# Small Torpedo Being Prototyped by Raytheon to Arm the Navy's Submarines

YOKOSUKA, Japan (Oct. 18, 2022) The Los Angeles-class fast-attack submarine USS Springfield (SSN 761), arrives at Fleet Activities Yokosuka for a scheduled port visit, Oct. 18, 2022. Springfield is forward-deployed to Guam and routinely operates in the U.S. 7th Fleet area of responsibility, conducting maritime security operations and supporting national security interests. *U.S. NAVY / Mass Communication Specialist 2nd Class Travis Baley*

ARLINGTON, Va. – Raytheon is building prototypes of a small torpedo that is designed to attack hostile submarines and defend the U.S. Navy's submarines from incoming torpedoes.

The Compact Rapid Attack Weapon (CRAW) is designed to be launched from a submarine's decoy launcher rather than the submarine's torpedo tubes, and thus will not require a

separate launcher to be installed on a submarine, said Bill Guarini, Raytheon's director of Requirements and Capabilities for Under Systems, in a Jan. 6 interview with Seapower.

## Applied Physics Design in Action

Raytheon was awarded a Navy contract in September in a down-select decision to take a data package from Penn State's Applied Physics Laboratory's design of its nine-foot-long Very Lightweight Torpedo, updated with Technology Insertion 1 – that addresses obsolescence issues – and develop a prototype of the CRAW. Raytheon is to build 18 CRAW prototypes and 12 turn-around kits, the latter to be used to restore used CRAW prototypes to a re-usable condition. The prototypes will be delivered to the Navy with the Technology Insertion 2 data package.

Guarini sees the CRAW as a natural fit with Raytheon's existing torpedo business. The company builds the Mk54 lightweight torpedo deployed in surface warships and anti-submarine aircraft.

The CRAW prototypes will be built at the company's facility in Portsmouth, Rhode Island.

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# Fleet Forces Commander: Surface Warships Need to be 'Plug and Play'

CIVITAVECCHIA, Italy (Jan. 3, 2023) The Arleigh Burke-class guided-missile destroyer USS Nitze (DDG 94) departs Civitavecchia, Italy, following a scheduled port visit, Jan. 3, 2023. The George H.W. Bush Carrier strike Group is on a scheduled deployment in the U.S. Naval Forces Europe area of operations, employed by U.S. 6th Fleet to defend U.S., allied, and partner interests. (U.S. Navy photo by Mass Communication Specialist 2nd Class Cryton Vandiesal)
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ARLINGTON, Va. – The U.S. Navy's surface combatants need to be able to operate independently but also integrate with a strike group seamlessly, the admiral in charge of setting fleet doctrine said.

The Navy needs "to capitalize on our Navy's greatest strength: its ability to distribute and concentrate lethal effect, and out timing and tempo," said Adm. Daryl Caudle, commander, U.S. Fleet Forces Command, speaking Jan. 11 at the annual Surface Navy Association symposium in Arlington.

"This requires our surface combatants to be much more plug and

play inherently," Caudle said. "Our ships should not have to work up together to fight effectively together."

Caudle said that '[f]rom my vantage point, the way we accomplish this is by redesigning the core carrier strike group. In my view of the model, the core strike group would be built on a CVN [aircraft carrier], of course, an air-defense missile ship, and a re-supply oiler. These units matriculate through the core OFRP [Optimized Fleet Response Plan] based on the CVN's required phases."

The OFRP is the fleet's standard ship cycle construct that guides a roughly 36-month readiness roadmap. It is designed to provide the fleet with continuously ready, fully certified warships ready to accomplish a full range of on-demand missions at all times. The ships in a strike group go through maintenance, deploy, and stand ready to surge together.

## Deploy Independently, Seamlessly Integrate

"By removing and de-coupling the requirement that all supporting ships are tied to the CVN's OFRP phase length, I optimize each surface ship based on a more tailored set of requirements allows me in concept to improve the readiness and availability of our surface Navy to deploy and respond," Caudle said. "Each surface ship would be trained and certified on their pre-determined set of warfare area competencies beyond basic operations, enabling them to deploy independently and plug into a strike group seamlessly at the point of need. In conflict, this is an absolute necessary."

Caudle said the Navy is re-examining training and deployments to align with what already is happening in the fleet.

"The beauty of this re-designed strike group concept is that it becomes an interchangeable force that can integrate [in a

fungible way] into a myriad of environments, with multiple commanders across AORs [areas of responsibility] worldwide," Caudle said. "This and many other problems and challenges reduce the O [optimized] in the OFRP and are being examined by a cross-functional team led by my fleet readiness officer."

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# Fleet Forces Commander Scolds Weapons Industry for Supply Chain Woes

POLARIS POINT, Guam (Sept. 13, 2021) Sailors and civilian mariners assigned to the submarine tender USS Emory S. Land (AS 39) and Sailors assigned to the Los Angeles-class fast-

attack submarine USS Asheville (SSN 758) offload a Mark 48 advanced capability torpedo from Asheville during a weapons handling evolution, Sept. 13, 2021. Emory S. Land is one of two U.S. Navy submarine tenders that provide maintenance, berthing and logistical support to submarines and surface ships in the U.S. 5th and 7th Fleet areas of operation. (U.S. Navy photo by Mass Communication Specialist 3rd Class Naomi Johnson)

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ARLINGTON, Va. — The Navy's admiral who sets manning, training, and equipping the fleet scolded the weapons industry in a blistering response to a question from an audience of naval personnel and defense industry officials about delays in delivery of equipment such as weapons. This countered a common industry citation of supply chain woes related to the COVID-19 pandemic.

"I'm not as forgiving of the industrial base — I'm just not," said Adm. Daryl Caudle, commander, U.S. Fleet Forces Command, speaking Jan. 11 at the annual Surface Navy Association symposium in Arlington. "I am not forgiving of the fact that you are not delivering the ordnance that we need."

"All this stuff, about COVID this, parts, supply chain this — I just don't really care. We've all got tough jobs," Caudle said, sparking a round of applause from the audience. "I need SM-6s [Standard Missile-6s] delivered on time, I need Mark 48 torpedoes delivered on time. We're talking about warfighting, national security and going against a competitor here and a potential adversary that's like nothing we've ever seen, and we kept dilly-dallying around with these deliveries."

"I don't see good accountability, I don't see a good return on investment from the government side," he said. "If you want to take me to a room and show me your sob story, I'd be happy to hear it, but at the end of the day, I want the magazines filled, all of the ships' tubes filled."

## Robbing Peter to Pay Paul

“I don’t want to have to bring a strike group back so I can rob Peter to pay Paul so the next one [strike group] can go, and then if I want to help a country out like Ukraine, I’m not sitting, talking about what it is doing to me, I’m talking about, ‘Of course we’re going to help a country, deliver the stuff we need so they can win that conflict against Russia and it’s not going to send me back to the Dark Ages,” Adm. Caudle said.

“I’m frustrated … because it’s so essential to winning, and in my position and for people in the room in uniform, that’s all that matters, and I can’t do that without ordnance,” he said.

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# Surface Navy Boss Sets Goal of 75 Mission-Capable Ships on Any Day


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ARLINGTON, Va. – The type commander of the Navy's surface combatant fleet has set a goal of sustaining a fleet of 75 mission-capable (MC) ships.

"We've come up with a North Star goal to drive all of our readiness objectives, and that's get at 75 mission-capable ships ready on any given day," said Vice Adm. Roy Kitchener, commander, Naval Surface Forces and commander, Naval Surface Force, U.S. Pacific Fleet, speaking to reporters in a virtual roundtable on Jan. 5 – embargoed until Jan. 10.

## Data-Accessed Readiness Goals

"The goal is not arbitrary," Kitchener said. "It's not random. It was born from our investment in our data analytics, a really good, thorough assessment across the fleet's operational requirement. That 75 drives every program and action we take across our force."

The admiral characterized the initiative as “sharpening the competitive edge” to produce the most capable ships, weapons technologies and the Sailors that will use them, and “getting more ready” for potential conflict in the Western Pacific.

The 75 MC ships initiative is modelled after an effort by the Naval Aviation Enterprise to achieve a certain number of mission-capable strike fighters. The initiative was in an effort to overcome a lack of readiness that was hampering naval aviation’s combat readiness and aircrew flight proficiency and retention.

The surface boss is defining ship readiness in three categories:

- Not Mission-Capable (NMC): a ship in deep maintenance or just emerged from deep maintenance
- Mission-Capable (MC): readiness to deploy with a certain level of certification but not fully mission-capable
- Full Mission-Capable (FMC): all certifications complete, deployed, ready for high-end combat

Kitchener is establishing readiness groups to staff, train, and equip ships for combat; a Surface Response Plan to prioritize and allocate ships where most needed; and surface maintenance operations centers to reduce engineering casualty reports (CASREPs).

He emphasized the need to more fully stock ships with spare parts to make equipment readiness more sustainable when deployed at sea.

The ships included in the North Star goal include all surface warships with the exception of Zumwalt-class guided-missile

destroyers and Lewis B. Puller-class expeditionary sea base ships.

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# Navy’s SPY-6 Radar to Reach Initial Operational Capability in 4th Quarter Fiscal 2024

The fixed-face antenna of the SPY-6-(V)1 radar is shown on the future USS Jack H. Lucas (DDG-125), the first ship equipped with the radar. (Raytheon)

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ARLINGTON, Va. – The U.S. Navy's new SPY-6(V)1 Air and Missile Defense Radar is scheduled to reach Initial Operational Capability (IOC) during the fourth quarter of fiscal 2024, a Raytheon official said.

The radar, which first went to sea for trials on Flight III Arleigh Burke-class guided-missile destroyer Jack H. Lucas (DDG 125) in December, met all of its test objectives, said Mike Mills, Raytheon's senior director for Naval Radar Programs in a Jan. 6 interview with Seapower, noting that the radar will be ready for IOC late next year.

## New Year, New Radar

The fixed-face SPY-6(V)1 replacing the SPY-1 in the newest version of the Arleigh Burke class DDG, Flight III.

Mills said more software enhancements to the radar will be made as it is readied for the Navy's acceptance trials scheduled for May or June.

Raytheon is under contract for 25 SPY-6 radars of the various versions, including six SPY-6(V)1 variants for DDGs. The future USS Ted Stevens (DDG 128) will be the second ship DDG to be fitted with the SPY-6(V)1.

The SPY-6(V)2 Enterprise Air Search Radar (EASR) is a rotating antenna version that is first being installed on the Flight I San Antonio-class amphibious platform dock ship Richard M. McCool Jr., the transition ship to the Flight II of the class.

The first SPY-6(V)3 EASR rotating radar has been installed on the future aircraft carrier USS John F. Kennedy (CVN 79), currently under construction.

The SPY-6(V)4 version has a fixed-face antenna and will be retrofitted on some Flight IIA DDGs in place of the SPY-1. Mills said an adapter plate will be installed on the ships to

allow for the retrofit of the SPY-6(V)4 antennas. The existing power systems will be 95% leveraged for re-use, he said.

Mills said he expects a contract for the (V)4 to be forthcoming this year.

He said the commonality of the various SPY-6 variants will simplify logistics. They will have common software and common sensor cells.

## Superior Defense Capabilities

All DDGs equipped with the SPY-6 will have defense capability against ballistic missiles, Mills said.

He also pointed out that the increased range of the SPY-6 will improve the defensive capability of a DDG and free up more missile launchers for offensive capability.

“We’ve got a whole lot of international interest,” Mills said, noting that several nations that currently use the SPY-1 radars would be potential customers for the SPY-6(V)1. He said his company has given numerous briefings to potential international customers.

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# Congress Orders Report on Plan for Future of Navy’s Expeditionary EA-18G

# Squadrons


A U.S. Navy EA-18G Growlers assigned to the "Garudas" Electronic Attack Squadron (VAQ) 134, Naval Air Station Whidbey Island, Washington, waits to receive air-to-air refueling from a Royal Air Force Voyager tanker assigned to 101 Squadron, RAF Brize Norton, United Kingdom, during a Red Flag-Nellis 22-1 mission Feb. 3, 2022, at Nellis Air Force Base, Nevada. *U.S. AIR FORCE / Airman 1st Class Zachary Rufus*

ARLINGTON, Va. – Congress rejected the U.S. Navy's 2023 budget proposal to deactivate five electronic attack squadrons (VAQs) that operate the Boeing EA-18G Growler electronic attack jet in the defense policy bill recently signed into law by President Joe Biden. Instead, Congress directed the Defense Department to submit a plan to meet the joint airborne attack requirements.

In its 2023 budget submission, the Navy proposed to deactivate its entire expeditionary VAQ force, which deploys to overseas bases in order to provide electronic attack capabilities to

the joint force. The five expeditionary VAQ squadrons are separate from the Navy's VAQ squadrons that deploy aboard aircraft carriers.

The five squadrons originally slated for cut included a total of 25 EA-18Gs, which would have been placed in storage at the Aerospace Maintenance and Regeneration Group at Davis-Monthan Air Force Base in Tucson, Arizona. The cuts also would have freed up approximately 1,020 officers and enlisted personnel. The Navy estimated the savings over the Future Years Defense Plan would be $807.8 million.

In the James M. Inhofe National Defense Authorization Act for Fiscal Year 2023, Congress directed the Navy to retain all 160 EA-1G aircraft and required the following:

A report outlining a strategy and execution plan for the Navy and Air Force to continuously and effectively meet airborne electronic attack training and combat requirements of the joint force, to include establishment or continuation of one or more land-based, joint service electronic attack squadrons and integration of both active and reserve components of both services.

The Navy is the only provider of expeditionary electronic attack jets to the joint force. The Air Force retired its last EF-111A Raven jets in 1998, and the Marine Corps retired its last EA-6B Prowler tactical jets in 2019. The expeditionary VAQ squadrons have deployed to Southwest Asia, Japan, and Italy over the years in support of U.S. and coalition forces. Last year, one squadron – VAQ-134 – was deployed to the European Command as part of the build-up of forces in support NATO's eastern flank after the Russian invasion of Ukraine.

The expeditionary VAQ squadrons are considered high-demand/high-value assets by the Joint Chiefs of Staff.

The Navy's five expeditionary VAQ squadrons are all based at Naval Air Station Whidbey Island, Washington: VAQs 131, 132,

134, 135, and 138. The Navy's only reserve VAQ squadron, VAQ-209, has also been used in an expeditionary role.

The carrier-deployable VAQ squadrons are VAQs 130, 133, 136, 137, 139, 140, 141, 142, and VAQ-144, the latter established in October 2022. All are based at Whidbey Island, except for VAQ-141, which is based at Marine Corps Air Station Iwakuni, Japan, as part of the forward-deployed Carrier Air Wing Five for the USS Ronald Reagan.

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# Navy Orders Fourth Lot of TH-73A Thrasher Training Helicopters


ARLINGTON, Va.—The U.S. Navy has exercised a contract option

to order a fourth lot of Leonardo TH-73A Thrasher training helicopters.

Leonardo said in a Dec. 24 release that it was awarded a $110 million firm, fixed-price contract modification through AgustaWestland Philadelphia Corp. for 26 TH-73As. The option will bring the total number of TH-73As ordered to 130, the Navy's program of record requirement.

The Navy previously ordered three lots of Thrashers: 32 for $176 million in January 2020; 36 for $171 million in November 2020; and 36 for $159.4 million in December 2021. The first order included "spares, support, dedicated equipment and specific pilot/maintenance training services," Leonardo said.

The TH-73As are replacing the Navy's three-decade-old TH-57B/C Sea Ranger training helicopters in Training Air Wing Five at Naval Air Station Whiting Field, Florida. The helicopters are used to train rotary-wing pilots for the Navy, Marine Corps and Coast Guard. The Thrasher will enable the services to meet advanced rotary wing and intermediate tilt-rotor training requirements.

The TH-73A will develop pilot training and skills by using current cockpit technologies and a modernized training curriculum "that reflect the capabilities in the current Navy, Marine Corps and Coast Guard inventory," the Navy said. "Using a skills-based approach to training with just-in-time methodology, incorporating modern technology, the TH-73A will ensure rotary wing aviators are produced at a higher quality, more efficiently, ready to meet the challenges faced in the fleet."

The first twelve rotary wing students began training on the TH-73A in September 2022. The first of those students completed an inaugural solo flight in November 2022.

The helicopters will be built in Philadelphia, Pennsylvania, with an expected work completion date of December 2024.

# Capt. Shea S. Thompson Commodore, Surface Development Squadron One (SURFDEVRON 1)

Capt. Shea S. Thompson. *U.S. NAVY*

*A native of San Marcos, California, Thompson received his commission from the U.S. Naval Academy in 1997. His sea tours included USS George Philip (FFG 12), USS Cape St. George (CG 71), and USS John Paul Jones (DDG 53). He served as executive officer and then commanding officer of USS Chafee (DDG 90).*

*Subsequently he commanded USS Bunker Hill (CG 52).*

*Thompson's tours ashore include Naval Postgraduate School where he earned a Master's Degree in Financial Management; Ballistic Missile Defense Syndicate Lead at Tactical Training Group Pacific; Ballistic Missile Defense Training Officer at U.S. 3rd Fleet; Joint Interface Control Officer at Headquarters U.S. European Command (J3); C4ISR Operations Branch Chief at U.S. Strategic Command, Joint Force Component Command Global Strike (J6); N8/9 Branch Head Headquarters Surface and Mine Warfare Development Center.*

*Thompson discussed the roles of Surface Development Squadron One with Senior Editor Richard R. Burgess. Excerpts follow.*

**How did your background prepare you for your current command?**

**THOMPSON:** Actually, my background prepared me quite well. Following my command tour on USS Chafee, I had the privilege of being assigned to the Surface and Mine Warfighting Development Center [SMWDC] where I served as N8/9 Branch Head for Future Requirements & Resources and Experimentation from 2016 to 2019. During that time, I had significant exposure to the acquisition and budgeting process as well as requirements generation. SMWDC's Warfare Improvement Programs fell under my portfolio for those three years. We produced the surface fleet's Integrated Prioritized Capabilities List for surface warfare Integrated Air and Missile Defense, Surface Warfare, Amphibious Warfare and Mine Warfare. That experience really benefited me as I became intimately familiar with the capability gaps across all those mission areas.

I've worked with a number of stakeholders to include the technical community on how we would get at closing those gaps and back in 2017, we recognized unmanned systems had a role to play in closing a number of gaps across those mission areas. The beauty was, as I also wore the N9 hat, I was able to partner with industry and experiment with new and innovative

capabilities that helped close those gaps. For example, I personally worked closely with industry on the first-ever remote operation of Sea Hunter [unmanned surface vessel] from a surface combatant to validate that capability. So, the learning curve of employing and operating unmanned platforms with and from manned surface forces wasn't that steep for me as I came into this job.

In fact, when I took command of SURFDEVRON, I was encouraged by the progress I saw had been made since my time in SMWDC and my time taking command here. We've come a long way since 2017 [with] the current and future capabilities and possibilities that exist with manned and unmanned teaming, how that will enhance the lethality of the surface force going forward.

**How many personnel comprise your command?**

**THOMPSON:** On staff here at SURFDEVRON I have 13 Officers, 58 enlisted, and one civilian permanently assigned. USS Michael Monsoor (DDG 1001) and USS Zumwalt (DDG 1000) each muster about 180 personnel. Obviously, I'm eagerly awaiting delivery of USS Lyndon B. Johnson (DDG 1002) when that day comes. USV Division 1 was formally established during the SURFDEVRON 1 change of command ceremony on May 13 and is now commanded by CDR Jerry Daley. That squadron has actually grown to 103 Sailors comprised of 12 officers and 91 enlisted. Those folks are there to provide dedicated support to USV operations.

Cmdr. Jeremiah Daley, commanding officer, Unmanned Surface Vehicle Division One, Secretary of Defense Lloyd J. Austin III and Capt. Shea Thompson, commodore, Surface Development Squadron One, tour USV Sea Hunter at Naval Station Point Loma, California, Sept. 28. *DOD / Chad J. McNeeley*

**How has the Chief of Naval Operations' new Navigation Plan influenced the focus of your work?**

**THOMPSON:** The CNO's Navigation Plan is the guiding framework for my efforts for USV experimentation and fleet integration. In there, it talks about [how] unmanned surface platforms will increase the fleet's capacity for distribution and expand our intelligence, surveillance and reconnaissance advantage, add depth to our missile magazines, supplement logistics, and enhance fleet survivability. This transition will gradually rebalance the fleet away from exquisite manpower-intensive platforms for smaller, less expensive yet lethal platforms. The capacity goal, if I remember correctly, is approximately 150 USVs.

That plan also emphasizes the importance of the

manned/unmanned teaming in future fleet operations. We're really getting at that. For example, one of the concepts we're working on is further distributing the force through manned and unmanned teaming. Your typical surface action group, or SAG, consists of three destroyers. Right now, we're trying to reimagine that traditional SAG. Instead of three manned DDGs making up that SAG, we're exploring options to have one DDG as the center of a SAG teamed up with a number of unmanned surface vessels that would be one SAG. That also frees up the other two destroyers to create other manned/ unmanned SAGs and further distribute the force and enhance the capability and lethality of those SAGs as well. Honestly, I envision a future where this is the standard SAG construct and my team here is moving out full speed on proving out that concept.

**What kind of experiments have you been working on with the Zumwalt-class DDGs?**

**THOMPSON:** I would say that for the class, it's been less about experimentation and more about class capability validation. That's not to say we haven't been leveraging those platforms for experimentation efforts.

I know you're aware that Zumwalt is currently employed in the Indo-Pacific region, and she is working on fleet integration and participation in fleet exercises. We're pushing her forward to learn how the ship can best operate and integrate with other fleet assets and how this integration is done at the tip of the spear. You can only do so much learning pierside. It is important to accelerate her introduction into fleet exercises and this learning is going to inform future employment of the class. Prior to this employment, Zumwalt went through your standard workups for employment, conducting basic training certification events and participating in the Surface Warfare Advanced Tactical Training, otherwise known as SWATT.

Earlier this year, Monsoor participated in an ASW

[antisubmarine warfare] exercise known as SCC Mini-wars, and she did that with coalition partners and the USV Sea Hawk in the Hawaiian op area. Monsoor also recently participated in the first RIMPAC exercise for the class where, again, she focused on force integration and continued her work with unmanned vessels in that exercise.

**Do you expect the Zumwalt DDGs to return to your squadron after their modification with the Conventional Prompt Strike capability?**

**THOMPSON:** They're going to come back to me following deployment and they're going to be with me for the foreseeable future. The future plans for the class remain in work. We are gathering data right know regarding Zumwalt's current deployment and Michael Monsoor's RIMPAC support. We're going to leverage that data and lessons learned on any future deployments to include how to maintain and sustain the platform in an operational environment when deployed forward. I will say the best way to continue learning and validating the existing capabilities and TTPs [tactics, techniques and procedures] for the class is to keep them underway and employed, whether that's with 3rd Fleet or 7th Fleet.

**What kind of things are you doing with the two Overlord USVs and what are you planning in the future once the other two Overlord USV are on strength?**

**THOMPSON:** All four of the USVs that I own right now were involved in RIMPAC: Sea Hunter, Sea Hawk, Nomad and Ranger. Their involvement in RIMPAC really helped determine and define how the capabilities of the unmanned fleet will integrate with our manned ships. RIMPAC was an excellent arena to showcase the USVs' usefulness in electronic warfare, data collection and how warships can leverage USVs in the high-end fight. In every exercise we do from SCC mini wars to SWATT to RIMPAC, the objectives being accomplished form the building blocks of realizing the manned/unmanned concept. A USV tracking a

submarine using its ASW payload or providing target-quality tracks to a surface combatant – think EW [electronic warfare] payloads, sensor suite, etc. – we're proving the USV is value added in providing our warships with more flexibility in meeting the mission.

**How about your experimentation with Sea Hunter and Sea Hawk USVs?**

**THOMPSON:** They each bring different payloads and capabilities. And so, we're working with those to further validate our concepts. For the broader unmanned campaign plan, Surface Development Squadron One is developing those concepts in the playbooks, in the TTPs and we're doing that with other stakeholders. We're not doing that in a vacuum. I see those concepts and TTPs playing in the potential surface battles of tomorrow. The prototype USVs are being heavily leveraged to validate these concepts and TTPs. When the program of record USV does come online, we can quickly transition it into fleet operations. The goal to me will be for them to be embedded into fleet operations to further distribute the force, provide manned warships with target quality tracks and, also, for adjunct magazines.

One important note I think is worth mentioning is we're focused on autonomous USVs with a man-on-the-loop technology. That means that even though a USV may be in an autonomous mode while conducting a mission, it is always being monitored – including its health status – and at any time the man-on-the-loop, whether on board a ship or shore, can take direct control as required.

**Are there any specific accomplishments you want to mention with regard to the USVs or the Monsoor in RIMPAC?**

**THOMPSON:** Sea Hawk was out during the SCC Mini-Wars and did excellent work. She validated the value of her ASW payload. Not just here at the Echelon 5 level but all the way into the

Echelon 2 level. In the near future, we're participating in a fleet exercise that we'll explore how that capability supports our expeditionary capability and the Marine Corps' efforts on that front, too. The big ship-to-shore movement of USVs' C2 [command and control] nodes, officially we're working with PMS-406 to gain unmanned, unescorted, OTH [over the horizon] proof-of-concept testing.

For Monsoor, RIMPAC was really a test of the operational concepts and to gather insights about further employment for the class. She flexed her capabilities across all mission areas to include SUW, ASW, and air defense. She also conducted an experiment that consisted of launched employment and recovery of a UAV to enhance maritime surveillance. All four USVs that participated in RIMPAC demonstrated how they fit into the composite warfare commander concepts either attached to a destroyer or sent out on individual missions. It really helped to determine how the capabilities of the unmanned fleet integrate with our manned ships, with focus on ASW, EW, surface warfare, interoperability and transfer of control of those USVs between manned ships and ashore or vice versa.

Then-Cdmr. Shea Thompson gives remarks during the Surface Development Squadron One change of command ceremony in May. During the ceremony, Thompson relieved Capt. Jeffery Heames as commander Surface Development Squadron One. *U.S. NAVY / Mass Communication Specialist 2nd Class Diana Quinlan*

**With the Navy developing the Next-Generation Destroyer (DDG(X)) and the Large USV, are you actively engaged in providing feedback for development of those vessels?**

**THOMPSON:** Yes. As we worked fleet introduction for DDG 1000 class and the USVs, there are a number of lessons learned that can be applied to both the DDG(X) and LUSV, not just from a capability validation perspective but also from a maintenance and sustainment perspective. And so, those lessons are being shared across the enterprise. The LUSV program is in the prototyping stage while we develop and demonstrate the technology for critical subsystems, through a comprehensive land-based and afloat test program across HM&E [hull, mechanical and engineering], C2, autonomy, perception and integrated combat system aspects prior to moving into serial production. By the end of 2023, we expect to have seven USV prototypes

operating under the direction of Surface Development Squadron One and that's in partnership with PMS-406 and the USV Program Office.

USVs are planned to be the high-endurance adjunct [missile] magazine based on commercial designs built around the common missile launcher and combat systems. The initial capability will be to support both surface warfare and strike warfare, but I anticipate that being expanded and air defense as well. The six LUSV studies contracts were awarded in September of this year. Those contracts are going to help refine specifications and requirements to inform future LUSV detail design and construction.

**What advances have you seen in unmanned operations technology and sustainment since your squadron was established?**

**THOMPSON:** Since Surface Development Squadron One was established, the advances I am most encouraged by are, we've got much more confidence in safe autonomous operations. We've been out and operating with these platforms for a long period of time. That resiliency really translates to increased on-station time, our abilities to control from ship or shore or, again, transfer control from ship-to-shore and vice versa. The capabilities of the various payloads for USVs provide the operators and leadership the confidence that manned/unmanned teaming does, in fact, enhance the lethality of the surface force.

I really believe it's a game-changing concept, not only for the future force structure but from a tactical, operational and strategic perspective. Those are the big differences I see from back in 2017 when I was just proving out that I can actually operate a USV from a destroyer to where we are today. I'll tell you that with the USV prototypes, we're rapidly expanding their participation in the exercises as well as conducting independent operations such as a recent missile test from an Overlord USV. The maturing fleet experimentation

and testing program only serves to increase the fleet's knowledge on USV integration and operational and infrastructure support requirements.

**What do you see as the remaining challenges of deploying, operating, and sustaining USVs?**

**THOMPSON:** Well, you know, we're going to continue working to make the USVs more reliable and sustainable through experimentation, lessons learned, testing, evaluation and increased employment. You can't learn when those things are pierside, so we got to keep pushing them out there. Every USV underway hour provides us additional data and learning opportunities that support the maturation of economy and reliability. I said that one of the encouraging things was an increased confidence level and the safe autonomous operations. We still have some work to do in that area. Obviously, COLREGS [International Regulations for Preventing Collisions at Sea 1972] remains a focus area for the program. Today, the autonomy and reliability conduct vessel avoidance for 1v1 [one versus one] COLREGS encounters. However, we're still got some work to do in complying with the full scope of COLREGS. That's the hierarchy of vessels, low visibility compliance, autonomous lights, autonomous sound signals, etc.

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# Muslim Civil Rights Group Protests Name 'Fallujah' for U.S. Navy Ship

The amphibious assault ship USS Tripoli (LHA 7) sails with the amphibious assault ship USS America (LHA 6) during a photo exercise in the Philippine Sea, Sept. 17, 2022. The future USS Fallujah (LHA 9) will be similar to these ships but equipped with a well deck. *U.S. MARINE CORPS / Lance Cpl. Christopher Lape*

ARLINGTON, Va. – A Muslim civil rights group is protesting the U.S. Navy's selection of the name "Fallujah" as the name of a future amphibious assault ship.

The Council on American-Islamic Relations (CAIR), self-described as the nation's largest Muslim civil rights and advocacy organization, "called on the U.S. Navy to change the name of the future America-class amphibious assault ship 'USS Fallujah,'" in a Dec. 15 press release.

Secretary of the Navy Carlos Del Toro announced Dec. 14 that a future America-class amphibious assault ship, LHA 9, will be named USS Fallujah. The ship "will commemorate the First and Second Battles of Fallujah, American-led offensives during the Iraq War. The name selection follows the tradition of naming amphibious assault ships after U.S. Marine Corps battles, early U.S. sailing ships or legacy names of earlier carriers from World War II," the Navy release said.

The First Battle of Fallujah occurred in April 2004 in an effort to capture or kill insurgents responsible for the killing of four U.S. contractors, according to the Navy Department release. The Second Battle of Fallujah, fought between Nov. 7 and Dec. 23, 2004, was a major U.S. led offensive to retake control of the city from insurgents and foreign fighters. With over 100 coalition forces killed and over 600 wounded, Operation Phantom Fury is considered the bloodiest engagement of the Iraq War and the fiercest urban combat involving U.S. Marines since the Vietnam War's Battle of Hue City.

CAIR has a different regard for the battles.

"The two battles fought in Fallujah, Iraq, in 2004, were the bloodiest fighting of the Iraq War. Hundreds of civilians – including women and children – were killed during the battles," CAIR said in the release. "To this day, the civilian population is reportedly being negatively impacted by the weapons used in those battles."

"Just as our nation would never name a ship the 'USS Abu Ghraib,' the Navy should not name a vessel after notorious battles in Fallujah that left hundreds of civilians dead, and countless children suffering from birth defects for years afterward," said CAIR National Deputy Director Edward Ahmed Mitchell, in the CAIR release. "There must be a better name for this ship – one that does not evoke horrific scenes from an illegal and unjust war."

The secretary of the Navy selected the name of the battles "to memorialize the Marines, Soldiers and coalition partners that fought valiantly and those that sacrificed their lives during both battles of Fallujah. This namesake deserves to be in the pantheon of iconic Marine Corps battles and the LHA's unique capabilities will serve as a stark reminder to everyone around the world of the bravery, courage and commitment to freedom displayed by those who fought in the battle."

“Under extraordinary odds, the Marines prevailed against a determined enemy who enjoyed all the advantages of defending in an urban area,” said Commandant of the Marine Corps Gen. David H. Berger, in the announcement. “The Battle of Fallujah is, and will remain, imprinted in the minds of all Marines and serves as a reminder to our Nation, and its foes, why our Marines call themselves the world’s finest.”

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# Marine Corps Adds Cherry Point Squadron to F-35B Operators

A U.S. Marine Corps AV-8B Harrier assigned to Marine Attack Squadron 542 flies over Bodo, Norway during Fjord Fury, June 6, 2018. *U.S. MARINE CORPS / Lance Cpl. Jailine L. Martinez*

ARLINGTON, Va. – The Marine Corp is converting another AV-8B Harrier II attack squadron to F-35B Lightning II strike fighters, the first F-3B fleet squadron to be based on the East Coast.

Marine Attack Squadron 542 (VMA-542) – the Tigers – was re-designated Marine Fighter Attack Squadron 542 (VMFA-542) in ceremonies held at the squadron's base at Marine Corps Air Station Cherry Point, North Carolina, as it retires its last Harriers in favor of the Lightning II. The squadron is scheduled to be operational with its F-35Bs by next summer.

VMA-542's last detachment of Harriers deployed to the Baltic Sea in 2022 on board USS Kearsarge and operated for a period from Estonia in during the Russian invasion of Ukraine.

With the transition of VMFA-542, the only two AV-8B squadrons, VMA-223 and VMA-231, both based at Cherry Point, will remain flying in the Marine Corps. The last AV-8Bs are scheduled for retirement in fiscal 2027.

VMA-542 activated in March 1942 during World War as Marine Night Fighter Squadron 542 and flew its F6F-3N Hellcats in combat in the Pacific, including the Battle of Okinawa. In 1948, the squadron was re-designated Marine All-Weather Fighter Squadron 542 and was equipped with F7F-3N/4N Tigercat fighters, which the squadron flew in the Korean War. In 1951, the squadron returned to the United States for transition to the F3D-2 Skyknight jet night fighter. In 1958 the squadron switched to the F4D-1 Skyray fighter.

In 1963, the squadron was redesignated VMFA-542 as it upgraded to the F-4B Phantom II. From July 15 until January 1970, the Tigers flew combat missions over Southeast Asia during the Vietnam War. The squadron was de-activated on June 30, 1970, but re-activated on Jan. 12, 1972, as the second AV-8A Harrier squadron. In May 1986, the Tigers completed transition to the AV-8B Harrier II.

With the Harrier II, VMA-542 participated in combat operations such as Operation Desert Shield and Desert Storm in Southwest Asia, Operation Noble Anvil in Kosovo, Operation Iraqi Freedom in Iraq, Operation Enduring Freedom in Afghanistan, Operation Odyssey Dawn in Libya, Operation Odyssey Lightning in Libya, Operation Inherent Resolve in Afghanistan, as well as deployments in support of multiple Marine Expeditionary Units, according to 1st Lt. Hudson Sadler of the 2nd Marine Aircraft Wing.