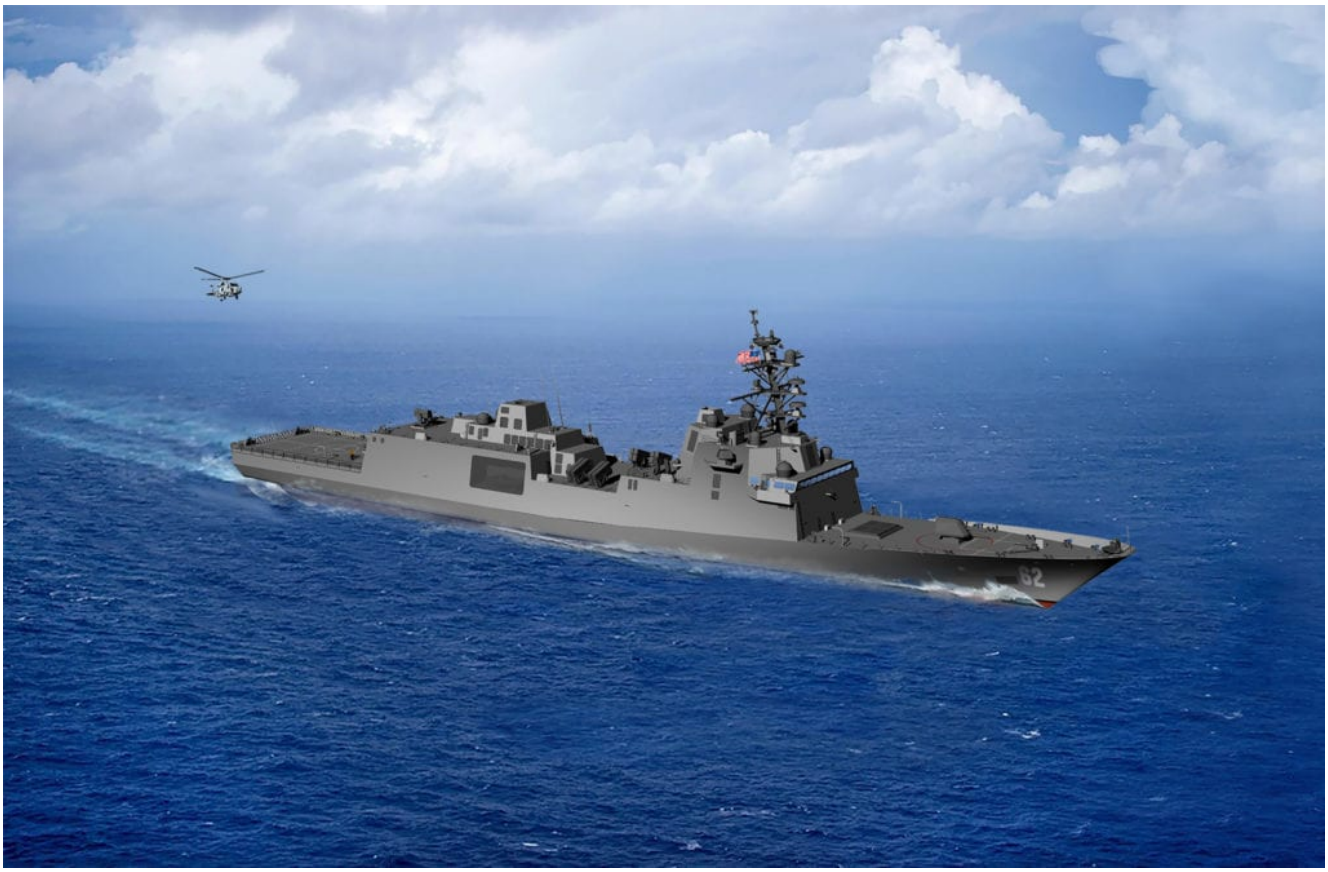
Galinis: Navy Considering Land-Based Test Site for Integration of Frigate Systems



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.”

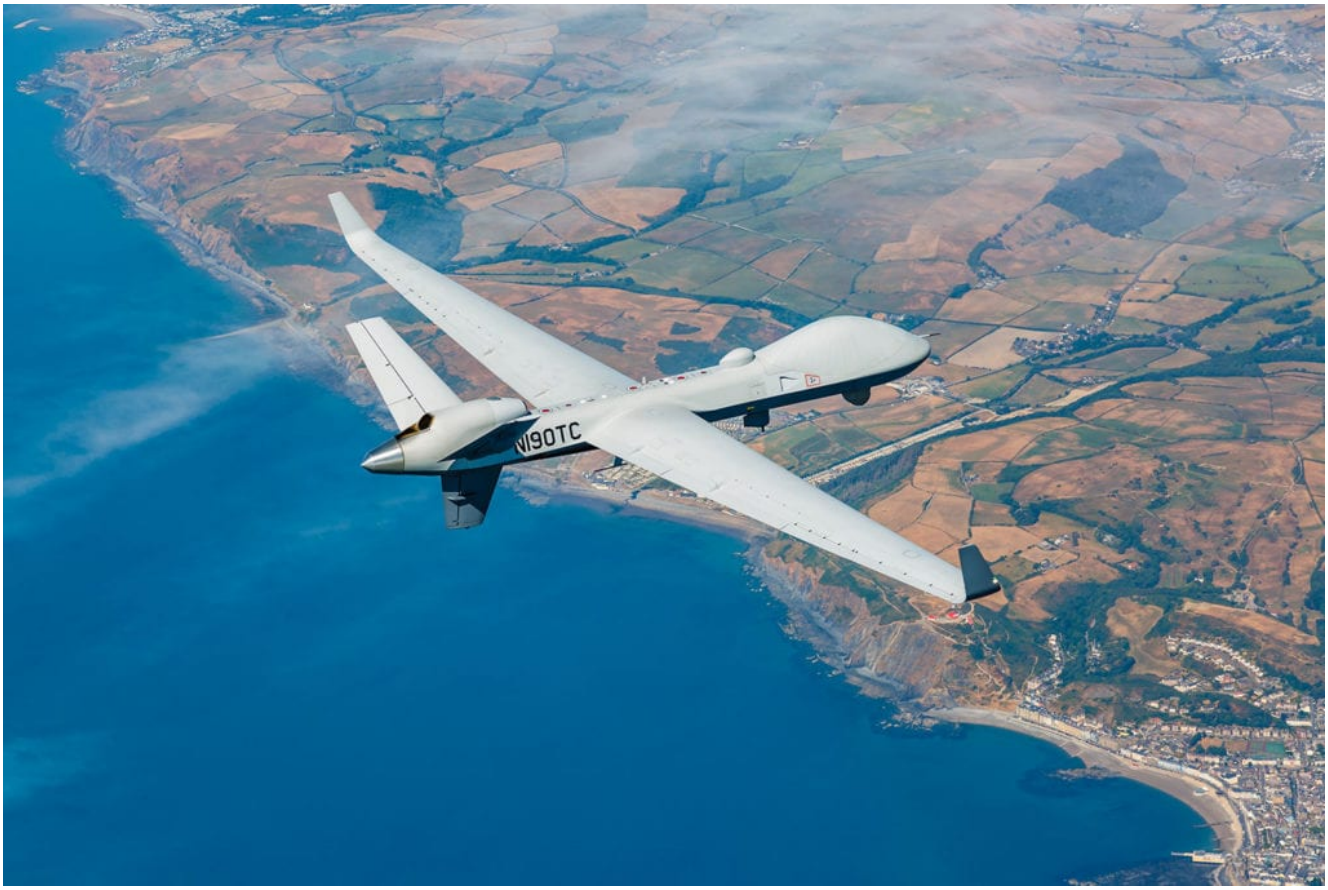
Major propulsion components of the new Columbia-class ballistic-missile submarine, being built by General Dynamics Electric Boat, also are going through extensive land-based testing at Philadelphia.

“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.

GA-ASI Plans to Demonstrate Maritime Capability in the United Kingdom



General Atomics Aeronautical Systems Inc.’s SkyGuardian remotely piloted aircraft. GA-ASI

SAN DIEGO — General Atomics Aeronautical Systems Inc. (GA-ASI) plans to take a company-owned SkyGuardian remotely piloted aircraft to the United Kingdom later this year to undertake a series of operational capability demonstrations for NATO allies, including The Netherlands, the company said in a Feb.

3 release. The U.K.’s Protector program is a derivative of SkyGuardian with a range of U.K. modifications and the Royal Air Force (RAF) is supporting this visit.

The GA-ASI aircraft will be configured with maritime capability, including a multi-mode maritime surface-search radar with Inverse Synthetic Aperture Radar imaging mode, an Automatic Identification System receiver, and a High-Definition, Full-Motion Video sensor equipped with optical and infrared cameras. This will build on previous GA-ASI demonstrations showcasing the unmanned advantage, which include the transatlantic flight of SkyGuardian in 2018, maritime demonstrations in Greece in 2019 and last year’s validation flights in Japan.

“GA-ASI will work closely with multiple European allies to demonstrate the capabilities of MQ-9B, including in the maritime environment, and how MQ-9B can complement and team within a networked environment with other national assets,” said Tommy Dunehew, vice president of International Strategic Development for GA-ASI.

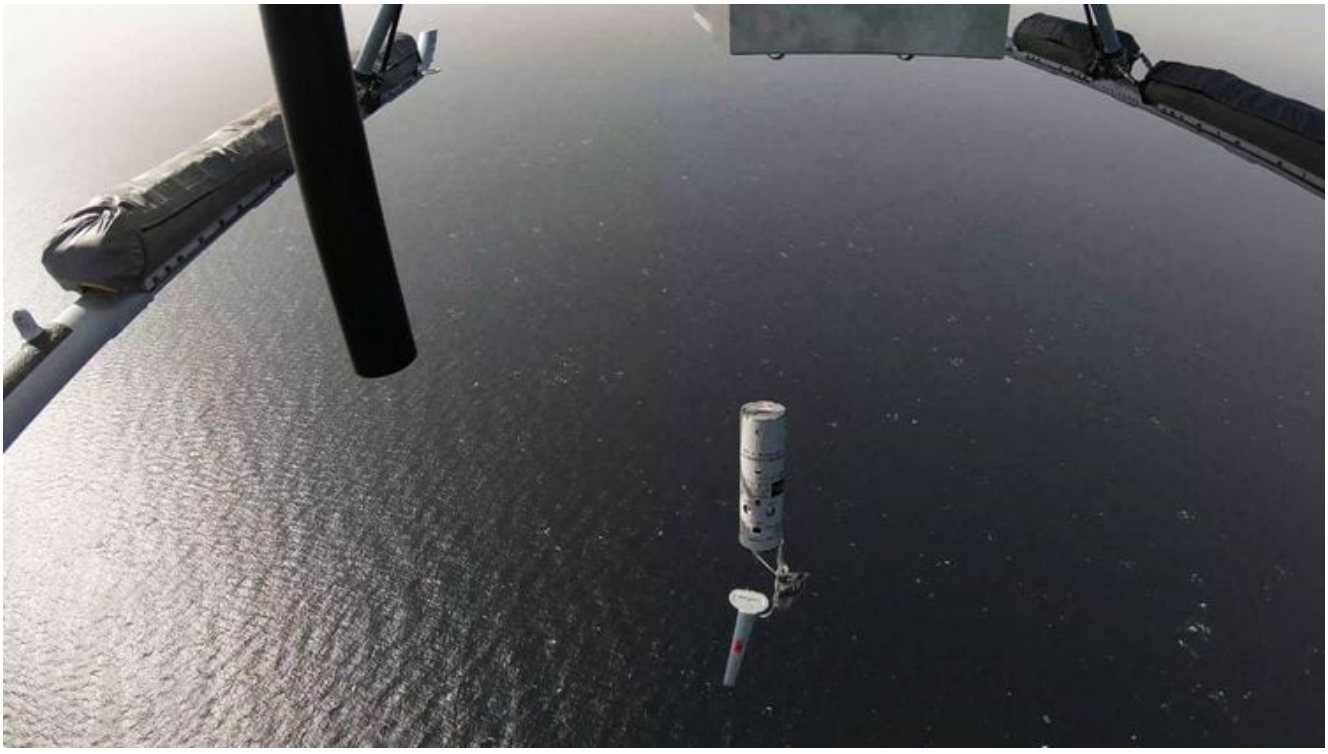
The series of civilian and military capability events is expected to kick off in July at the Royal Air Force’s Waddington Air Base and will culminate with the MQ-9B’s participation in the U.K.-led Joint Warrior exercise that will showcase how maritime capabilities can be integrated with other air, surface and land platforms. SkyGuardian flights will further develop GA-ASI’s revolutionary Detect and Avoid capability, which will enable Protector to fly in unsegregated UK airspace. It will also assist RAF Waddington, the future home of the RAF Protector fleet, to best prepare to integrate the new aircraft into its daily operations.

MQ-9B represents the next generation of remotely piloted aircraft (RPA) system having demonstrated airborne endurance of more than 40 hours, automatic takeoffs and landings under SATCOM-only control and the detect and avoid system. Its

development is the result of a company-funded effort to deliver an RPA that can meet the stringent airworthiness certification requirements of various military and civil authorities.

MQ-9B has garnered significant interest from customers throughout the world. The U.K. Ministry of Defence selected MQ-9B SkyGuardian for its Protector program, and in 2020 signed the production contract for deliveries to the Royal Air Force. SkyGuardian was selected by the Australian Defence Force under Project Air 7003, and the Belgian Ministry of Defense signed a contract for SkyGuardian.

Northrop Grumman, Ultra Demonstrate ASW Using Unmanned Helicopter



Northrop Grumman collaborates with Ultra to demonstrate unmanned anti-submarine warfare capability. Northrop Grumman SAN DIEGO – Northrop Grumman Corp. and U.K.-based Ultra equipped a modified, manned Bell 407 (acting as an MQ-8C Fire Scout surrogate) platform with Ultra sonobuoys, receiver and processor to complete an unmanned aircraft systems (UAS) anti-submarine warfare (ASW) capability demonstration, Northrop Grumman said in a Feb. 2 release.

This successful demonstration of the UAS ASW mission on Oct. 29 was the first time a vertical takeoff surrogate unmanned aerial system had been used to conduct a large area multi-static acoustic search. The mission payload and effects were controlled from the ground with the resultant ASW picture disseminated to locations across the globe.

“Adding an ASW capability to Fire Scout’s existing multi-mission capabilities would further enhance this highly-versatile platform,” said Dan Redman, Fire Scout maritime mission expansion lead, Northrop Grumman. “This ASW capability would offer commanders flexibility to employ not only UAS systems in this particular ASW role, but also utilize the increased availability of crewed aircraft more incisively against an expanded mission set. This would increase the total available effect of the manned/unmanned teamed force mix.”

By jointly developing and demonstrating UAS ASW capabilities, initially on an MQ-8C Fire Scout manned surrogate as part of an industry-led initiative, the two companies are combining their world-leading expertise and experience with the aim of bringing unique ASW solutions to global customers. While the U.S. Navy has not yet identified a clear requirement for UAS ASW capability, it has shown interest in the development and continues to support and monitor progress.

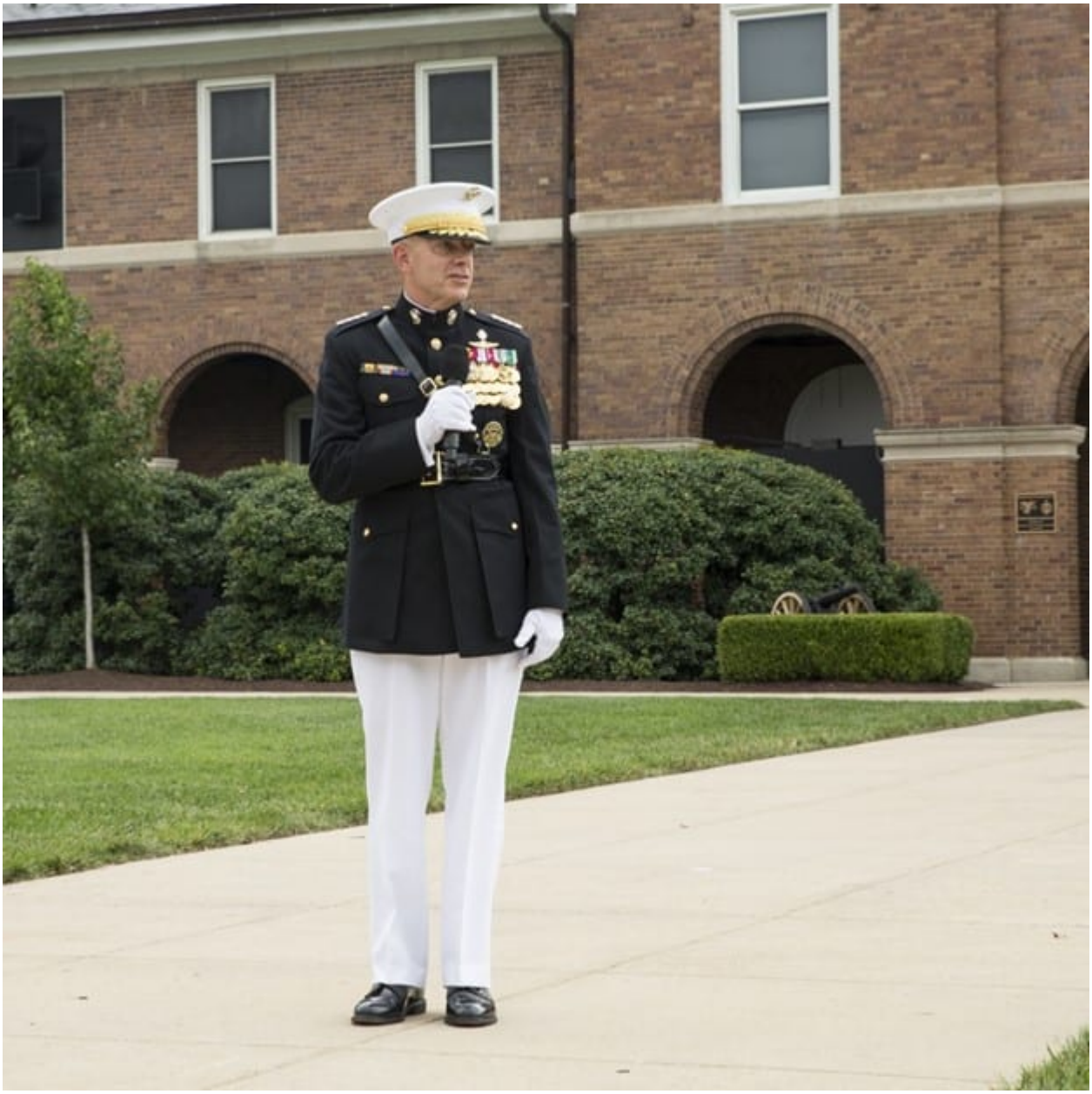
“Operating prototype hardware in a high-pressure real-world environment can be challenging,” said Thomas Link, president of Ultra Maritime. “Our partnership will bring an innovative

and leading ASW capability into operation, combining both manned and unmanned ASW systems that will help defend our warfighters and provide increased capability to our forces.”

The MQ-8C Fire Scout can fly missions in excess of 12 hours, providing commanders an unrivaled level of layered multi-source/sensor intelligence, surveillance, reconnaissance and command and control/comms relay capabilities over land and sea. When operating in a manned-unmanned teaming concept, Fire Scout enables commanders to employ manned assets in a more focused manner, allowing them to exploit hybrid manned/unmanned teaming opportunities.

Ultra’s applications engineers are trusted partners in the design, development and production of the key elements of mission critical, intelligent and highly regulated systems.

Marine Corps Commandant wants Marines to trust technology



Commandant of the Marine Corps Gen. David H. Berger addresses the crowd during a change of command ceremony at Marine Barracks Washington, D.C., July 11, 2019. U.S. Marine Corps / Lance Cpl. Morgan L. R. Burges

Commandant of the Marine Corps Gen. David Berger said cooperation, innovation and trust are keys to future success for the sea services.

“Going forward in a great power competition, no single service is going to keep our advantage,” said Berger, speaking at the National Defense Industrial Association’s virtual Expeditionary Warfare Symposium, being held Feb. 2-3. “Only by the Marine Corps and the Navy working together as a naval force will we be able to maintain our margin. Add the

innovative technologies, that’s how you get an asymmetric advantage against a near peer or a peer adversary.”

Berger said despite the arrival of a new administration, the premise or foundation of the current National Defense Strategy – to discourage malignant military countries that want to challenge the international security environment – is solid.

In his view, the future operating environment is going to be characterized by a maturing and more proliferating precision strike regime in a maritime region. That’s going to require the Marine Corps, as the Joint Force’s stand-in force, to be forward deployed and distributed.

“If a conflict comes, then I think that our near peer competitors are not going to allow us to build up and set the theater and take a couple of months to do that,” said Berger. “Where you start from in a great power competition is where you were the day before. They’re not going to allow a flow of forces, because the know how that’s going to work. So, our forward standing in forces have to be ready immediately respond to a crisis. If we don’t start posturing and strengthening the naval services today, we’re going to fall behind. And that’s not going to happen.”

Altering our trajectory

Innovation is being driven by the threat, and by available resources.

“All of us in the Navy and Marine Corps recognize the same challenges in the emerging operating environment that’s before us. There is an urgent need for innovation and rapid change,” said Berger. “We are being driven by a pacing threat. We have to do it with no additional funding or resources.”

Berger expressed confidence in the force structure changes as set out in the Marine Corps Force Design 2030 effort, which examines the right mix of hardware, but also unmanned systems,

artificial intelligence and sophisticated and survivable networks. “That’s how our force in readiness will alter our trajectory to create an advantage for the fleets and the overall force.”

“That force design – the major overhaul of the Marine Corps – provides the nation a force that’s capable of denying key maritime terrain to an adversary because of our forward presence, and its going to force our competitors to think twice before challenging our interests,” Berger said. “That is the essence of deterrence.”

To achieve that, Berger said the service needs to reset is systems and equipment.

“The Marine Corps has to modernize, not just our equipment, but we’ve got to modernize our training, our forces and our equipment. I am convinced that yesterday’s force will not compete effectively with tomorrow’s adversary, especially in the maritime gray zone. Putting it bluntly, just making our legacy platforms better, or just making more of them available will not allow us to maintain an advantage against either China or Russia in the maritime domain.”

Berger said that Marines operate in an expeditionary distributed operational environment, and operating in that environment with repurposed kit or repurposed equipment would be “irresponsible, and it’s not good enough. We can’t continue to invest in programs that don’t support force design and where we’re going.”

This is where Berger said he needs help from industry to “creatively find the solutions that will get us there. I’m not just talking about a better version of what we’ve got, but how can we disrupt; how can we deter an adversary – especially on the high end. A new and improved version of the light armored vehicle is not going to solve the problem. We have to look at building totally new capabilities, and use technologies in new

ways to solve these complex future problems," he said. "We have to outthink and outmaneuver a pretty capable adversary."

Confidence and trust

"I'm a believer in manned and unmanned teaming," Berger said. "That's where we're headed. But technology is not going to replace the individual Marine, of course. It will enable the Marine to be more lethal."

Berger said it's a matter of confidence and trust. In some instances, Berger said we don't trust the machines.

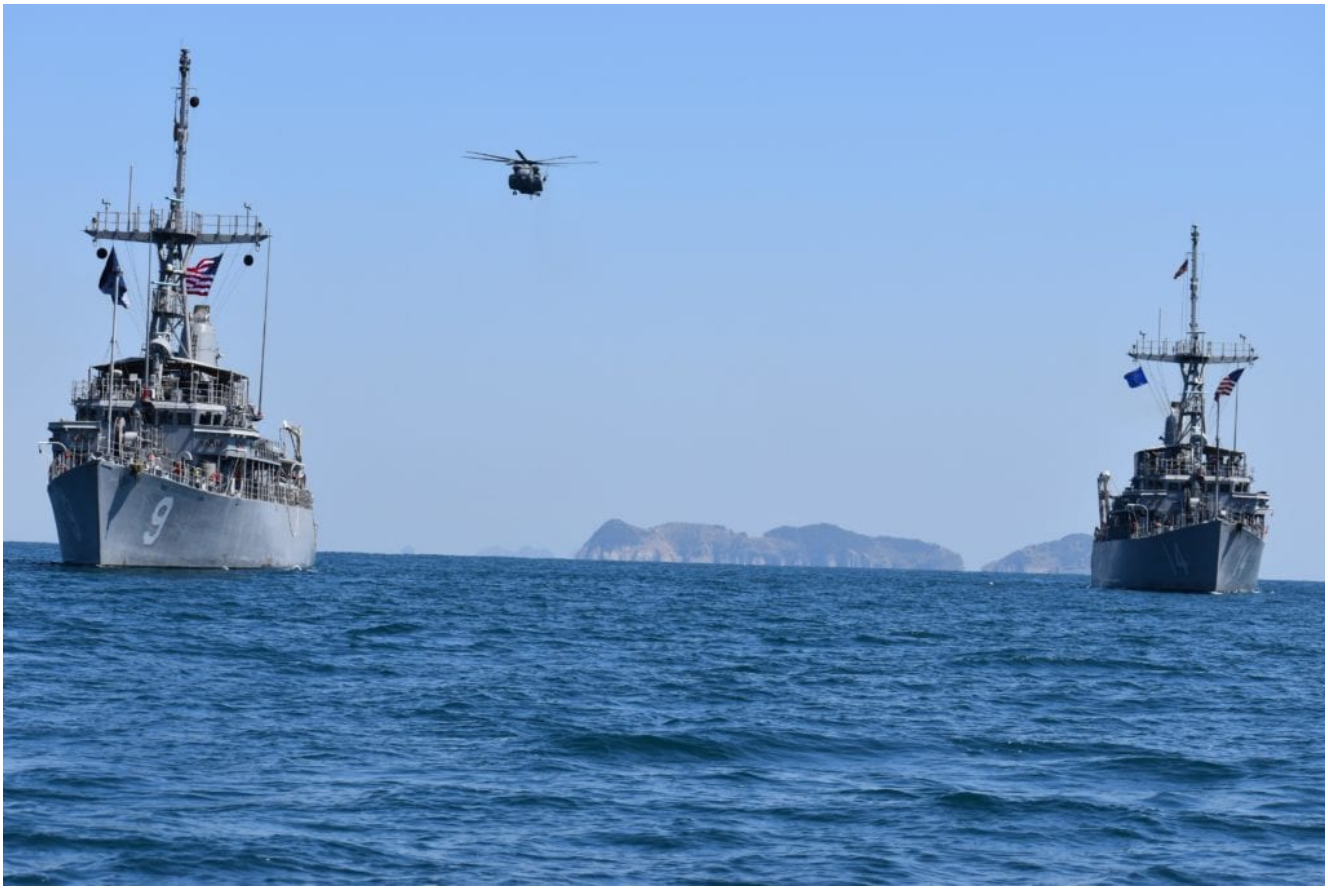
"There are systems that offer fully automated sensor to shooter targeting, but we don't trust the data," he said. "We still ensure there is human intervention, which adds more time and opportunities for mistakes."

Berger talked about emergency medical evacuations, which are today conducted using manned helicopters to get a wounded Marine from the battle front to a medical facility safely in the rear. He alluded to expensive manned helicopters, such as the CH-53K helicopter, which may be too big to risk in a hostile environment, but there are unmanned options, like the unmanned K-Max helicopter, that have been demonstrated to carry patients to safety.

"In the same way a squad leader has to learn to trust his or her Marines, a squad leader is going to have to learn to trust the machines."

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.

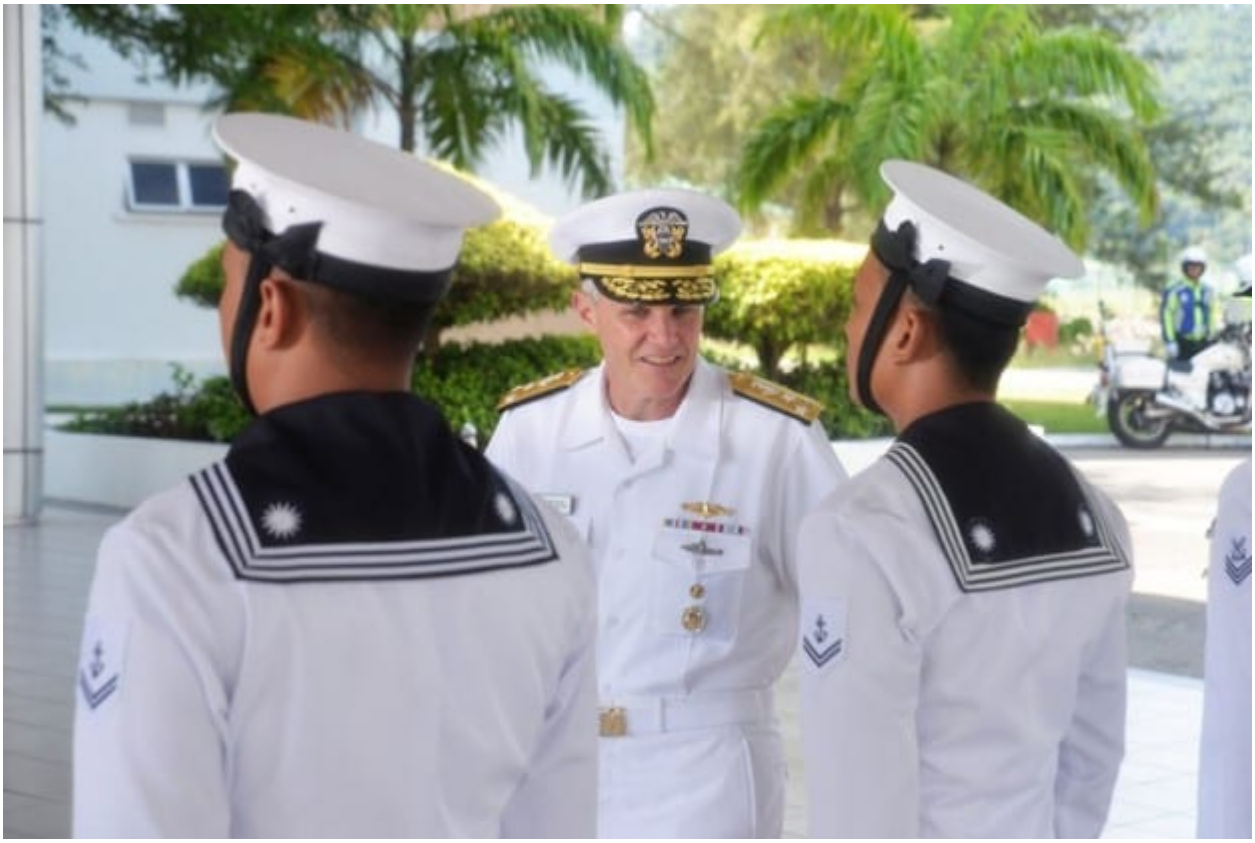
"Communications and navigation systems must be resilient and also be able to operate in denied environments for sustained periods of time," he said. "Having a clandestine capability can help with this, especially when we talk about mining technology. If they're networked, we can control them better, 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.”

DMO is Navy’s Operational Approach to Winning the High-End Fight at Sea



Vice Adm. Phil Sawyer inspects sailors of the Royal Malaysian Navy in this 2018 photo. U.S. Navy / Mass Communication Specialist 1st Class Chris Krucke

Navy Vice Adm. Phil Sawyer says the Chief of Naval Operation's Navigation Plan 2020 and the Distributed Maritime Operations (DMO) concept are central for the Navy going forward and for the Navy and Marine Corps team's ability to conduct enduring sea control and power projection missions.

Speaking at the NDIA Expeditionary Warfare Conference on Feb. 2, Sawyer, the deputy CNO for Operations, Plans and Strategy, said enduring means as a maritime nation, "the sea control and power projection mission hasn't changed in 200 years, but the way we do it today has."

The Navigation Plan 2020, released last month by CNO Adm. Mike Gilday, and the Tri-Service Maritime Strategy released last year, assert that the U.S. and Navy are "involved in a long-term competition that threatens our security and our way of life. Russia and China are both undermining the free and open conditions that has enabled the world to largely prosper since the end of World War II."

Both countries are attempting to unfairly control sea-based resources, intimidate their neighbors, and both are turning incremental gains into long-term advantages, with Crimea and the South China Sea as examples.

Although we must be clear-eyed about both Russia's and China's actions and intentions, Sawyer said China is the long-term strategic threat to the U.S. "That is not to discount Russia, but it looks like China is our pacing threat."

"The nation needs a larger hybrid fleet – consisting of manned and unmanned platforms," Sawyer said "But, it's not just the number, but it's about the composition of the fleet."

Sawyer said unmanned platforms will play a very important role, from ISR above, on and below the sea, to platforms that are large weapons batteries to aerial refuelers.

He said it's easy to fixate on numbers, but the mix is also very important. "Getting the right mix of platforms is just as important as the total number."

The Navigation Plan calls for a lethal, better connected fleet – a fleet that is able to deliver synchronized lethal and nonlethal effects across all domains. That includes distributed weapons of increasing range and lethality Hypersonic and directed energy weapons are key R&D efforts for the Navy, he said.

Tying the Navigation Plan to theme of the NDIA conference, "Distributed Maritime & Expeditionary Operations in a Peer Contested Environment," Sawyer said, "DMO is principally a warfighting concept. It's our operational approach to winning the high-end fight at sea."

According to Sawyer, DMO is geographically distributed naval forces integrated to synchronize operations across all domains. "DMO is a combination of distributed forces, integration of effects, and maneuver. DMO will enhance battle

space awareness and influence; it will generate opportunities for naval forces to achieve surprise, to neutralize threats and to overwhelm the adversary; and it will impose operational dilemmas on the adversary."

A key capability to achieving DMO is the Naval Operational Architecture, which Sawyer said will enable decision superiority at speed in a high-end fight. "It's the connective tissue between sensors, platforms and weapons, and its central to our DMO operating concept," Sawyer said. It's more than "every sensor connected to every shooter."

It includes the infrastructure (computing power and data storage); the network (data links, antennas, routers, and protocols); a data architecture and a data strategy; and finally, the tool (tactical decision aids to help analyze and display data with understandable and actionable information to the operators).

The ability to communicate and share information is critical in a contested environment, he said.

"In peacetime, or against lesser adversaries, we know how to C2 distributed forces. We do it all the time. We know how to synchronize effects in time. We know how to dynamically maneuver our forces. What we working on is how to do this – assuming every domain is contested, or denied – and with speed, such that we decision superiority."

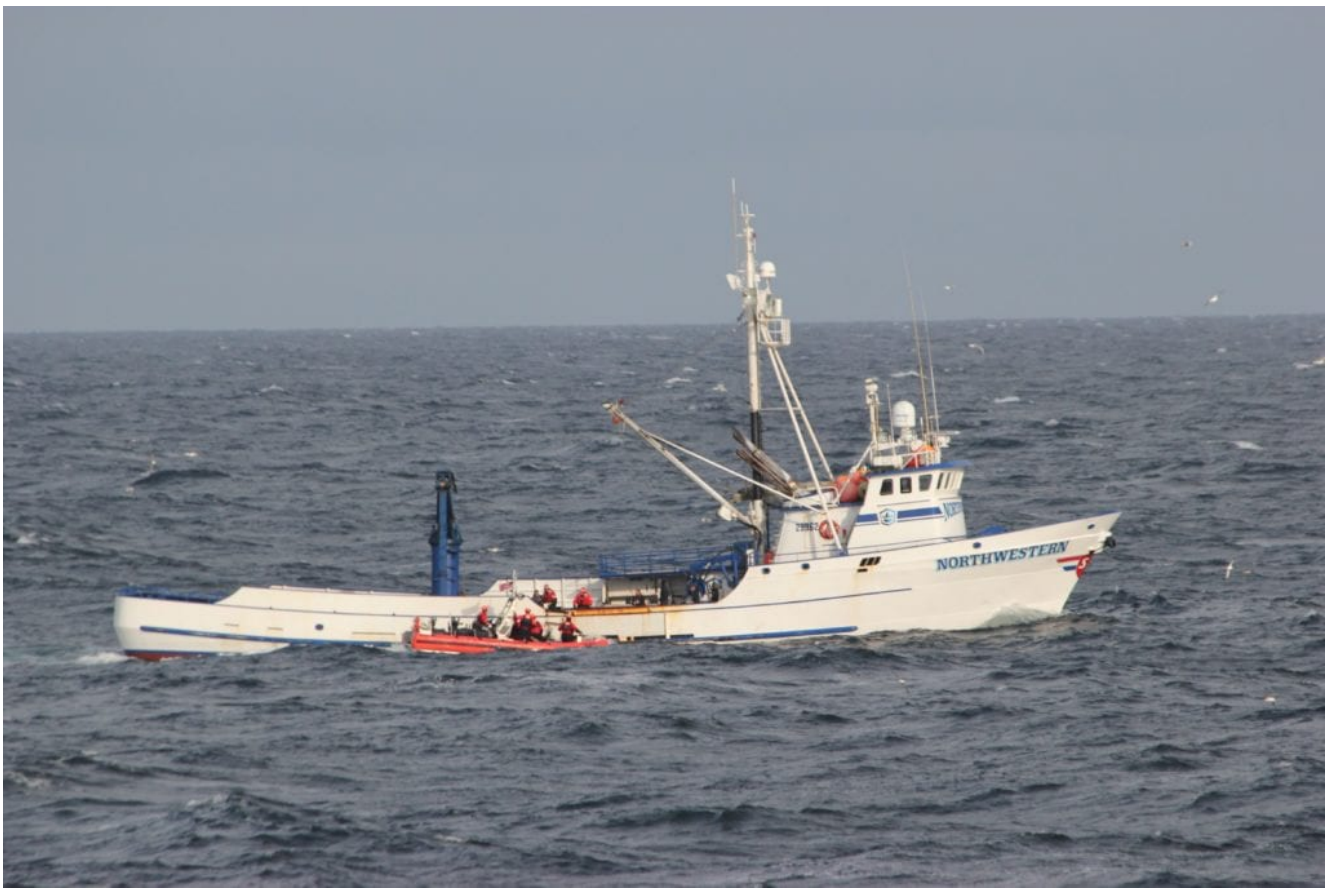
Another DMO imperative is logistics, and an enterprise to operate and sustain us in a contested space. That will require new platforms, manned and unmanned, to sustain small, dispersed units far to the front.

DMO is not a Navy or Marine Corps problem. "DMO is a naval concept. Navy and Marine Corps integration is pivotal to us winning the high-end fight, particularly in the Pacific," Sawyer said. "In the future, the Marine will be able to project power in order to support sea control or sea denial

efforts.”

Sawyer said the Navigation Plan fully supports DMO, and fueling those capabilities necessary to fully realize the DMO concept. “New capabilities are important. But while the fleet waits for the introduction of these capabilities, we are moving out and exercising with what we have.”

U.S., Russia Sign Joint Contingency Plan for Pollution Response in the Bering and Chukchi Seas



The Coast Guard Cutter Alex Haley’s small boat transfers their

boarding team onto the fishing vessel Northwestern to conduct a safety inspection in the Bering Sea in this 2018 photo. U.S. Coast Guard / Ens. Douglas Zimmerman

WASHINGTON — The U.S. Coast Guard and the Russian Federation's Marine Rescue Service recently signed the 2020 Joint Contingency Plan of the United States of America & the Russian Federation in Combating Pollution on the Bering & Chukchi Seas, the Coast Guard 17th District said in a Feb. 2 release.

On Feb. 1, 2021, Acting Director Andrey Khaustov of the Russian Federation's Marine Rescue Service (MRS) and the U.S. Coast Guard's deputy commandant for operations, Vice Adm. Scott Buschman, signed the 2020 update to the Joint Contingency Plan (JCP), a bilateral agreement focused on preparing for and responding to transboundary maritime pollution incidents.

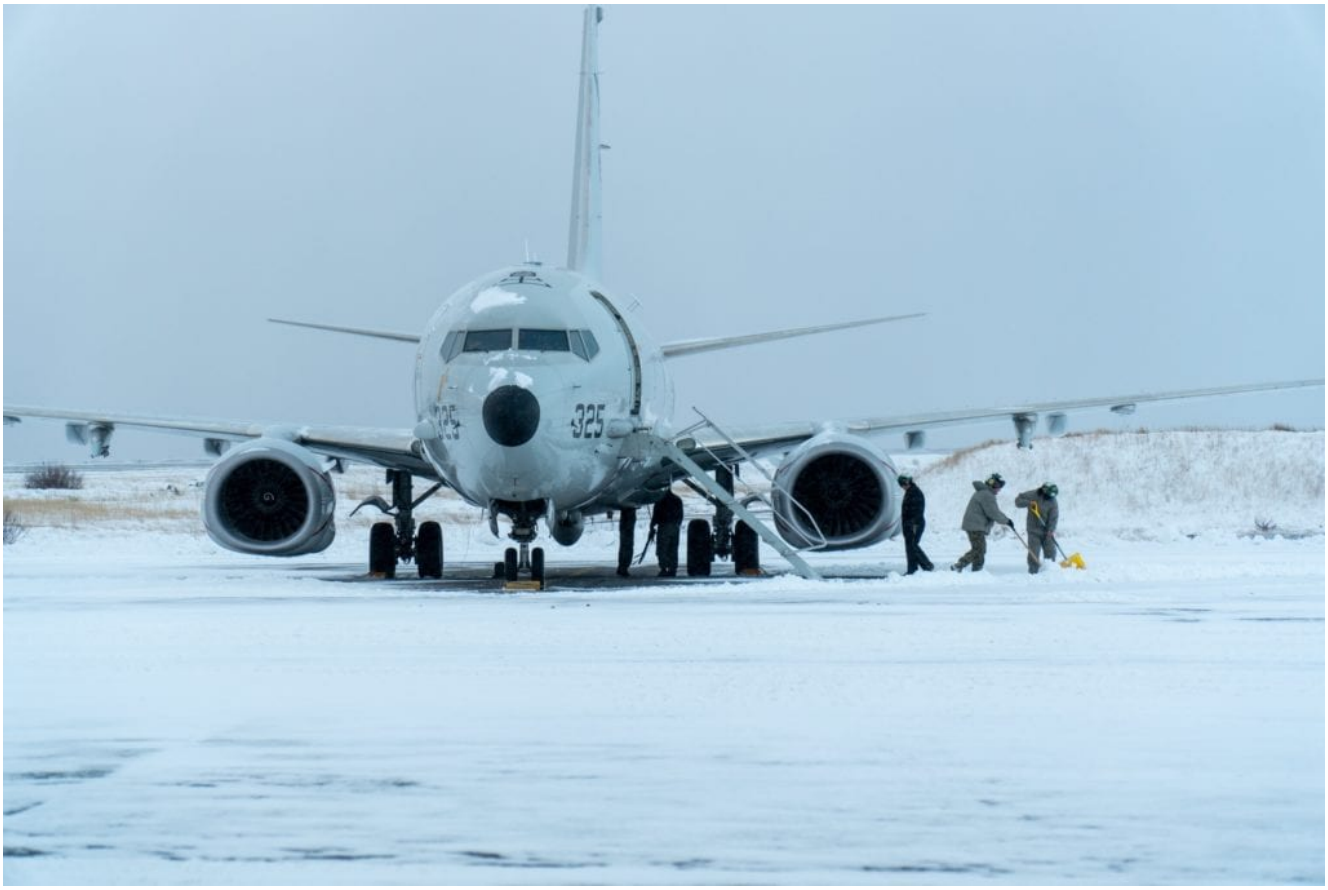
The updated JCP promotes a coordinated system for planning, preparing and responding to pollutant substance incidents in the waters between the U.S. and Russia. The U.S. and Russian Federation have shared a cooperative bilateral agreement on transboundary marine pollution preparedness and response in this area since 1989. The newest JCP revision requires joint planning and transboundary exercise efforts to be coordinated by a Joint Planning Group led by Coast Guard District 17, and is guided by a non-binding two-year work plan. In addition, the updated JCP creates the new International Coordinating Officer role to help facilitate the critical sharing of information during coordinated response efforts.

"This is an important agreement between the U.S and the Russian Federation that ensures coordination between respective authorities and actively promotes the protection of our shared interests in these environmentally and culturally significant trans-boundary waters," Buschman said. "We look forward to continuing our necessary and productive relationship with the Marine Rescue Service and the

opportunity to conduct joint training and exercises in the near future in order to ensure the protection of our nations' critical natural resources."

The shared maritime boundary between the U.S. and Russia in the Bering and Chukchi seas has notoriously poor weather conditions and limited resources to respond to pollution incidents. This plan primarily addresses international collaboration matters and as such is meant to augment each country's national response system as well as state, regional, and local plans. In the United States, the operational aspects of the plan fall under the responsibility of the U.S. Coast Guard's 17th District Commander and Sector Anchorage.

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.

HII Awarded $175M U.S. Navy CVN Support Contract

The USS Enterprise, left, passes the USS George H.W. Bush in this 2011 photo. Huntington Ingalls Industries' Technical Solutions division has been awarded a contract for maintenance, training and planning support of U.S. Navy carriers. U.S. Navy

NEWPORT NEWS, Va. – Huntington Ingalls Industries' Technical

Solutions division was awarded a contract last week to provide maintenance, training and planning support for U.S. Navy aircraft carriers, the company said in a Feb. 1 release. The indefinite-delivery/indefinite-quantity contract includes a five-year ordering term, with a total potential value of $175 million.

“We are very pleased the U.S. Navy has entrusted us to support the readiness of one of our nation’s most important power projection platforms,” said Garry Schwartz, president of Technical Solutions’ Defense and Federal Solutions business group. “For nearly four decades, we’ve partnered with the Navy on this critical program, and we look forward to continuing to advance our nation’s fleet sustainment for years to come.”

HII will provide engineering services, maintenance and operator training as well as technical and repair services in support of maintenance and planning for the overhaul, modernization and repair of shipboard elevators, cargo-handling equipment and associated systems installed within U.S. Navy aircraft carriers.

The work, contracted by Naval Sea Systems Command, will be performed on board U.S. Navy aircraft carriers in Norfolk, Virginia; San Diego, California; Bremerton and Everett, Washington; Japan, and other fleet concentration areas to be determined.

Davie Polar Icebreaker Program Confirms GE as

Strategic Partner

CCGS Louis S. St-Laurent, one of Canada's aging polar icebreakers, shown here transiting Halifax Harbor. Wikipedia / Verne Equinox

LEVIS, QUEBEC – Davie, Canada's premier builder of polar and ice-capable ships, welcomed GE as a strategic partner in its polar icebreaker program, the flagship of Canada's National Icebreaker Centre, Davie said in a Feb. 2 release.

Launched in August 2020, the NIC is a center of excellence for polar technologies and Arctic expertise. It reflects Davie's

role as Canada’s icebreaking partner and builder of the new icebreaker fleet, under the National Shipbuilding Strategy. This will create thousands of good jobs, a vibrant world-class maritime cluster in Québec and drive exports of Canadian innovation.

Canada’s current polar icebreakers are very old. CCGS Louis S. St-Laurent is deep into its sixth decade and CCGS Terry Fox is fast approaching 40 years in service. A new polar class will enable Canada to maintain a continuous Arctic presence benefiting all Canadians, including the northern communities, enabling ice-choked trade, supporting Arctic sovereignty and protecting the polar environment.

GE’s Power Conversion business offer a full spectrum of best-in-class integrated electrical propulsion and power systems, including its Seajet podded propulsion units. The ice-class range of Seajet – a technology jointly developed with AETC Sapphire – is available for Polar Class notation, with a power range of 7.5 MW to 15 MW. In the Seajet system the electric motor is housed in the hull mounted pod and directly connected to the propeller, freeing up cargo and operational space in the ship. Maneuverability and efficiency are greatly improved, and total fuel consumption and exhaust emissions are reduced. Customizable for different ship types, with simplified installation, Seajet pods can enhance performance in an array of commercial, offshore marine, and ice breaking ships.

Davie is Canada’s only mega-yard with 50% of total capacity, able to build up to eight large, complex ships simultaneously. The 150-meter polar will be easily accommodated in Davie’s 351-meter Champlain Dry Dock. An integrated build schedule would ensure polar would complement other Davie programs such as the six program icebreakers it is set to build under the NSS. In fact, it would facilitate a steep learning curve and economies of scale to significantly benefit both programs by mitigating cost, schedule and performance risks.

Moreover, a recent analysis conducted for Davie by Deloitte, drawing on ISED and StatCan numbers, concluded that building polar icebreakers at Davie will generate up to 2,500 well-paid jobs, engage over 1,300 suppliers (with 900 plus in Québec) and contribute up to $2.5 billion to the Canadian economy.

“We welcome GE to our polar program,” said James Davies, president and CEO of Davie Shipbuilding. “Their leading-edge propulsion system combined with decades of icebreaker experience and electric and power system capabilities are unsurpassed. Their inclusion also greatly strengthens Canada’s National Icebreaker Centre. Together, we can ensure the polar is stimulating the post-pandemic economy and protecting Canada’s Arctic interests into the far future.”

Philippe Piron, president and CEO of GE Power Conversion, said, “GE are ready to begin work with Davie Shipbuilding to deliver Canada’s new generation of polar class ships. GE and Davie skills are complementary. GE are prepared to deliver the robust systems and equipment that are essential for the powerful polar class ships that Davie will build for Canada. We are excited to have the opportunity to strengthen Canada’s National Icebreaker Centre under Davie’s leadership, and we look forward to engaging broadly with Canada’s marine industry.”

GE joins Vard and Serco as partner in Davie’s polar program. Davie expects to soon announce steel, critical systems and other service partners.