

Marine Corps Deploys G/ATOR Radar to Support NATO Air Policing Missions



U.S. Marines with the Early Warning Control Crew, radar technicians, install the arms of the Ground/Air Task Oriented Radar (G/ATOR) in 2015 at Cannon Air Defense Complex, Yuma, Arizona. *U.S. MARINE CORPS / Cpl. Summer Dowding*

RAMSTEIN, Germany – The U.S. Marine Corps has deployed one of its units along with an AN/TPS-80 Ground/Air Task Oriented Radar (G/ATOR) to Lithuania for the first time to support NATO's enduring air policing mission, NATO's Allied Air Command Public Affairs Office said April 25.

This unit provides multi-domain command and control, air defense, air traffic control, radar surveillance and communications support. The G/ATOR allows Marines to conduct

air surveillance and air domain awareness in support of NATO operations.

“This deployment highlights the expeditionary character of our Marines and the command-and-control systems they employ such as the AN/TPS-80 G/ATOR,” said Col. Michael McCarthy, commanding officer of the deployed unit. “With little notice and a light footprint we were able to seamlessly move from training in an arctic, maritime environment to the Baltics; reassuring allies and immediately contributing to USAFE [U.S. Air Forces Europe] and NATO operations.”

The Marine Corps unit deployed in support of Norwegian led Exercise Cold Response 22 before repositioning to Lithuania. They are a command-and-control unit, which provides multi-domain command and control, air defense, air traffic control, radar surveillance, and communications support. The AN/TPS-80 G/ATOR is the Marine Corps’ newest medium range multi-role radar. The radar builds an airspace picture for controllers through active scanning.

**NSWC Dahlgren Engineers
Develop Modernized Low-Cost
Semi-Active Laser Seeker**



From left to right, Naval Surface Warfare Center Dahlgren Division engineers Ryan Littleton and Michael St. Vincent perform seeker calibration on the semi-active laser seeker they helped develop. The new SAL seeker is smaller and lower in cost than previous seekers and will be compatible with the future generations of guided munitions systems. *U.S. NAVY*

DAHLGREN, Va. – Engineers at NSWC Dahlgren Division have developed a new, lower-in-cost, semi-active laser (SAL) seeker, the division said April 25.

SAL seekers are a key enabling technology for guided munitions that allow warfighters to target stationary and moving targets in areas where GPS is unavailable. SAL seekers function in tandem with an operator that directs a pulsing, infrared laser at targets. The seeker, typically in the nose of laser-guided munitions, detects the laser energy reflecting off the target and guides the munition to the operator's mark with high precision. This partnership assures that the correct target is engaged.

The seeker developed by engineers at Dahlgren Division is

smaller, three to five times cheaper than comparable laser seekers and is based on modern electronics designs not only to ensure relevance, but also to improve performance and implement the next generation of signal processing and countermeasures. As precision weapons requirements continue to expand, the design is ready to support integration with imager systems. The upgraded terminal seekers will be instrumental in the development of future guided munition systems.

“In response to the shift in force design, warfighting function and the trends going forward, we’re technologically pivoting to stay ahead of the game,” said program manager for the Enhanced Expeditionary Engagement Capability program Luke Steelman.

Traditional SAL seeker systems use a gimbaled detector element to track the laser spot as it moves relative to the weapon. Engineers at Dahlgren were able to develop a new combination of fixed optics and software algorithms to replicate the capability without the need for those expensive and sensitive moving parts. This has not only led to a smaller and more cost-effective product, but also one that is instrumental in ensuring compatibility with the next generation of system currently under development.

What’s more, the new seeker design also includes an integrated height-of-burst sensor that is able to measure proximity to the ground and signal the weapon’s fuze to create a very precise airburst function without the need of an additional sensor on the guided munition, further saving space and reducing cost.

Dahlgren has produced more than 50 prototypes, 30 of which have been live-fire tested on multiple weapon systems – including the 81-mm Advanced Capability Extended Range Mortar – and successfully guided systems to stationary and moving targets.

Michael St. Vincent, project lead engineer, said that direct feedback from warfighters was critical to the successful development process.

“We would get feedback from warfighters – what kind of targets they are targeting, what they are like, and also what requirements they need to meet,” said St. Vincent. “If they needed more range or more field of view . . . we would do simulations and make some changes and new iterations that moved closer to what they want.”

Dahlgren has long had a hand in terminal seeker technology, but in recent years the focus of the warfighting function has moved to exceedingly longer-range engagements. These long-range engagements keep warfighters and targeting assets far away from adversaries, but often preclude the use of laser-guided munitions.

Despite increasing engagement distances, Steelman says that laser-guided munitions that use the SAL seeker will always be a mainstay in warfighters’ toolboxes for one reason: target assurance.

“If the operator is putting a dot on a target, he is telling me ‘this is your target, not the one to the left, not the one to the right, that one,’” St. Vincent noted. “Laser guidance will always provide that 99.99-percent assurance that a specific truck or boat is your target.”

USS Donald Cook Returns to

Mayport after Surge Deployment



The Arleigh Burke-class guided-missile destroyer USS Donald Cook (DDG 75) arrives at Naval Station Norfolk, April 13. *U.S. NAVY / Mass Communication Specialist Mass Communication Specialist 1st Class Jacob Milham*

JACKSONVILLE, Fla. – The Arleigh Burke-class guided-missile destroyer USS Donald Cook (DDG 75) returned to Naval Station Mayport following a three-month deployment, April 24, the U.S. 2nd Fleet said in an April 25 release.

Donald Cook departed Naval Station Mayport in January on a short-notice deployment to operate with NATO Allies and partners in the Eastern Atlantic, North Sea and Baltic Sea.

The crew spent more than 70 days at sea and conducted three port visits in support of maritime security partnerships in

Copenhagen, Denmark; Rostock, Germany; and the Isle of Portland, England.

“Visiting other countries as a representative of the United States is surreal,” said Fire Controlman (Aegis) 2nd Class Brady Itkin. “People told us how nice Americans are everywhere we went, and we were shown amazing hospitality by the civilians of other NATO countries. There’s no better feeling than making a positive impact on other people’s perspective of America.”

The ship received warfare excellence awards in communications, engineering and ship safety while underway.

“The crew put in a lot of hard work over the past year,” said Ensign Benjamin Steen, electronic warfare officer aboard Donald Cook. “This recognition is definitely a testament to all of our efforts.”

While deployed, Donald Cook participated in NATO Exercise Dynamic Guard 2022 in the North Sea. Dynamic Guard, hosted by Norway, is a biannual, multinational electronic warfare exercise series designed to provide tactical training for the NATO Response Force and NATO national units. For the first time in three years, two U.S. vessels participated to further enhance the ongoing cooperation, strength and interoperability between NATO Allies.

“The crew demonstrated their tenacity by executing multinational exercises and national tasking on short notice during this surge deployment,” said Cmdr. Matt Curnen, commanding officer of Donald Cook. “Our operations over the past few months have demonstrated our proficiency and capability as well as reaffirming our commitment to the NATO Alliance. I could not be more proud of the resiliency and professionalism the crew displayed during this deployment.”

Donald Cook is scheduled to start a major maintenance availability, its first since returning from their former homeport of Rota, Spain, in June.

Philly Shipyard Awarded Contract for Fifth NSMV



An artist's conception of the purpose-built National Security Multi-Mission Vessel, to which the Maritime Administration (MARAD) wants to transition to replace obsolete training ships. *MARAD*

PHILADELPHIA – Philly Shipyard Inc. will build one additional National Security Multi-Mission Vessel, or NSMV, the fifth and final in the training ship series.

The vessel, built under an order from TOTE Services as authorized by the Maritime Administration, will replace the aging training vessel at California State University Maritime Academy in Vallejo, California.

Construction of the new vessel, NSMV 5, is expected to commence in 2023. The contractual delivery date for NSMV 5 is 2026.

The order was placed under the April 2020 contract with TOTE Services, which allows for the construction of up to five NSMVs. The initial award included the first two vessels in the NSMV program, NSMVs 1 and 2. The next two vessels in the NSMV program, NSMVs 3 and 4, were ordered in January 2021.

The award for NSMV 5 is valued at approximately \$300 million, bringing the total order intake under the contract for the five-ship program to be approximately \$1.5 billion.

As announced in November 2021, Philly Shipyard's order backlog also includes a contract from Great Lakes Dredge & Dock Co. to construct one Jones Act-compliant Subsea Rock Installation Vessel, with a contract value of approximately \$200 million. The SRIV will be constructed in between NSMVs 4 and 5.

"It is truly a great day for Philly Shipyard as we are now responsible for building the complete series of the NSMV program – a physical symbol of MARAD's investment in the future of maritime education and training," said Steinar Nerbovik, president and CEO of Philly Shipyard. "The NSMV program continues to mark a turning point in our company's transformation to serve both commercial and government markets."

Future APL 69 Conducts

Builder's and Acceptance Trials



The Navy's newest berthing barge, APL 69, recently conducted builder's and acceptance trials in Pascagoula, Mississippi. This is a file photo of APL 67. *U.S. NAVY*

WASHINGTON – The Navy's newest berthing barge, Auxiliary Personnel Lighter (APL) 69, recently conducted builder's and acceptance trials in Pascagoula, Mississippi, Team Ships Public Affairs said in a release.

Builder's trials consist of a series of in-port tests and demonstrations that allow the shipbuilder, VT Halter Marine, and the Navy to assess the craft's systems to ensure installation in accordance with the original equipment manufacturer's guidelines and that the craft design and configuration meet the contract requirements.

Acceptance trials consist of integrated testing to demonstrate the capability of the platform and installed systems across all mission areas to effectively meet its requirements. These tests and demonstrations are witnessed by the Navy's Board of Inspection and Survey and are used to validate the quality of construction and compliance with specifications prior to delivery to the Navy.

"These vessels improve quality of life for our Sailors during ship maintenance availabilities and inter-deployment training cycles," said Capt. Eric Felder, program manager for U.S. Navy and Foreign Military Sales Boats and Craft, Program Executive Office Ships. "We look forward to delivering more of these vessels to the fleet to provide the necessary berthing, messing, administrative, and leisure facilities to crews while their ships are undergoing maintenance."

APLs are 82-meter-long barges that can berth up to 609 people – 72 officers and 537 enlisted personnel. Mess seating is available for 224 enlisted personnel, 28 chief petty officers and 28 officers in 20-minute intervals, allowing food service for 1,176 personnel with three meals a day.

APLs are used to house duty crews while ships are in maintenance availabilities and can be towed to new bases or shipyards to support changing fleet requirements. Additionally, they offer the potential use for humanitarian missions and other temporary assignments. APLs are equipped with offices, classrooms, washrooms, laundry facilities, a medical treatment facility, a barber shop and a fitness center.

VT Halter Marine is currently in production of two additional APLs.

Coast Guard Commissions 47th Sentinel-Class Fast Response Cutter



The commissioning crew of the USCGC Clarence Sutphin Jr. (WPC 1147), Patrol Forces Southwest Asia's sixth 154-foot Sentinel-class cutter, stand at attention as the ship is placed into service at a ceremony held at the Intrepid Sea, Air and Space Museum in New York City, April 21. *U.S. COAST GUARD / Petty Officer 3rd Class Ryan Schultz*

PORTSMOUTH, Va. – The U.S. Coast Guard commissioned the USCGC Clarence Sutphin Jr. (WPC 1147), Patrol Forces Southwest Asia's sixth 154-foot Sentinel-class cutter, into service at the Intrepid Sea, Air and Space Museum in New York City on April 21, the Coast Guard Atlantic Area said in a release.

Vice Adm. Steven Poulin, U.S. Coast Guard Atlantic Area commander, presided over the ceremony.

The cutter's namesake is Boatswain's Mate 1st Class Clarence Sutphin Jr., a New York native who served in the U.S. Coast Guard from 1941 to 1945. During this time, Sutphin served as landing craft coxswain on board the attack transport USS Leonard Wood (APA 12), a landing craft supporting our troops in North Africa and Sicily.

In November 1941, just weeks before the Japanese attack on Pearl Harbor, 18-year-old Sutphin enlisted in the United States Coast Guard. After enlisting, Sutphin attended boot camp at the Coast Guard Yard near Baltimore. He then received orders to the North Carolina coast to train in amphibious operations and landing craft, also known as Higgins Boats, landing troops in North Africa and Sicily.

When that operation was complete, the boat transited to the Pacific theater. During the Battle of Saipan in 1944, Sutphin helped oversee boat operations, including landing, loading, and salvaging landing craft as the USS Leonard Wood endured the heavy fire. During the conflict, he repeatedly risked his life to save others. He swam a towline to a landing craft stranded on a reef, saved another boat stuck on the beach under enemy fire, and came to the aid of eight Marines who a mortar round had struck. He provided first aid to the survivors and evacuated them to the nearest aid station.

Sutphin stayed aboard the Leonard Wood through May 1945 and participated in its eight primary amphibious operations. Sutphin was awarded the Bronze Star Medal for his "exceptional bravery under fire" during the Battle of Saipan.

The Clarence Sutphin Jr. was officially delivered to the U.S. Coast Guard on Jan. 6 in Key West, Florida. It is the 47th Sentinel-class fast response cutter. While the ship is commissioning in New York City, it will be homeport in Manama, Bahrain, part of U.S. Coast Guard Patrol Forces Southwest Asia.

Embraer Delivers Last Modernized AF-1B Fighter Jet to the Brazilian Navy

GAVIAO PEIXOTO, BRAZIL – Embraer delivered on April 20 the last modernized AF-1 fighter (AF-1B) to the Brazilian navy. The ceremony was held at Embraer's industrial unit in Gavião Peixoto in São Paulo state. Under the AF-1 program (the Navy designation for the McDonnell Douglas A-4 Skyhawk), seven subsonic fighter jets were modernized, five single-seater AF-1Bs and two two-seaters AF-1Cs.

The AF-1 is an intercept and attack aircraft operated from airfields or aircraft carriers as a vector for the fleet's air defense. The Brazilian navy's modernized aircraft received new navigation, weapons, power generation, computers, tactical communication, and sensor systems, including a state-of-the-art multi-mode radar and a new operating system. In addition to the modernization, the revitalization of the cell was carried out, increasing the aircraft's useful life.

Modernization provides pilots a situational awareness and familiarity with modern combat aircraft systems operations – essential and relevant criteria for the current combat scenario.

As part of the modernization program carried out by Embraer, a high-fidelity flight simulator was developed permitting the Brazilian navy to carry out pilot training, thus increasing safety in its operations. Briefing and debriefing stations used in the training and proficiency of pilots were also provided to improve their use, to reduce costs and to bring

greater effectiveness to mission planning and execution.

Navy Awards Raytheon Up to \$1.68B for Zumwalt DDG Engineering Services



Guided-missile destroyer USS Zumwalt (DDG 1000), right, and amphibious assault ship USS Tripoli (LHA 7) sail behind amphibious transport dock USS Anchorage (LPD 23) in the Pacific Ocean, April 10. *U.S. NAVY / Mass Communication Specialist 2nd Class Malcolm Kelley*

TUCSON, Ariz. – The U.S. Navy awarded Raytheon Missiles & Defense an activation, sustainment and modernization contract for \$483 million with options, if exercised, totaling \$1.68

billion across five years, the company said April 20.

Under this contract, Raytheon Missiles & Defense will provide the U.S. Navy services and professionals to complete the activation and fleet introduction of the three Zumwalt-class destroyers, while continuing to develop technology and warfare capabilities.

“This contract underscores our role as a systems integrator, which goes beyond offering customers weapons and radars,” said Wes Kremer, president of Raytheon Missiles & Defense. “Our team provides Zumwalt destroyers extensive support, from engineering and cyber protection to software development and upgrades.”

Additional services will include design, integration, test and evaluation, system upgrade and replacement, logistics product development, configuration management and training systems.

The Zumwalt-class destroyers recently achieved initial operational capability in December 2021, with the inaugural fleet employment of USS Zumwalt scheduled for later this year.

USS Hershel ‘Woody’ Williams Completes Gulf of Guinea Maritime Security Patrol



The Expeditionary Sea Base USS Hershel "Woody" Williams (ESB 4) sails the Adriatic Sea, Feb. 19. Hershel "Woody" Williams is on a scheduled deployment in the U.S. 6th Fleet area of operations in support of U.S. national interests and security in Europe and Africa. *U.S. NAVY / Mass Communication Specialist 1st Class Fred Gray IV*

NAVAL STATION ROTA, Spain – The Expeditionary Sea Base USS Hershel "Woody" Williams (ESB 4) arrived at Naval Station Rota, Spain, following a successful maritime security patrol in the Gulf of Guinea on April 18, 2022, said U.S. 6th Fleet Public Affairs.

From March to April, Hershel "Woody" Williams completed maritime security operations with African partners from Sierra Leone, Cabo Verde and Senegal as well as members of the U.S. Navy, Coast Guard and Marine Corps.

"The men and women that made this possible are a testament to our shared values and commitment to ensuring the safety,

security, and freedom of navigation on the waters surrounding the African continent,” said Capt. Michael Concannon, commanding officer, USS Hershel “Woody” Williams.

In March, the joint U.S. and African maritime team interdicted an illegal, unregulated, and unreported fishing vessel operating in Sierra Leone’s economic exclusive zone.

In April, as part of the African Maritime Law Enforcement Partnership, the joint team, led by Cabo Verde, worked in coordination with the Maritime Analysis and Operations Centre – Narcotics, INTERPOL and Cabo Verde’s national Maritime Operations Center to conduct a compliant boarding of a Brazilian-flagged fishing vessel, which led to the seizure of approximately 6,000 kilograms of suspected cocaine with an estimated street value of more than \$350 million.

“I couldn’t be more proud of the professionalism and integration of the U.S. tri-maritime services, partner nations and other supporting organizations during our maritime security operations,” Concannon said. “These maritime security events show the world that our African partners are poised and ready to strike against illicit activity.”

Hershel “Woody” Williams is the first warship permanently assigned to the U.S. Africa Command area of responsibility. The U.S. shares a common interest with African partner nations in ensuring security, safety and freedom of navigation on the waters surrounding the continent, because these waters are critical for Africa’s prosperity and access to global markets.

The ESB ship class is a highly flexible platform that may be used across a broad range of military operations. Acting as a mobile sea base, they are part of the critical access infrastructure that supports the deployment of forces and supplies to support missions assigned.

For over 70 years, U.S. 6th Fleet forces have forged strategic

relationships with our allies and partners and solidified a foundation of shared values, experiences and vision aimed at preserving security and stability.

NGC to Develop Next-Gen Relay Ground Station for NIWC Pacific



A ground crew loads the U.S. Space Force's SBIRS GEO-5 satellite onto a C-5M Super Galaxy aircraft for transport operations at Moffett Federal Airfield, California, on March 17, 2021. *U.S. SPACE FORCE / Walter Talens*

BOULDER, Colo. – Northrop Grumman has been awarded a \$99.6 million contract by U.S. Naval Information Warfare Center Pacific to provide mission-critical capabilities for Relay Ground Station-Asia (RGS-A), the company said April 19.

Northrop Grumman will design, develop, integrate, test and

deliver the first of the next-generation relay ground stations to support legacy and future missile-launch and missile-warning detection satellites.

“The advanced technologies we bring to this mission build on our proven capabilities to provide existing and future missile warning systems that help keep our nation and its allies safe,” said Aaron Dann, vice president of strategic force programs at Northrop Grumman. “The model-based open-systems architecture provides the ability to rapidly deploy follow-on RGS systems in future locations around the world.”

The RGS-A award will help address the U.S. Space Force’s mission to revolutionize existing missile warning and missile defense systems with the Future Operationally Resilient Ground Evolution system. A key element of the FORGE architecture includes relay ground stations that support existing and new satellite constellations and the capability to handle changes in bandwidth and resiliency.

NIWC Pacific will develop six antennas for RGS-A to enable the Space Systems Command Next-Generation Space Based Infrared System (SBIRS) Ground System to operate the legacy satellites in geosynchronous orbit. The antennas will be deployed to the island of Guam and remotely monitored and operated from the United States.

Most of the work for the five-year contract will take place at Northrop Grumman’s campus in Boulder, where it just opened a 23,680-square-foot office building. Northrop Grumman has more than 2,200 employees across Colorado supporting key customers including the U.S. Space Force, Air Force, Missile Defense Agency and the intelligence community.