 7, 2023.
CREDIT: Department of Defense | EJ Hersom

Shipbuilder HII (Booth 1323) has embarked on a range of efforts to improve its workforce, bolster the supply chain and boost its capital investments, HII President and CEO Chris Kastner said in a briefing on the eve of Sea-Air-Space 2024.

The company saw as far back as 2015 there would be significant demand for ships, but couldn’t anticipate a worldwide pandemic that affected supply chains and the workforce, followed by

rampant inflation, Kastner said.

“There’s really unprecedented demand in shipbuilding right now that we saw coming, and it has arrived,” he said. “With Navy leadership … the industry has been getting after this since COVID started.”

The company and its subsidiaries have been outsourcing some of the work they used to do, which helps bolster the supply chain, Kastner said. Since 2020, HII has helped create more than 200 new suppliers and outsourced 3.6 million hours of work.

It has also spent $450 million on workforce training and is providing new technology tools at its workforce, including artificial intelligence to help make its practices more efficient. “If we can use AI to improve our processes, we’re going to do that,” Kastner said.

Issues with shipbuilding came to the fore just this past week, as the preliminary results of a Navy shipbuilding study showed major programs are years behind schedule, including the first Columbia-class submarine and the future USS Enterprise aircraft carrier.

Advanced procurement is critical to avoiding such issues, Kastner said, one reason the shipbuilder has been pushing for a two-carrier buy for CVNs 82 and 83, similar with what was done for the future Enterprise (CVN 80) and Doris Miller (CVN 81), which were procured as a two-ship buy.

“We would like to get started in [20]26, potentially in 25 on the critical suppliers, in regard to 82,” Kastner said. “There’s no doubt that a two-ship buy with 80 and 81 really reduced the risk of 81. The risk we had on 80 was alleviated with 81.”

As for the future USS District of Columbia, the first boat in the Columbia class, Kastner said it has a “very robust” risk

management effort, “but you’re going to have first-in-class issues. And couple that with a lot of green labor, that can yield to workmanship issues, and efficiency issues, and you get potential schedule issues. It’s a first-of-class ship, and you’re rebuilding a workforce coming out of COVID.”

He noted that two shipbuilding programs involving HII are doing well, the LPD amphibious transport dock and DDG Flight III.

“What are the characteristics of those programs? Stable designs – and when the design changed it was very thoughtfully implemented, I’m talking about DDG Flight III – on time advanced procurement. Consistent workflow. All of those … and a really good core group of shipbuilders,” Kastner said.

Workforce Adjustments

“It’s a fact of life that you have a less experienced workforce than you had before, across the board. There’s significant loss of skill after covid. That’s been broadly understood, and it’s been a cross section of our talent base,” Kastner said.

That’s where HII is trying new things, including providing more flexibility for shipbuilders when they come in, including more time off early in the process. The company also has more programs to help their new hires enter the shipbuilding workforce.

“We used to just train them and send them out to a crew. Now, we train them, we bring their foreman in the training center and we put them out as a team. So, they have a framework and a cultural that they’re developing with their team, so they feel like they’re not alone when they go out into the shipyard,” he said.

HII is also recruiting from areas where people are likely to stay, according to data analytics. It is also using targeting

incentives, where good performance and attendance lead to a boost in pay.

STEM Expo Brightens National Harbor with Exciting Science Demonstrations

The STEM Expo brought 5th through 12th grade students face to face with exciting science concepts on Sunday, April 7, filling the Cherry Blossom ballroom with laughter and gasps of wonder.

The event featured interactive workshops, hands-on demonstrations, STEM career information and just plain fun,

including the famous nitrogen ice cream booth and a visit from Slapshot, the feathered mascot for the Washington Capitals hockey team.

While the event was fun, there was a serious purpose behind it, according to representatives from HII, the shipbuilder that was the Champion Sponsor for the event, alongside sponsors CACI and Booz Allen.

VR and 3D Printing

HII gave attendees a slice of real-life modern shipbuilding, demonstrating the use of virtual reality for ship inspections and welding and also showcasing 3D printing, or additive manufacturing, which is being used to create some components in the real world.

“It’s a safe space to fail, is what it really is. They learn these objectives here and don’t have any real-world consequences like injuries or anything,” said Grant Ronquillo, a software engineer at HII’s Newport News Shipbuilding.

It’s also the kind of training these students could expect to get if they pursued a career in shipbuilding.

“We’re working with our training programs to get this implemented as part of the standard training within Newport News Shipbuilding and across HII,” Ronquillo said, while behind him a STEM Expo visitor made her way through a simulated 3D room.

Visitors to HII’s booth were also shown a virtual welding booth and a 3D printer. The VR welding demonstration allowed students to take a turn, receive instruction on how to do better, and then try again, said Brian Treat, the lead general foreman at Newport News Shipbuilding.

“They think it’s the real thing,” he said, but it removes all the risk. “What’s key here is removing all the risk of real-

life welding, allowing them to feature the same attributes and talk through it before somebody would go do it in real life." Again, it's how welders are actually being trained.

The additive manufacturing is another technology that some kids are already familiar with, said Perry Haymon, the chief technology engineer at HII's Ingalls Shipbuilding.

"We brought this today to demonstrate to the kids how 3D parts are printed," Haymon said. It's a technology that's making its way into shipyards.

"We do polymer as well as metallic," he said. "It's a great technology, it's a good thing to get into, for the kids to learn, because they like to draw, they like to create, so by doing solid models, now they can actually take that and put it into a printer and actually see what they've created."

Engaging Students

STEM is important because "it's such a broad field and it can be used in so many ways," said Notashia Thomas, a program manager at STEM sponsor CACI.

"When students come to this particular expo, they are exposed to just a myriad of options, and I think it really excites them. I absolutely see the children getting engaged. At our table we've been doing design principles. They try a design, they try it again, they try it again until they see it work, and that's what STEM is all about; the problem solving, the persistence that's involved. It's just great to see them engaged."

The Navy sees the value of STEM as well, contributing several displays and demonstrations for the expo, including in robotics and medicine.

"What is the value of STEM? The importance of STEM in the Navy cannot be overstated," said Commander Shannyn Fowler,

commanding officer of Navy Talent Acquisition Group Richmond. “It’s the backbone of how we operate, in terms of our engineering programs, in terms of our aviation programs, information technology, cyber warfare, explosive ordnance disposal, and so many more. It’s what keeps our Navy afloat, it’s what keeps our aircraft in the sky, and it’s what keeps our enemies afraid of us.”

Fowler said she was pleasantly surprised by the enthusiasm she saw in the students coming through the expo.

“The enthusiasm is beyond measure,” Fowler said. “The excitement of young people between the ages of 5th grade and 12th grade and in STEM programs is beyond my expectation walking in on this.”

Navy Awards Boeing Additional Funds for MQ-25 Drones for Testing

The Boeing-owned MQ-25 test unmanned aerial vehicle, T1. (Boeing)

By Richard R. Burgess, Senior Editor

ARLINGTON, Va. — The Navy has awarded Boeing funds to enhance the production of MQ-25A Stingray carrier-based aerial refueling unmanned aerial vehicles, bringing to five the number procured for testing.

The Naval Air Systems Command awarded The Boeing Company a cost-plus-fixed-fee, cost-plus-incentive-fee, fixed-price incentive (firm-target) $657.1 million contract modification for the aircraft, according to a March 29 Defense Department contract announcement.

“This modification adds scope for the production and delivery of two additional MQ-25 System Demonstration Test Article aircraft (air vehicles four and five), to include associated tooling and communication system changes for the Navy,” the announcement said. “Additionally, this modification definitizes obsolescence phase two for non-recurring engineering to address product baseline obsolescence to support low-rate initial production for the MQ-25 Stingray program.”

The MQ-25A is a single-engine carrier-based UAV designed to refuel other aircraft while in flight. The Navy is procuring the Stingray to refuel F-35 Lightning II and F/A-18E/F Super Hornet strike fighters, EA-18G Growler electronic attack aircraft, and E-2D Advanced Hawkeye command and control aircraft.

Procurement of the MQ-25A will allow the Navy to free up Super Hornet strike fighters from the aerial refueling role for their primary combat missions. It also will help preserve the service life of the Super Hornet fleet.

The Navy ordered four development models of the MQ-25A in August 2018, followed by an order for three more in April 2020. The company-owned prototype made its first flight in September 2019 and in 2021 demonstrated its ability to refuel the F-35C, F/A-18E/F, and the E-2D. The September 2022, the Navy awarded Boeing a contract for advance materials for Low-Rate Initial Production Lot 1. Initial operational capability is expected in 2026. The Navy plans to procure 72 Stingrays.

Benign 4th Fleet AOR Useful for Unmanned Vehicle Operationalization, Admiral Says

230913-N-N3764-1001 NAVAL STATION KEY WEST, Fl. – (Sept. 13, 2023) – Commercial operators deploy Saildrone Voyager Unmanned Surface Vessels (USVs) out to sea in the initial steps of U.S. 4th Fleet's Operation Windward Stack during a launch from Naval Air Station Key West's Mole Pier and Truman Harbor, Sept. 13, 2023.

By Richard R. Burgess, Senior Editor

ARLINGTON, Va. – The Navy's use of unmanned systems in the U.S 4th Fleet area of operations (AOR) is enabling the fleet to move from experimentation to operationalization of the unmanned systems, even discovering unanticipated advantages of those systems.

The stability of the region and the relatively benign environment – from high-end threats – of the fleet's AOR has enabled the fleet to experiment with unmanned systems and develop trust in them, said Rear Admiral James Aiken, commander, U.S. 4th Fleet and commander, Naval Forces, U.S.

Southern Command, in a March 27 Defense One webinar conversation.

“This is a take-risk AOR,” Aiken said, noting that the environment allows the fleet to experiment in “creative ways” with unmanned systems.

“We want to take unmanned systems and operationalize them,” he said.

For one example, he said that unmanned surface vessels can identify ships and boats engaged in illegal fishing.

The admiral said that leasing unmanned systems for experimentation – as opposed to procuring them – enables the fleet to more easily discontinue use of systems that prove inadequate. He mentioned one system – which he did not name – that proved to be deficient for its role in high sea states.

Aiken said that during the last UNITAS exercise with regional navies, a representative from the U.S. 5th Fleet attended as an advisor. The 5th Fleet’s Task Force 59 has for several years conducted experimentation with unmanned surface vessels (USVs) in the Missile East.

Aiken said that one surprising discovery was the deterrent value of USVs. He said that the very presence of Saildrone USVs north of the northern coast of Haiti served as a deterrent to migrants seeking to reach another shore, including the United States.

Navy to Send Beach Group,

Sealift Ships to Support Gaza Relief

A Joint Logistics Over-the-Shore Trident floating pier and causeway is shown under assembly. (US Army photo by Sgt. Ashunteia Smith)

By Richard R. Burgess, Senior Editor

ARLINGTON, Va. — The U.S. Navy is sending an expedition of beach cargo handling forces to assist in the establishment of a floating causeway and pier to handle delivery of relief supplies to Gaza.

Speaking on background, a Navy official told reporters on March 20 that Beach Group One, augmented by other logistics forces, would be deployed to the eastern Mediterranean Sea to deliver and assemble lighterage of the Joint Logistics Over-the-Shore (JLOTS) system to convey supplies to the Trident pier and causeway Joint Logistics Over-the-Shore (JLOTS) pier

that will be assembled by the Army's Transportation Corps.

Beach Group One, based in San Diego, is a command that provides beachmasters and LCAC air cushion landing craft to amphibious warfare ships, as well as a JLOTS.

The JLOTS equipment – positioned in Jacksonville, Florida – will be transported to the Mediterranean on three sealift ships – 2nd USNS LT John P. Bobo, USNS1st LT Baldomero Lopez, and Maritime Administration's Ready Reserve Force ship Roy P. Benevidez – with the latter transporting Army equipment. The ships will deploy nonstop straight to operations area and remain on station off Gaza to provide berthing and support for the Sailors and Soldiers involved in the relief operation. The Beach Group One personnel will be flown to the Mediterranean to join their equipment.

The official said the Navy would be sending 260 personnel to the operation, including augmentees from Beach Group Two and Navy Cargo Handling Battalion One. The personnel would include boatswain's mates, Seabees, hospital corpsmen, quartermasters, and operations specialists, as well as other ratings.

The beach group will assemble a Roll-On/Roll Off Discharge Facility (RRDF), a 72-foot-by-270-foot floating platform built from nine sections that join together. The official said the RRDF takes four-to-five days to assemble. The RRDF, positioned three miles from the beach, will be moored alongside ships to accept their cargo containers, offloaded onto the RRDF by cranes. The containers are then loaded onto lighterage that are moved by tugboats to the Army Trident pier, which is attached to a causeway that leads to the shore. The containers are then trucked ashore by the tractor-trailers.

The sealift ships and the JLOTS will be supported by medium landing craft, repair craft, and small boats.

The JLOTS was last used in Exercise Talisman Saber in July 2023. The official said that the JLOTS is assembled regularly

for training and proficiency, usually once or twice per year.

The official confirmed that no U.S. military personnel will be operating ashore in Gaza. Contract personnel will be used to drive the tractor-trailers onto the pier to receive the cargo.

The duration of the operation is yet to be determined. The official said the beach group would be meeting whatever was required by its operational commander. He said the command-and-control structure in the theater was still being worked out.