

CNO Addresses Fleet on Afghan War

ARLINGTON, Va. – Chief of Naval Operations Michael M. Gilday released the following letter to the Fleet on Aug. 20:

Shipmates,

In 2001, we went to war to protect our nation and bring justice to those who committed cold-blooded attacks on our country. We went to war to defend our citizens, our friends and our allies. We went to war to protect freedom – a fragile ideal, but one worth defending.

As the events in Afghanistan unfolded this past week, some of you may question whether your contributions and sacrifice were worth it. I want to be very clear: Your service was not in vain, and it made a difference. For 20 years, you have deployed in support of the mission in Afghanistan. Whether on the ground, from the sea or from the air, Sailors fought tirelessly to keep our homeland safe, and to uphold principles which we hold dear.

As a sea service, we maintain an enduring presence around the world, steadfast in our resolve to defend our nation, our principles and our allies. While we must remain focused, at the same time I encourage each of you to reflect on your service, reach out to those who may be struggling, and remember those who made the ultimate sacrifice in service to a grateful nation. Your courage and commitment reflect our Navy's and our nation's best virtues. Of this, you should be proud. Please also know that I am deeply humbled to serve both you and our nation.

Sincerely,

M.M. Gilday

Coast Guard, Partner Agencies Continue to Support Haiti Relief Efforts



Customs and Border Protection Air and Marine Operations agents transporting injured Haitian citizen in Haiti, Aug. 19, 2021. Coast Guard and partner agencies continue to conduct ongoing operations in Haiti transporting medical personnel & evacuating those requiring higher levels of care. U.S. CUSTOMS AND BORDER PROTECTION AIR AND MARINE OPERATIONS

MIAMI – Coast Guard and partner agency aircrews continue to respond to critically injured Haitian citizens by transporting them to a higher level of care in Port au Prince, Haiti, the Coast Guard 7th District said in an Aug. 19 release.

After several days of responding to a magnitude 7.2 earthquake in Haiti, Coast Guard aircrews returned home to Clearwater, Florida, Thursday, and more Coast Guard aircrews are returning to the response.

“We are proud, but we are also a little heartbroken,” said Petty Officer 3rd Class Michael Diglio, a rescue swimmer deployed to Haiti. “The Haitian citizens are strong, as they would ride in the helicopter calm and composed throughout the one-hour ride to the Port au Prince hospital.”

In the past 24 hours, Coast Guard men and women deployed to Haiti have flown 37 evolutions, saved more than 33 people, assisted more than 58 people, transported 49 urban disaster and relief personnel, and transported 1,700 pounds of

disaster and relief supplies.

Since Sunday, Coast Guard men and women deployed to Haiti have flown 137 evolutions, saved 116 people, assisted 177 people, transported 234 urban disaster and relief personnel, and transported 8,500 pounds of disaster and relief supplies.

Royal Navy Ship to Support Haiti Earthquake Response



The Royal Navy ship RFA Wave Knight is supporting the international humanitarian response both as a landing pad for US military helicopters and the U.K. government is also sending a team of medical and humanitarian experts to the country following a request for international assistance by the Haitian government. *U.K. MINISTRY OF DEFENCE*

LONDON – The U.K. Government announced on Aug. 19 a package of up to £1 million of initial support to Haiti, as the country recovers from the recent devastating earthquake, the U.K. Ministry of Defence said in a release.

The Royal Navy ship RFA Wave Knight will also support the U.S. contribution to the international humanitarian response. The Wave-class fast fleet tanker – part of the Royal Navy's Royal Fleet Auxiliary (RFA) – will serve as a landing pad for U.S. military helicopters responding to the crisis in Haiti.

This is in addition to significant U.K. contributions to the U.N. Central Emergency Response Fund, the Red Cross Disaster Relief Fund and the Start Fund, which have allocated funding of £5.8 million, £600,000 and £250,000 respectively.

Following a request for international assistance from the Haitian government, the United Kingdom will send a team of medical experts and a U.K. humanitarian expert to provide support.

“Communities in the Caribbean can rely on the Royal Navy to come to their aid when disaster strikes,” said Defence Secretary Ben Wallace. “The Royal Navy has a proud history of supporting British Overseas Territories and other partners in the Caribbean during hurricane season. I’m proud that the U.K. can now play a part in the U.S. effort to respond to the devastating earthquake in Haiti.”

Experts from the U.K.’s Emergency Medical Team (UK EMT) will be deployed to Haiti this week to assess requirements for medical assistance and identify additional support that the UK could provide to affected communities.

“It is at times like this that the international community must come together to help those in crisis,” said U.K. Minister for the Caribbean Lord (Tariq) Ahmad of Wimbledon. “The UK’s support will add to Haiti’s efforts to provide emergency disaster relief to those most vulnerable, including access to vital healthcare and sanitation.”

The team of four medical experts from the United Kingdom, Italy and France specialize in emergency medicine, rehabilitation and logistics, as well as humanitarian health care. They are expected to deploy for up to two weeks.

On top of this, a U.K. humanitarian expert will arrive in Haiti as part of a U.N. Disaster Assessment and Coordination (UNDAC) mission, to help assess damage and humanitarian needs resulting from the earthquake.

The United Kingdom will also support the Caribbean Disaster Emergency Agency (CDEMA) who will support the Haiti Civil Protection Department with operations and coordination.

Navy Surgeon General: Medical EPF Ship to Have Role in Distributed Maritime Operations



The joint high speed vessel USNS Spearhead (JHSV-1) departs Joint Expeditionary Base Little Creek-Fort Story in Virginia Beach, Va., Jan. 16, 2014. The flight II Spearhead-class EPF will be equipped with medical facilities. *U.S. NAVY*

ARLINGTON, Va. – The expeditionary fast transport ship (EPF) being built as a medical ship will have a role in distributed maritime operations (DMO) and could support expeditionary advance base operations (EABO), the Navy surgeon general said.

Rear Adm. Bruce L. Gillingham, speaking Aug. 19 to reporters of the Defense Writer's Group, said the Flight II Spearhead-class EPF will be equipped with medical facilities to support the fleet under the DMO concept.

Gillingham said the Military Sealift Command's two large hospital ships – USNS Comfort and USNS Mercy – would “not be able to get as close to the fight” and that the high-speed Spearhead class has the speed needed to provide medical care to the fleet and Marines at their bases.

The admiral said that Austal USA, builder of the Spearhead-class EPF, is building a Flight II version that will have “significant structural changes” for medical facilities, including an 18-bed intensive care unit, two operating rooms, and feeding and berthing for a medical team of about 100

personnel. Its flight deck would be capable of landing helicopters and V-22 tiltrotor aircraft.

“We’re excited to work the concept of operations using that [ship] and to work with the Marine Corps as they work on Force Design [2030] ... as they seek to be highly maneuverable, even more so than they are now, and to be able to provide medical care in that setting,” Gillingham said.

The Naval Sea Systems Command awarded Austal USA a \$261.8 million contract for two EPFs, 13 and 14, which could become operational in the Flight II configuration. Austal already has delivered 10 EPFs to the Military Sealift Command and is building four more, including hulls 13 and 14.

The EPF is an aluminum catamaran design with a large mission bay and habitability spaces that give it flexibility for a wide range of roles. The ship’s shallow draft of 13 feet gives it the ability to gain access to more ports, including degraded ports. The EPF’s speed of 40 knots gives it the ability to reach destinations faster, giving commanders the ability to respond faster to operational demands.

General Dynamics Moves Knifefish Production to New UUV Center of Excellence



General Dynamics Mission Systems and U.S. Navy representatives dedicate the opening of the General Dynamics Unmanned Underwater Vehicle Center of Excellence at Taunton, Massachusetts. The facility will manufacture the Knifefish

mine countermeasures UUV. *GENERAL DYNAMICS*

General Dynamics Mission Systems cut the ribbon to open a new and expanded production line for its Knifefish medium-class surface mine countermeasure unmanned underwater vehicle (SMCM UUV) systems at the company's UUV Center of Excellence (COE) in Taunton, Massachusetts.

Up until now, Knifefish has been assembled at the General Dynamics Bluefin Robotics facility in Quincy, Massachusetts. The system achieved a successful Milestone C decision and approval to enter low-rate initial production (LRIP) in 2019, followed by a contract for five Knifefish systems (10 total UUVs) and support equipment in August of 2019. The first of those Knifefish under that contract were delivered to the Navy in March.

The 20,000 square-foot COE occupies repurposed manufacturing space within the company's Taunton facility to provide manufacturing, assembly and testing capabilities for Knifefish and Bluefin UUVs. The 500,000 square-foot Taunton manufacturing plant develops communications systems for the U.S. Army and provides engineering, manufacturing and production support for a number of the company's products and programs.

"Our manufacturing facility has decades of experience in manufacturing high-consequence, highly critical components and electronic assemblies for many agencies across the Department of Defense," said Paul Dalton, vice president of undersea systems. "And we are thrilled today to be adding unmanned underwater vehicles to that strong legacy of manufacturing performance."

Carlo Zaffanella, vice president and general manager of maritime and strategic systems for General Dynamics Mission Systems, was pleased that the company has invested about \$30 million in UUV design and manufacturing, and is bringing manufacturing work for its traditional Navy businesses to the

Taunton plant that has long supported Army customers.

“Opening this manufacturing and assembly facility allows us to leverage the highly skilled and extremely experienced Taunton workforce. This skill set found in our Taunton employees is exactly the type of expertise we need to manufacture highly reliable UUVs,” said Zaffanella. “We have expanded our maritime operations to include the Taunton UUV Manufacturing and Assembly Center of Excellence to produce our existing best in class small and medium UUVs and allow for additional expansion space for growth on future UUV programs of all sizes. This location was specifically selected to provide additional capacity that will allow for larger scaling and optimization of UUV production with purpose-built manufacturing cells, fixtures, and special test equipment, while maintaining proximity to our Bluefin Robotics engineering team in Quincy.”

General Dynamics moved the production line to Taunton to allow for growth. Once Knifefish gets into full rate production with the Navy, the company said there’s still room here to grow to support the Navy, commercial customers or foreign military sales.

“Capacity was a big reason for setting this up,” said Craig Regnier, who manages the Taunton operation. We want it to be able to scale to meet the demands, likely in the volume of systems. With our Bluefin-9 and Bluefin-12, and our other commercial vehicle production lines running at the same time, we needed the ability to scale all those up in volume to meet demand. We dedicated our 8,000 square feet today, and we can expand easily up to 12,000 square feet and beyond.”

Regnier said the factory has the space, capacity, and most of all, the skilled workers to take on the new product line. “The kind of manufacturing that was already done here is exactly the kind of manufacturing that we need for Knifefish. The workers will learn certain processes that are new and unique

and different. But generally speaking, we already have the right people who are highly skilled at electronic system integration. We can do immersive salt water testing in a very controlled environment here at our manufacturing facility, and then bring it to Quincy, where we have our waterfront and our own dedicated ship that we can go out into the harbor and launch and recover, and do the different levels of testing that the navy needs from us. It's really just ideal setup for us."

Knifefish is based on the Bluefin-21 UUV. It is intended for deployment from the Navy's littoral combat ship (LCS) MCM mission package, as well as operating from other Navy vessels of opportunity. Knifefish will reduce risk to personnel by operating within minefields as an off-board sensor while the host ship stays outside the minefield boundaries.

General Dynamics Mission Systems is the system integrator for the Independence-variant of the Navy's LCS. "We brought some of our expertise to making the mission modules and mission packages that go on that ship," Zaffanella said.

The Navy program of record is for 30 Knifefish systems, with each system including two vehicles and associated equipment.

"It goes back to taking the man out of the minefield, the more we can do and expand that portfolio of capabilities that can be done unmanned, the more we can remove those threats from the sea. Unmanned is a gamechanger in that regard," said Capt. Godfrey "Gus" Weekes, Program Manager, LCS Mission Modules (PMS 420).



A Knifefish unmanned undersea vehicle training model undergoes crane operations aboard the Military Sealift Command expeditionary fast transport vessel USNS Spearhead (T-EPF 1) as part of a training exercise enabling mine countermeasure missions from an EPF as a vessel of opportunity. *U.S. NAVY / Master-at-Arms 1st Class Alexander Knapp*

While Knifefish is one of the mission modules in the LCS mine countermeasures mission package, the full mission package has not reached initial operating capability.

As the prime contractor for the SMCM UUV, which later became Knifefish, General Dynamics partnered with Bluefin Robotics to provide the vehicle, and in 2016, General Dynamics Mission Systems bought Bluefin Robotics.

The battery-powered Knifefish can propel itself, use its sensors and process large amounts of data on board for missions of 24 hours and more. The Taunton facility will manufacture the batteries used in Knifefish and other Bluefin Robotics vehicles.

Knifefish has a low-frequency broadband sonar system (LFBB) capable of detecting bottom and buried "proud" mines, as well as identifying mines in high clutter environments.

According to the Naval Research Laboratory's Acoustics Division Superintendent, Dr. Brian Houston, LFBB is an active sonar that employs synthetic aperture processing, and artificial intelligence for detection and classification.

"LFBB exploits the structural acoustics involved with underwater sonar. When you transmit sound, the acoustic return is very different depending on the physical object reflecting that acoustic energy. It might be a naturally occurring thing like a rock on the bottom, or something that's man-made, like a mine. In the water column, it might be a submarine versus a whale. What's in the acoustic return is very different for each of those targets. Sonar has traditionally helped us know where something is, how far away it is, and sometime provides an image. But in addition to bearing and range, we can now determine what it is," Houston said. "That return has specific physics in it that we can exploit, and we can know something about the physical object and based on how it responds."

Because of its capabilities, Knifefish is subject to

International Traffic in Arms Regulations (ITAR) restrictions. But the basic Bluefin Robotics vehicles are commercially available. “We’ve constructed and architected our commercial vehicles so that they’re largely ITAR free. In fact, the Bluefin-9 and Bluefin-12 are being delivered today into a program for a military customer overseas,” said Zaffanella. “When we designed those vehicles, the intent was to keep them free from ITAR restrictions.”

Knifefish is the only UUV that can identify proud mines. But, with its open architecture and modular design, General Dynamics officials say that Knifefish could be equipped with other sensors, as well. Knifefish is designed and architected – both software and hardware – to accommodate upgrades as it goes forward. “We designed Knifefish using an open architecture concept that can be quickly and efficiently modified to accommodate a wide range of missions,” Zaffanella said.

“What makes Knifefish different from other vehicles is the sonar that can detect buried mines,” said Zaffanella. “But the sensor is not something that’s bolted on to the vehicle. The electrical and mechanical integration of the sonar into the vehicle is a fundamental part of its design and is necessary in order to make it work. Buttoned up it looks like a relatively simple and straightforward UUV. But the amount of technology that is inside of that is breathtaking.”

The free-flooding design allows the vehicle to be assembled in sections, which makes it easier to ship and store. “This is genuine modularity – both physical and software modularity. It comes apart in sections and you can upgrade each of the things that are in there, whether it’s the system electronic portion, the communications, or the batteries. In a modular system like this, it’s pretty easy to change out one section for another to add or change capability,” Zaffanella said.

Knifefish operates autonomously, so that an operator doesn’t

have to tell it what to do. “We strongly believe that the era of maritime autonomy is very much upon us,” said Zaffanella. “The ability to make systems that are unmanned, that can do things that manned vessels cannot, and take sailors out of harm’s way, that era, and engineering the technologies needed, all of that now exists.”

“We foresee unmanned vessels will eventually be part of the fundamental fabric of how the Navy conducts its operations,” he said. “Our Taunton facility and the great manufacturing expertise here will be at the forefront of it all.”

MQ-25 Achieves Air-to-Air Refueling with E-2D



The MQ-25 Stingray test asset refuels an E-2D aircraft Aug.18 at MidAmerica Airport in Illinois. *BOEING*

PATUXENT RIVER, Md. – The Navy’s Unmanned Carrier Aviation program completed its first aerial refueling flight with an E-2D aircraft Aug.18 at MidAmerica Airport in Mascoutah, Illinois.

The Boeing-owned MQ-25 test asset, known as T1, transferred fuel to an E-2D Advanced Hawkeye, the newest variant of the E-2 platform which was upgraded with an aerial refueling capability in 2019.

“Once operational, the MQ-25 will refuel every receiver-capable platform including E-2,” said Capt. Chad Reed, the Navy’s Unmanned Carrier Aviation (PMA-268) program manager. “This flight keeps us on a fast track to getting the Stingray out to the fleet where its refueling capability will greatly

increase the range and operational flexibility of the carrier air wing and strike group.”

This test marks the second refueling flight for the MQ-25 program. In June, the government/industry team completed the historic first unmanned tanking flight with an F/A-18 Super Hornet.

During the six-hour flight, Navy E-2D pilots from Air Test and Evaluation Squadron Two Zero (VX) 20 approached T1, performed formation evaluations, wake surveys, drogue tracking and plugs with the MQ-25 test asset at 220 knots calibrated airspeed (KCAS) and 10,000 feet. This test allows the program to analyze the aerodynamic interaction of the two aircraft. The team can then determine if any adjustments to guidance and control are required and make those software updates early, with no impact to the developmental test schedule.

T1 testing will continue over the next several months to include flight envelope expansion, engine testing, and deck handling demonstrations aboard an aircraft carrier before the MQ-25 engineering, manufacturing and development aircraft are delivered next year.

“MQ-25 is leading the way as naval aviation transforms to include cutting-edge unmanned platforms,” said Capt. Michael France, the Navy’s Airborne Command & Control and Logistics Wing (ACCLW) commodore. “Our fleet integration team (FIT) is actively preparing for the Stingray’s arrival and we’re excited for the innovative capabilities of the MQ-25 that will transform our mobility and power projection. For the first time, the eyes and ears of the fleet will now be able to provide up-to-the-minute information from deep within theater to facilitate rapid-decision making by carrier strike group leadership.”

The ACCLW will integrate the MQ-25A Stingray into the carrier air wing alongside the E-2 and C-2 squadrons. The Stingray’s

persistent mission tanking coupled with the E-2D's aerial refueling capability will transform the Hawkeye from an over-the-horizon airborne early warning platform limited to shorter missions in the carrier environment, to an asset capable of providing comprehensive battle management for extended periods from anywhere within the battlespace.

The MQ-25A FIT is working with PMA-268 and Boeing to ensure the end user (MQ-25 operators) have early input as the aircraft moves quickly from development through test. The Navy will begin standing up the fleet replacement squadron, Unmanned Carrier-Launched Multi Role Squadron (VUQ) 10, later this year followed by two MQ-25A squadrons, VUQ-11 and 12. These squadrons will deploy detachments to the U.S. Navy's aircraft carriers.

MQ-25 will be the world's first operational carrier-based unmanned aircraft and provide critical aerial refueling and intelligence, surveillance and reconnaissance capabilities that will greatly expand the global reach, operational flexibility and lethality of the carrier air wing and carrier strike group. The Stingray is a foundational step toward the Navy's strategic vision of a future fleet augmented by unmanned systems to pace the evolving challenges of the 21st century.

BAE Systems to Provide Engineering, Integration for Navy's Secure Communications

MCLEAN, Va. – The U.S. Navy awarded BAE Systems, Inc. a \$140 million indefinite-delivery/indefinite-quantity contract for

communications engineering support and integration services. From concept through deployment, the company will customize command, control, communications, computer, and intelligence (C4I) systems to ensure America's warfighters have reliable and secure communications across all domains, the company said in an Aug. 18 release. The contract – which BAE Systems has won for the past 40 years – includes one base ordering year with four option years.

“We are pleased to continue our longstanding partnership with the Navy in supporting secure and robust military operations worldwide,” said Lisa Hand, vice president and general manager of BAE Systems Integrated Defense Solutions business. “As the threat landscape continues to evolve, maintaining an information advantage through secure information technology (IT) systems is critical. We deliver advanced C4I systems with surety that information access and data transmission are secure and reliable.”

Through this contract, BAE Systems will support the Naval Air Warfare Center Aircraft Division Webster Outlying Field Integrated Command and Control (C2) and Intelligence Division's mission with rapid response solutions to close critical communication capability gaps. In addition to engineering design and integration of legacy, current, and next-generation exterior communications, BAE Systems will also provide technical support for IT infrastructure, electronic security systems, and audio-visual and video-teleconferencing.

Leonardo DRS Link-22 Signal Processing Controller Successfully Completes Interoperability Testing



An artist's conception of Leonardo DRS' Link-22 Signal Processing Controller in action. *LEONARDO DRS*

ARLINGTON, Va, – Leonardo DRS announced it has successfully completed formal interoperability testing of its Link-22 Signal Processing Controller (SPC) within the NATO Improved Link Eleven (NILE) Link-22 Network. Compliance with this standard allows Leonardo DRS to provide world-class production of the technology and full interoperability with all NATO and allied partners supporting operations and exercises in the Indo-Pacific Command theater.

Leonardo DRS worked closely with the NILE team to successfully complete all cycles and posture for future advancements. The success illustrates that Leonardo DRS SPCs are compliant with Link-22 Block Cycle 9 specifications for current and emerging mission requirements for users around the world.

Link-22 tactical datalinks are used by the U.S. military and other allied military forces to increase joint and coalition communications in the surface, subsurface, land, and air domains by providing unprecedented situational awareness across the battle space. It is the primary means to exchange data, including radar tracking information beyond line of sight.

“Leonardo DRS is very proud to provide a fully compliant Link-22 solution to our allies around the world,” said Larry Ezell, senior vice president and general manager of the Leonardo DRS Airborne and Intelligence Systems business.

“These systems are positioned for current and emerging mission requirements and the signal processor controllers ensure U.S. and allied forces have the best long-haul communications and situational awareness possible.”

With over 40 years of tactical datalink experience, 1,100 Link-22-capable SPCs and more than 3,000 Link-11 Data Terminal Sets delivered, deployed, and on order, military services around the globe depend on Leonardo DRS for beyond-line-of-sight communications guaranteeing interoperability across domains, platforms, and nations. The company continues to invest in Link-22 technology, giving users high performance for today’s battlefield while offering capability and growth for future mission sets.

HII Completes Acquisition of Alion Science and Technology

NEWPORT NEWS, Va. – Huntington Ingalls Industries (HII) has completed the acquisition of Alion Science and Technology, a technology-driven solutions provider located in McLean, Virginia, from Veritas Capital, a leading investor in companies operating at the intersection of technology and government, HII announced in an Aug.19 release.

Alion provides advanced engineering, research and development services in the areas of intelligence, surveillance and reconnaissance (ISR), military training and simulation, cyber and data analytics and other next-generation technology-based solutions to the global defense marketplace. Alion has more than 3,200 employees with more that 80% of employees maintaining security clearances.

“Alion greatly expands our ability to provide leading-edge solutions to the nation’s most complex national security challenges,” said Andy Green, HII executive vice president and president of HII’s Technical Solutions division. “Alion is a perfect complement to our existing capabilities in the technology-driven defense and federal solutions space. The services and products they provide are directly in line with the strategic focus that we have articulated for Technical Solutions. Most importantly, we are excited to welcome such a widely respected group of experts to our team.”

U.S. Forces Conduct Sinking Exercise



U.S. joint forces conduct a coordinated multi-domain, multi-axis, long-range maritime strikes in the Hawaiian Islands Operating Area during a sinking exercise on the decommissioned guided-missile frigate ex-USS Ingraham (FFG 61), Aug. 15, 2021. The exercise synchronized joint, multi-domain, multi-axis fires with near simultaneous times on target to sink the hulk. *U.S. NAVY / Mass Communication Specialist 1st Class David Mora Jr.*

PEARL HARBOR, Hawaii – U.S. joint forces conducted coordinated multi-domain, multi-axis, long-range maritime strikes in the Hawaiian Islands Operating Area during a sinking exercise on the decommissioned guided missile frigate ex-USS Ingraham, Aug. 15, the U.S. 3rd Fleet said in an 18 Aug. release.

Units from Vinson Carrier Strike Group (VINCSG), Submarine Forces Pacific, 1 Marine Expeditionary Force/3rd Marine Air Wing, III Marine Expeditionary/3rd Marine Division, and U.S. Army Multi-Domain Task Force participated in the joint, live-

fire exercise.

“Lethal combat power was effectively applied to a variety of maritime threats over the last two weeks in a simulated environment as part of the Navy’s Large-Scale Exercise and expertly demonstrated Sunday with live ordnance,” said U.S. 3rd Fleet Commander Vice Adm. Steve Koehler. “The precise and coordinated strikes from the Navy and our Joint teammates resulted in the rapid destruction and sinking of the target ship and exemplify our ability to decisively apply force in the maritime battlespace.”

Former Navy vessels used in sinking exercises, referred to as hulks, are prepared in strict compliance with regulations prescribed and enforced by the Environmental Protection Agency under a general permit the Navy holds pursuant to the Marine Protection, Research and Sanctuaries Act.

Each exercise is required to sink the hulk in at least 1,000 fathoms (6,000 feet) of water and at least 50 nautical miles from land and surveys are conducted to safeguard against harm to people or marine mammals during the event. Prior to being transported for participation in a sinking exercise, each vessel is put through a rigorous cleaning process for environmental safety and is inspected to ensure the ship meets EPA requirements.

Ex-Ingraham was a guided missile frigate commissioned on Aug. 5, 1989, and was decommissioned on Jan. 30, 2015. The ship was named for Duncan Nathaniel Ingraham and is the fourth Navy ship with the namesake. It is the second of its name to be used in a sinking exercise; ex-USS Ingraham (DD 694), which was decommissioned in 1971 and sold to the Greek Navy, was sunk in 2001.