

USCGC Vigorous Returns Home after a 48-day Multi-Mission Patrol



U.S. Coast Guard Cutter Vigorous moored at home port in Virginia Beach, Virginia Dec. 21, 2022. Vigorous is a 210-foot, Reliance-class medium endurance cutter with a crew of 74. *U.S. COAST GUARD / Petty Officer 3rd Class Kate Kilroy* VIRGINIA BEACH, Va. – The crew of the U.S. Coast Guard Cutter Vigorous (WMEC 627) returned to their homeport in Virginia Beach Dec. 21, following a 48-day patrol in the Northern Caribbean Sea, the Coast Guard Atlantic Area said in a release.

In support of the Coast Guard's Seventh District, Vigorous' crew conducted maritime safety and security missions as they responded to the historically high migration activity and remained prepared to interdict and disrupt the flow of illegal narcotics in the South Florida Straits and Windward Pass.

During the patrol, Vigorous traveled more than 8,000 miles and

contributed to the safe transfer of more than 500 Cuban nationals. Vigorous worked with numerous Coast Guard assets, U.S. Customs and Border Protection boats and good Samaritan vessels to detect, deter and intercept unsafe and illegal ventures bound for the United States.

“The Vigorous crew’s remarkable professionalism, competence and determination were on full display as we met the diverse challenges of operations at sea,” said Cmdr. Ryan Waters, commanding officer of Vigorous. “Whether executing days of small boat operations late into the night or rendering assistance to mariners on a disabled vessel, the Vigorous crew exceeded expectations at every turn. After a successful patrol, we look forward to returning home to our family and friends on shore.”

Vigorous is a 210-foot, Reliance-class medium-endurance with a crew of 74. The cutter’s primary missions are counter-drug operations, migrant interdiction, enforcing federal fishery laws and search and rescue in support of U.S. Coast Guard operations throughout the Western Hemisphere.

UK Chief of Defence Staff Highlights Maritime Context Within Defense Review Refresh



A Royal Navy Astute-class submarine deploys Royal Marines raiding forces during an exercise in Norwegian waters in early 2022. With NATO growing its North Atlantic naval presence, the United Kingdom's impending refresh of its 2021 Integrated Review may enable the United Kingdom to consider increasing its submarine force levels. *U.K. MINISTRY OF DEFENCE*

LONDON – As the United Kingdom adapts to the consequences of conventional war in Europe and wider emerging security challenges, it is preparing to refresh its 2021 Integrated Review (IR) of defense, security and foreign policy. The United Kingdom has already delivered on several naval capability developments outlined in the IR. However, an 'IR Refresh' may enable the United Kingdom to enhance certain elements of its naval force posture.

These themes were discussed by U.K. Chief of Defence Staff (CDS) Adm. Sir Tony Radakin, in the annual CDS lecture at the Royal United Services Institute, London on Dec. 14.

Radakin pointed to three premises in the global security situation: that current times are "extraordinarily dangerous";

that these “extraordinary times call for an extraordinary response,” which is being delivered and is countering Russia’s aggression in Ukraine; and that the response to the Ukraine war has reinforced U.K. requirement to retain a global outlook.

In the Ukraine war, focus falls on land operations. However, Radakin outlined the wider maritime context. Russian naval losses have been significant, with 12 ships (including a capital ship, the Slava-class cruiser Moskva) lost at sea or in port. In return, NATO has become stronger at sea, with Radakin noting the “hard power amassed” in the North Atlantic.

The 2021 IR identified Russia as an acute threat and China as an emerging challenge, Radakin said. However, he added, “what has happened is that events of the past year have trended towards the most negative scenarios we envisaged in the IR.”

Reflecting Western focus on high-end conventional warfare as a consequence of conflict in Ukraine, Radakin explained that the United Kingdom has delivered several significant naval capability developments since the IR. “We’ve placed the contract for the second batch of Type 26 frigates, and for the Naval Strike Missile [NSM]. The Fleet Solid Support [FSS] Ship program is moving forward, and we’ve purchased a new Multi-Role Ocean Survey Ship [MROSS] to protect our critical underwater infrastructure.”

November was a busy month for the Royal Navy (RN). The contract was awarded for the second Type 26 batch, comprising the final five hulls of the eight-ship class. The United Kingdom announced that 11 RN ships – a mix of Type 23 frigates and Type 45 destroyers – will receive an NSM fit, with three fitted in time for operational deployment within 12 months. The United Kingdom also down-selected an FSS supplier.

Progress will continue into early 2023, when the RN is

scheduled to receive the first of two MROSS vessels.

The 'IR Refresh' will have to address continuing challenges with Russia, but should maintain a global perspective, Radakin argued. Tackling the threats facing the United Kingdom, the review would also present opportunities.

Radakin pointed to the September 2021 Australia/UK/US (AUKUS) accord, at the core of which is building a nuclear-powered attack submarine (SSN) capability for Australia. This may enable the United Kingdom to re-assess its own SSN force level, Adm Radakin explained. "If we have the courage to do this properly, then it's also the means to strengthen the resilience of our own nuclear enterprise and grow our submarine numbers in the decades to come," he said. "This will benefit our contribution to NATO as well as our presence in the Indo-Pacific."

The 'IR Refresh,' Radakin continued, "[is] about thinking big: accelerating the transformation of the armed forces to become even more lethal and integrated; maximising the capabilities that offer a decisive advantage; being even more global in our outlook."

To deliver this global outlook, Radakin asked, "might it mean a British carrier regularly deployed in the Indo-Pacific at the heart of an allied strike group?"

Naval Postgraduate School and Stanford University Formalize

Partnership to Address Global Climate Change, Energy Security and Sustainability



Secretary of the Navy Carlos De Toro was on hand for the signing of an Education Partnership Agreement between the Naval Postgraduate School (NPS) and the Stanford Doerr School of Sustainability on Dec. 15. *U.S. NAVY / Javier Chagoya* MONTEREY, Calif. – The Naval Postgraduate School (NPS) and Stanford University Doerr School of Sustainability have created a formal partnership to address the challenging issues of global climate change, energy security and sustainability.

The announcement was made on Dec. 15 at the NPS campus in Monterey, California.

The Education Partnership Agreement (EPA) was signed by NPS President Vice Adm. (ret.) Ann E. Rondeau and Dr. Arun Majumdar, dean of the Doerr School of Sustainability, during a

ceremony that was presided over by Secretary of the Navy Carlos Del Toro.

“Bold climate action is a mission imperative for the Department of the Navy, and we must harness all of the tools at our disposal in order to make urgently needed change,” said Del Toro. “This collaboration between the Naval Postgraduate School and Stanford University will bring together two globally recognized hubs of research and innovation, focused on realizing solutions that our Navy and our nation can employ now and in the future.”

According to a press release from NPS, the Navy’s climate strategy highlights two major performance goals in its response: building climate resilience and reducing climate threats. But, the release said, it also underlines the importance of leveraging and empowering the education of Sailors and Marines to meet the challenges of climate and energy security and sustainability through knowledge and innovation.

“The combination of expertise, operational experience, education and entrepreneurship in this partnership with Stanford and their Doerr School of Sustainability is truly unique and a powerful contribution to the global climate challenges ahead of us all,” said Rondeau.

The NPS Climate and Security Network (CSN) brings together the school’s collective expertise on climate security and creates opportunities for interdisciplinary collaboration and information sharing. Through the CSN’s efforts, NPS student and faculty have contributed to the development of key climate strategies and plans within the Department of Defense and conduct research to inform future force design, force generation and deployment considerations.

The Doerr School is a new addition to the Stanford campus. Launched in May 2022, the school works with local and global

collaborators to understand the challenges of climate change and find solutions that can be executed with impact at scale. The school includes multiple academic departments, including the Woods Institute for the Environment and the Precourt Institute for Energy; a sustainability accelerator to drive policy and technology solutions at scale; and a newly established Oceans Department located at the Hopkins Marine Station in Monterey.

Academic collaboration and research partnerships between NPS and Stanford are not new. Both schools have partnered on research efforts, leveraging each other's strengths as well as their proximity in Northern California – the schools are 90 minutes apart by car.

Under the partnership agreement, NPS and the Doerr School of Sustainability will conduct joint research with the CSN and other NPS departments and groups, including the Energy Academic Group, Center for Infrastructure Defense, Meteorology, Oceanography, National Security Affairs, Defense Management and Engineering to investigate climate security, energy security, sustainability and more.

Naval Medical Research Center Begins Phase 1 Testing of Diarrhea Vaccine



Dr. Frederic Poly and Dr. Renee Laird, research scientists with Naval Medical Research Center (NMRC), pose for a photo in the Enteric Diseases laboratory. NMRC's Enteric Diseases Department, led by Poly, have partnered with the National Institute of Health's National Institute of Allergy and Infectious Diseases to begin phase 1 testing of a new vaccine for *Campylobacter jejuni*, a foodborne pathogen. *U.S. NAVY / Michael Wilson*

SILVER SPRING, Md. – Researchers with Naval Medical Research Center (NMRC)'s Enteric Diseases Department have partnered with the National Institute of Health's National Institute of Allergy and Infectious Diseases to begin phase 1 testing of a new *Campylobacter jejuni* vaccine, NMRC announced in a Dec. 19 release.

Campylobacter jejuni, a foodborne pathogen, is one of the most common causes of diarrheal illness in the U.S. and abroad, and can impact readiness of deployed or traveling service members.

Phase 1 testing, currently underway at Cincinnati Children's

Hospital Medical Center, focuses on the safety and best means of Campylobacter vaccine delivery. Researchers will vaccinate 60 patients in total as part of Phase 1 testing. This first phase of testing is expected to continue through the end of 2023.

Phase 2 testing will involve vaccinating groups of adults with a dose of the vaccine determined in phase 1, to determine its effectiveness in protecting against Campylobacter. NMRC researchers expect to begin phase 2 testing by 2025 at the earliest, depending on funding and the facilities available.

Diarrhea is a frequently occurring illness during military operations, despite modern preventive medicine efforts. The impact of severe diarrhea can be debilitating and impair a service member's ability to do their job. Acute diarrheal illness during deployment is commonly responsible for loss of duty days, negatively affects mission readiness and may be fatal in the worst cases.

"With really infectious diarrhea, you get cramping, and if you have cramps, you can't really operate," said Dr. Frederic Poly, head of NMRC's Enteric Diseases Department, who has been involved with the project since 2005. "You can develop a fever; you're going to get dehydrated and you're going to lose cognitive perception. These are all symptoms that will negatively impact how you function."

Following recovery from initial infection and bouts of diarrhea, individuals can still experience long-term effects of infection.

"With Campylobacter, there's potential downstream effects, like irritable bowel syndrome or Guillain-Barré syndrome, which can lead to respiratory and neurological issues," noted Lt. Yuliya Johnson, a microbiologist with NMRC. "It doesn't happen to everyone, but there is still an associated risk we

hope to mitigate by developing a vaccine.”

According to Poly, this vaccine will be the first developed for use against *Campylobacter*, and if successful, has the potential to benefit civilian and pediatric populations as well. Vaccination at a young age can curb developmental issues caused by diarrhea that might otherwise affect physical and mental development in children.

Poly, NMRC’s most recent senior civilian of the quarter for science, leads the NMRC Enteric Diseases Department. The department, composed of 23 full time microbiologists, molecular biologists, biochemists and immunologists, researches treatments for the prevention of infectious bacterial diarrhea.

This past year, the department completed development and clinical evaluation of a prophylactic against another military relevant enteric pathogen, ETEC (enterotoxigenic *E. coli*). The enteric diseases lab is also working on the development of an oral prophylactic to prevent infection from several other intestinal pathogens.

NMRC and its commands are engaged in a broad spectrum of activity from basic science in the laboratory to field studies in austere and remote areas of the world to investigations in operational environments. In support of the Navy, Marine Corps and joint U.S. warfighters, researchers study infectious diseases, biological warfare detection and defense, combat casualty care, environmental health concerns, aerospace and undersea medicine, medical modeling, simulation, operational mission support, epidemiology and behavioral sciences.

HII Begins Fabrication of Amphibious Assault Ship Fallujah



HII has started fabrication of the future USS Fallujah. *HII PASCAGOULA*, Miss. – HII's Ingalls Shipbuilding division started fabrication of the U.S. Navy's newest amphibious assault ship Fallujah (LHA 9) on Dec. 19, the company said in a Dec. 20 release. The start of fabrication signifies that the first 100 tons of steel have been cut for the ship and that the shipyard is ready to move forward with the construction of the ship.

"Our shipbuilders are proud of the work they do for the security of our nation and for our Navy and Marine Corps customers," said Eugene Miller, Ingalls Shipbuilding LHA program manager. "The start of fabrication on Fallujah is a significant milestone in the construction of this large-deck amphibious ship and demonstrates our ability to maintain a sustained LHA production line at Ingalls."

For nearly 50 years, Ingalls has built large-deck amphibious assault ships and is the sole shipbuilder for amphibious ships. Ingalls has delivered 15 large-deck ships, including the Tarawa-class, LHA 1-5; the Wasp-class, LHD 1-8; and most recently the America-class, LHA 6 and LHA 7. The third of the America class, Bougainville (LHA 8), is currently under construction.

The America class is a multi-functional and versatile ship that is capable of operating in a high density, multi-threat environment as an integral member of an expeditionary strike group, an amphibious task force or an amphibious ready group.

In October, Ingalls was awarded the \$2.4 billion U.S. Navy fixed-price-incentive contract for the detail design and construction of Fallujah. Similar to Bougainville, Fallujah will retain the aviation capability of the America-class design while adding the surface assault capability of a well deck and a larger flight deck configured for F-35B Joint Strike Fighter and MV-22 Osprey aircraft. These large-deck amphibious assault ships also include top-of-the-line medical facilities with full operating suites and triage capabilities.

HII's Pharos Demonstrates Launch and Recovery with Navy Snakehead LDUUV



HII collaborated with the U.S. Navy on a research and development effort that advanced the launch and recovery of a large size unmanned undersea vehicle, using an amphibious ship and HII's Pharos system. *HII*

NEWPORT, R.I. – HII collaborated with the Navy on a research and development effort that advanced the launch and recovery of a large-size unmanned undersea vehicle (UUV), using an amphibious ship and HII's Pharos system, the company said in a Dec. 20 release.

"This is a great example of synergies within HII that accelerate the Navy's vision for the future fleet," said Chris Kastner, HII president and CEO. "I'm proud of the cross-division teaming, plus the pace of progress of unmanned systems toward launch and recovery from an amphibious ship."

Building on the success of a June 2022 demonstration where HII launched and recovered its large diameter UUV Proteus with its Pharos system, HII entered into two separate Cooperative Research and Development Agreements (CRADA) to further advance the capability to deploy unmanned vehicles from ships. The CRADAs were with Naval Surface Warfare Center Panama City division and the Naval Undersea Warfare Center Division Newport, Rhode Island.

Led by the company's Advanced Technology Group, comprised of members from Mission Technologies and Ingalls Shipbuilding divisions, HII designed and constructed a surrogate system which was land tested in Panama City, Florida, to ensure the system could accommodate the Navy's Snakehead phase one large displacement unmanned undersea vehicle (LDUUV) in a loaded condition. The test demonstrated that Pharos can be adapted to a wide range of vehicles, including LDUUVs.

Following that successful demonstration, Pharos and the Snakehead LDUUVs were tested at the Navy's Narragansett Bay Test Facility in Newport. Pharos, with the Snakehead LDUUV embarked in its cradle, was lowered down and pulled up a ramp to simulate disembarking and embarking the system in the well deck of an amphibious ship. The simulation ensured that the 22,000-pound pull was within the existing capabilities of an LPD as operating in the Navy fleet.

"These demonstrations validate a near term launch and recovery capability for the Pharos system," said Todd Borkey, HII's executive vice president and chief technology officer. "HII accelerates the transitioning of new technology into the customer's mission, thus we are eager to enter the next phase of testing and demonstrate a launch and recovery from an LPD."

The Pharos system began as a corporate independent research and development project. Ingalls Shipbuilding developed over 40 launch and recovery concepts from a mothership. These concepts were down-selected to the Pharos system with the objective of demonstrating the launch and recovery capability of a LDUUV from an LPD. Ingalls Shipbuilding and Mission Technologies took the Pharos concept and collaboratively designed, developed and constructed Pharos to enable the demonstrations.

USCGC Forward Offloads \$176 Million Worth of Cocaine in Port Everglades



The crew of the Coast Guard Cutter Forward pose with approximately 13,375 pounds of cocaine in Port Everglades, Florida, Dec. 15, 2022. *U.S. COAST GUARD / Petty Officer 3rd Class Eric Rodriguez*

PORT EVERGLADES, Fla. – The crew of the U.S. Coast Guard Cutter (USCGC) Forward (WMEC 911) offloaded approximately 13,375 pounds of cocaine worth an estimated \$176 million in Port Everglades, Florida, Dec. 15, the Coast Guard 7th District said in a Dec. 19 release.

The drugs were interdicted in the international waters of the

Caribbean Sea by crews from Forward, Coast Guard Helicopter Interdiction Tactical Squadron and Coast Guard Law Enforcement Detachment 408 on the HNLMS Holland (P840).

Throughout the patrol, Forward held approximately 18,500 pounds of cocaine on deck worth an estimated \$244 million. Earlier this month, Forward transferred approximately 4,365 pounds of cocaine to USCGC Campbell (WMEC 909) and 1,654 pounds of cocaine to the United States Drug Enforcement Administration. Forward also intercepted three suspected narcotics smugglers and held 12 others.

“Working with the Dutch to support multi-national interests in the Caribbean is greatly rewarding,” said Cmdr. Staci K. Rutsch, Forward’s commanding officer. “Coupled with our ship’s organic law enforcement capabilities, this patrol led to a significant removal of illicit narcotics from the maritime domain. Opposing transnational criminal organizations is important in maintaining our partnerships and keeping our partners in the central Caribbean safe. I could not be more proud of the crew’s hard work in supporting this mission.”

The fight against drug cartels in the Caribbean Sea and the transnational criminal organizations they are associated with requires a unity of effort in all phases; from detection and monitoring to interdiction and apprehension, and on to criminal prosecutions by international partners and U.S. Attorneys’ Offices in districts across the nation.

Forward is a 270-foot Famous-class medium-endurance cutter homeported in Portsmouth, Virginia, with a crew of 97. The cutter’s primary missions include law enforcement, search and rescue, protection of living marine resources, homeland security and defense operations, international training and humanitarian operations throughout the Western hemisphere.

USS Shoup Forward Deploys to Japan



Sailors aboard the Arleigh Burke-class guided-missile destroyer USS Shoup (DDG 86) moor the ship as it arrives at Commander, Fleet Activities Yokosuka, Dec. 19, as the newest addition to Commander, Task Force (CTF) 71/Destroyer Squadron 15. *U.S. NAVY / Mass Communication Specialist 2nd Class Zachary Grooman*

YOKOSUKA, Japan – Arleigh Burke-class guided missile destroyer USS Shoup (DDG 86) arrived in its new forward-deployed location of Yokosuka, Japan, Dec. 19, joining Commander, Task Force (CTF 71)/Destroyer Squadron (DESRON) 15, the squadron's Public Affairs said in a release.

The forward presence of USS Shoup enhances the national

security of the United States and improves its ability to protect strategic interests. USS Shoup is a multi-mission ship with air warfare, submarine warfare and surface warfare capabilities. It is designed to operate independently or with carrier strike groups, surface action groups and amphibious ready groups.

“We are looking forward to having USS Shoup join our forward-deployed team,” said Capt. Walter Mainor, commander, Task Force 71. “USS Shoup will be instrumental to U.S. 7th Fleet’s ability to strengthen bonds with our Allies and partners, and our continued commitment to regional maritime security and ensuring a free and open Indo-Pacific.”

The United States values Japan’s contributions to the peace, security and stability of the Indo-Pacific and its long-term commitment and hospitality in hosting U.S. forces forward deployed there. These forces, along with their counterparts in the Japan Self-Defense Forces, make up the core capabilities needed by the alliance to meet our common strategic objectives.

Maintaining the most advanced ships and a forward-deployed naval force (FDNF) capability supports the United States’ commitment to the defense of Japan and the security, stability and prosperity of the Indo-Pacific region. This allows the most rapid response times possible for maritime and joint forces, and brings our most capable ships with the greatest amount of striking power and operational capability to bear in the timeliest manner.

“Shoup is excited for the opportunity to join 7th Fleet and the FDNF ships in Yokosuka, Japan” said Cmdr. Dale Tourtelotte, USS Shoup commanding officer. “Our Sailors have trained diligently over the past few years in preparation for this transition. We are ready to support our allies and partners in the region in maintaining maritime security.

Additionally, we are appreciative of the hospitality shown to our families who have been living in Japan for the past few months. We are eager to arrive in Yokosuka.”

Shoup is a Flight IIA Arleigh Burke Class Aegis guided missile destroyer that can deploy with two MH-60 variant helicopters. It also has improved ballistic missile defense, anti-air and surface warfare capabilities. The ship is 155 meters in length; displacing approximately 9,200 tons, with a crew size of approximately 270 Sailors. The ship was commissioned June 22, 2002.

CTF 71/DESRON 15 is the Navy’s largest forward-deployed DESRON and the U.S. 7th Fleet’s principal surface force. 7th Fleet is the U.S. Navy’s largest forward-deployed numbered fleet, and routinely interacts and operates with 35 maritime nations in preserving a free and open Indo-Pacific region.

Future Flight III DDG USS Jack H. Lucas Embarks on First Sea Trials



HII announced the successful completion of Builder's Trials for the future USS Jack H. Lucas, Dec. 15. *HII*

WASHINGTON – The Navy's first Flight III Arleigh Burke-class guided missile destroyer, future USS Jack H. Lucas (DDG 125) completed Builder's Trials on Dec. 15, 2022, Team Ships Public Affairs said in a release.

Builder's trials consist of a series of in-port and at-sea demonstrations that allow the shipbuilder to assess the ship's systems. For DDG 125, these trials also mark the first opportunity to test the new Flight III systems while underway. The trials are conducted by the shipbuilder, Huntington Ingalls Industries' (HII) Ingalls Shipbuilding division in Pascagoula, Mississippi.

"Embarking on Builder's Sea Trials is a significant accomplishment for the DDG 51 program," said Capt. Seth Miller, DDG 51 class program manager, Program Executive Office (PEO) Ships. "As the first Flight III ship, DDG 125 is the culmination of years of dedication and perseverance to design, build, and integrate the Flight III capability of BL 10, AMDR and the supporting systems such as the new Electric Plant and associated upgrade to the Machinery Control System."

The future USS Jack H. Lucas will be the 75th Arleigh Burke (DDG 51) class destroyer, and the first of the DDG 51 Flight III ships. The Flight III upgrade is centered on the AN/SPY-6(V)1 Air and Missile Defense Radar and incorporates upgrades to the electrical power and cooling capacity. Flight III is the fourth Flight upgrade in the proud history of the class, and the largest upgrade to date.

The DDG 51 Arleigh Burke-class Guided Missile Destroyer (DDG 51) is a multi-mission guided missile destroyer able to operate offensively and defensively, independently, or as units of Carrier Strike Groups, Expeditionary Strike Groups and Surface Action Groups. These ships respond to the full range of military operations including Low Intensity Conflict/Coastal and Littoral Offshore Warfare scenarios and open ocean conflict, providing or augmenting power projection. Flight III ships will fill the critical need for enhanced surface combatant Integrated Air and Missile Defense.

HII's Ingalls Shipbuilding division is also under construction on the future Ted Stevens (DDG 128), Jeremiah Denton (DDG 129), George M. Neal (DDG 131) and Sam Nunn (DDG 133).

Thai Navy Corvette Sinks in Heavy Seas



The HTMS Sukhothai is seen from the deck of HTMS Kraburi (FFG-457) just prior to sinking. ROYAL THAI NAVY ARLINGTON, Va. – The Royal Thai Navy (RTN) corvette HTMS Sukhothai (FS 442) has sunk in the Gulf of Thailand after foundering in heavy seas Dec. 1.

Of the crew of 106 personnel, 75 have been reportedly rescued as the search continues for the remaining 31 crewmembers.

According to Thai Navy statements, the corvette encountering rough seas which caused flooding of the propulsion and electrical spaces. The loss of power prevented the ship from pumping out water to regain stability.

The RTN dispatched ships to assist the Sukhothai, and HTMS Kraburi (FFG 457) arrived just before the ship sank. Other ships and aircraft arrived on the scene to rescue crew members.

The 251-foot, 960-ton Sukhothai was commissioned in 1987.

Other Thai Navy ships are assisting in the search for survivors, including the frigate HTMS Bhumibol Adulyadej (FFG-471) and landing platform dock HTMS Angthong (LPD-791).