

# USCGC Sequoia Returns to Guam from Patrol

HONOLULU – The crew of the Coast Guard Cutter Sequoia (WLB 215) returned on Feb. 25 to Apra Harbor, Guam, following a multicutter patrol in response to Super Typhoon Wutip, the Coast Guard 14th District said in a Feb. 28 release.

Wutip was the strongest February storm in the Western Pacific Ocean in 70 years. While underway, the Sequoia led a typhoon avoidance group with the two 110-foot Island Class Patrol Boats from Guam.

“Our mission is two-fold in a situation like Typhoon Wutip,” said Lt. Cmdr. Christian Adams, Sequoia’s commanding officer. “The first is to protect our response capabilities during the storm and conduct emergency search and rescue. This allows us to complete our second mission, to assist in response efforts following the storm’s passing.”

Before the typhoon, Sequoia’s crew was one of the few Coast Guard units underway during the recent government shutdown. Leaving Guam in early January, they traveled over 8,146 statute miles (7,079 nautical miles) to conduct aids to navigation maintenance and replacement in American Samoa and Kwajalein Atoll.

The care of aids to navigation (ATON) is a vital service the crew of the Sequoia provides to the Western Pacific. Their mission ties directly into the commandant’s Maritime Commerce Strategic Outlook released last year. As a maritime nation, the upkeep of ATON ensures commerce continues safely and ensures remote places like American Samoa have access to an ever-expanding world economy. While on patrol the Sequoia crew worked nine floating aids and 11 fixed aids, including three navigation ranges. These are buoys and day boards assisting

mariners in the navigation of a free and open Indo-Pacific.

Sequoia's primary roles have been to assist our partners in the Pacific in the care of their ATON and, through joint fisheries boardings, enforce conservation and management measures established by the Western and Central Pacific Fisheries Commission. This allows maritime nations in the region to conserve commercial fish stocks and ensures this vital resource remains sustainable for years to come. Due to operations and scheduling this patrol focused on ATON and training in small boat evolutions and buoy deck operations roles. The crew overcame several challenges, including communications issues, engine temperatures and deck equipment.

"I'm proud of this crew for rising to the occasion and completing the mission in an area that is not normally part of our responsibility offering such a complex supply chain," Adams said.

As a maritime service, the Coast Guard participates in many traditions, some dating back centuries. During the patrol, the cutter made a crossing at the intersection of the Equator and International Dateline and partook in the time-honored tradition of

inducting 36 crewmembers as "Golden Shellbacks." During a ceremony, the new Golden Shellbacks received a certificate commemorating the event.

"As with all seafarers, there are certain milestones we celebrate as unique and worthy of remembrance honoring our nautical traditions," Adams said. "Being a Golden Shellback is a fun, unofficial way to celebrate our growth as mariners."

This patrol aligns with the District 14 plan to provide for continued safety of navigation during the anticipated gap in buoy-tender coverage in the Pacific associated with the midlife maintenance schedule for the 225-foot sea going buoy tenders fleetwide.

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# F-35C Lightning II Fighter Achieves Initial Operational Capability



SAN DIEGO – The F-35C Lightning II, the aircraft carrier variant of the Joint Strike Fighter, has met all requirements and has achieved Initial Operational Capability (IOC), the commander of Naval Air Forces and the deputy commandant of the Marine Corps for aviation announced Feb. 28 in a joint statement.

The announcement comes shortly after the Navy's first F-35C squadron, Strike Fighter Squadron (VFA) 147, completed aircraft carrier qualifications aboard USS Carl Vinson (CVN 70) and received safe-for-flight operations certification.

To declare IOC, the first operational squadron must be properly manned, trained and equipped to conduct assigned missions in support of fleet operations. This includes having 10 Block 3F, F-35C aircraft, requisite spare parts, support equipment, tools, technical publications, training programs and a functional Autonomic Logistic Information System (ALIS).

Additionally, the ship that supports the first squadron must possess the proper infrastructure, qualifications and certifications. Lastly, the Joint Program Office, industry, and Naval Aviation must demonstrate that all procedures, processes and policies are in place to sustain operations.

"The F-35C is ready for operations, ready for combat and ready to win," Commander Naval Air Forces Vice Adm. DeWolfe Miller said. "We are adding an incredible weapon system into the

arsenal of our carrier strike groups that significantly enhances the capability of the joint force.”

Naval Air Station Lemoore is the home-base for the Navy’s JSF wing, Navy F-35C fleet squadrons and the Fleet Replacement Squadron (FRS), VFA-125, that trains Navy and Marine Corps carrier-based JSF pilots.

To accommodate the F-35C program at NAS Lemoore, several facilities were built or remodeled to facilitate F-35C maintenance and training requirements, including a pilot fit facility, a centralized engine repair facility, a pilot training center and a newly remodeled hangar. Future projects are planned as additional Navy squadrons transition into the F-35C. The Marine Corps plans to transition four F-35C squadrons that will be assigned to carrier air wings for deployments.

“We’re very proud of what our sailors have accomplished in the Joint Strike Fighter community,” said Capt. Max McCoy, commodore of the Navy’s JSF Wing. “Their commitment to mission delivered fifth-generation capability to the carrier air wing, making us more combat effective than ever before. We will continue to learn and improve ways to maintain and sustain F-35C as we prepare for first deployment.”

Meanwhile, Rear Adm. Dale Horan, director of the Navy’s F-35C Fleet Integration Office, said, “The F-35C will revolutionize capability and operating concepts of aircraft carrier-based naval aviation using advanced technologies to find, fix and assess threats and, if necessary, track, target and engage them in all contested environments.”

The F-35C’s stealth technology, state-of-the-art avionics, advanced sensors, weapons capacity and range provides unprecedented air superiority, interdiction, suppression of enemy air defenses and close-air support as well as advanced command and control functions through fused sensors, according

to the joint Feb. 28 statement.

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## **Fire Breaks Out on Icebreaker Polar Star 650 Miles North of Antarctica**

ALAMEDA, Calif. – The 150-member crew of the U.S. Coast Guard Cutter Polar Star fought a fire at about 9 p.m. PST Feb. 10 that broke out in the ship's incinerator room about 650 miles north of McMurdo Sound, Antarctica, the Coast guard Pacific Area said in a Feb 28 release.

After initial response efforts using four fire extinguishers failed, fire crews spent almost two hours putting out the fire. Fire damage was contained inside the incinerator housing, while firefighting water used to cool exhaust pipes in the surrounding area damaged several electrical systems and insulation in the room. Repairs are already being planned for the Polar Star's upcoming maintenance period. The incinerator will need to be fully functional before next year's mission.

No injuries were reported, and the cause of the fire is under investigation.

"It's always a serious matter whenever a shipboard fire breaks out at sea, and it's even more concerning when that ship is in one of the most remote places on Earth," said Vice Adm. Linda Fagan, commander of the U.S. Coast Guard's Pacific Area. "The crew of the Polar Star did an outstanding job – their expert response and determination ensured the safety of everyone aboard."

Commissioned in 1976, the 43-year-old icebreaker is operating beyond its expected 30-year service life. The Polar Star crew recently completed Operation Deep Freeze, an annual joint military service mission in support of the National Science Foundation, the lead agency for the United States Antarctic Program. Since 1955, U.S. Indo-Pacific Command has assisted in providing air and maritime support throughout the Antarctic continent.

This year marks the 63rd iteration of the annual operation, and the Polar Star crew departed their homeport of Seattle Nov. 27 for their sixth deployment in as many years and traveled more than 11,200 miles to Antarctica.

Upon arrival, the Polar Star broke nearly 17 miles of ice, 6 to 10 feet thick, to open a channel through McMurdo Sound. Once complete, the crew refueled at McMurdo Station, the main U.S. logistics hub in Antarctica. The ship also provided a six-hour familiarization cruise in McMurdo Sound to 156 randomly selected station personnel.

On Jan. 30, the Polar Star escorted the containership Ocean Giant through the channel, enabling a 10-day offload of nearly 500 containers with 10 million pounds of goods that will resupply McMurdo Station, Amundsen-Scott South Pole Station and other U.S. field camps.

The Feb. 10 fire was not the first engineering casualty faced by the Polar Star crew this deployment. While en route to Antarctica, one of the ship's electrical systems began to smoke, causing damage to wiring in an electrical switchboard, and one of

the ship's two evaporators used to make drinkable water failed. The electrical switchboard was repaired by the crew, and the ship's evaporator was repaired after parts were received during a port call in Wellington, New Zealand.

The ship also experienced a leak from the shaft that drives

the ship's propeller, which halted icebreaking operations to send scuba divers into the water to repair the seal around the shaft. A hyperbaric chamber on loan from the U.S. Navy aboard the ship allows Coast Guard divers to make external emergency repairs and inspections of the ship's hull at sea.

The Polar Star also experienced shipwide power outages while breaking ice. Crewmembers spent nine hours shutting down the ship's power plant and rebooting the electrical system to remedy the outages.

The U.S. Coast Guard maintains two icebreakers – the Coast Guard Cutter Healy, which is a medium icebreaker, and the Polar Star, the only U.S. heavy icebreaker. If a catastrophic event, such as getting stuck in the ice, were to happen to the Healy in the Arctic or to the Polar Star near Antarctica, the Coast Guard is left without a self-rescue capability.

Russia by contrast operates more than 40 icebreakers – several of which are nuclear-powered.

Reserved for Operation Deep Freeze each year, the Polar Star spends the Southern Hemisphere summer breaking ice near Antarctica, and when the mission is complete, the Polar Star returns annually to dry dock to complete critical maintenance and repairs in preparation for the next Operation Deep Freeze mission. Once out of dry dock, the ship returns to Antarctica, and the cycle repeats.

The Coast Guard has been the sole provider of the nation's polar icebreaking capability since 1965 and is seeking to increase its icebreaking fleet with six new polar security cutters to ensure continued national presence and access to the Polar Regions.

“While we focus our efforts on creating a peaceful and collaborative environment in the Arctic, we're also responding to the impacts of increased competition in this strategically important region,” Coast Guard Commandant Adm. Karl Schultz

said. "Our continued presence will enable us to reinforce positive opportunities and mitigate negative consequences today and tomorrow."

After leaving Antarctica, the Polar Star crew arrived in New Zealand for a port call, and they are now en route to their homeport of Seattle.

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## **Navy to Commission Littoral Combat Ship Charleston**

ARLINGTON, Va. – The Navy will commission its newest Independence-variant littoral combat ship, the future USS Charleston (LCS 18), during a 10 a.m. ceremony on March 2 at Columbus Street Terminal in Charleston, S.C., the Defense Department said in a Feb. 27 release.

U.S. Sen. Tim Scott (R-S.C.) will deliver the commissioning ceremony's principal address. Charlotte Riley, wife of former Charleston Mayor Joe Riley, is the ship's sponsor and she will continue the time-honored Navy tradition of giving the first order to "man our ship and bring her to life!"

"The future USS Charleston is proof of what the teamwork of all of our people – civilian, contractor and military – can accomplish together," Navy Secretary Richard Spencer said. "This ship will extend the maneuverability and lethality of our fleet to confront the many challenges of a complex world, from maintaining the sea lanes to countering instability to maintaining our edge against renewed great power competition."

The name Charleston has a long and storied history in the Navy. The first Navy ship to bear the name Charleston was a

row galley that defended the coast of South Carolina during the Quasi-War with France. The second Charleston (C-2) was a protected cruiser that received the surrender of Guam during the Spanish-American War. The third Charleston (C-22) was a St. Louis-class protected cruiser that performed escort and troop transport duties in World War I. The next Charleston (PG 51) was an Erie-class patrol gunboat that earned the Asiatic-Pacific Campaign Medal with one battle star for her service in the northern Pacific during World War II. The fifth Charleston (AKA 113/LKA 113) was an amphibious cargo ship that served during the Vietnam War.

The future USS Charleston is a fast, agile, focused-mission platform designed for operation in near-shore environments yet capable of open-ocean operation. It is designed to defeat asymmetric “anti-access” threats such as mines, quiet diesel submarines and fast surface craft. The ship will be homeported in San Diego.

The LCS class consists of two variants, the Freedom variant and the Independence variant, designed and built by two different industry teams. The Freedom team is led by Marinette, Wis.-based Lockheed Martin (the odd-numbered hulls). The Independence team is led by Mobile, Ala.-based Austal USA (LCS 6 and the subsequent even-numbered hulls).

The commissioning ceremony, using hashtag #USSCharleston, can be viewed on the Navy Live blog at <http://navylive.dodlive.mil>.

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**AN/AQS-20C      Sonar      System**

# Completes Testing

# Developmental

PANAMA CITY, Fla. – The Navy completed developmental testing for the AN/AQS-20C mine-hunting sonar system at Naval Surface Warfare Center, Panama City Division (NSWC PCD), on Feb. 26, the Program Executive Office Unmanned and Small Combatants Public Affairs announced in a Feb. 27 release.

The AQS-20C is the next generation of the AN/AQS-20 system designed to be incorporated into the Littoral Combat Ship Mine Countermeasures Mission Package. The system consists of four sonar arrays: two side-looking arrays, a gap-filler sonar array and a forward-looking sonar array, all providing simultaneous detection, localization and classification of bottom mines, close-tethered moored mines and volume-moored mines.

The system delivers high-definition images of bottom mines, providing the operator with both range and contrast data that combine to form a three-dimensional image during post-mission analysis to aid in mine identification.

Developmental testing verifies that a system's design meets all technical specifications and that all contract requirements have been met. During testing, the Raytheon-developed towed sonar sensor conducted 12 underway missions in various operational modes and at different depths at four separate NSWC PCD test ranges. The missions were conducted aboard the test vessel M/V Patriot.

The AQS-20C will be integrated with and deployed from the Mine Countermeasures Unmanned Surface Vehicle (MCM USV), a long-endurance, semi-autonomous, diesel-powered, all-aluminum surface craft that supports the employment of various mine countermeasure payloads.

The MCM USV can be launched and recovered by the LCS, from other vessels of opportunity or from shore sites to provide minesweeping, mine-hunting and mine neutralization capabilities. The MCM USV is undergoing developmental testing as a component of the Unmanned Influence Sweep System at the South Florida Test Facility in Fort Lauderdale, Fla.

Test results will undergo scoring and performance assessment, leading up to a final developmental testing report that is expected to be finished this spring. Findings from this report will be used for future performance improvements of the system.

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## **Mercury Systems Receives \$5.5M in Follow-on Orders from Navy for DRFM Jammers**

ANDOVER, Mass. – Mercury Systems Inc. announced that it received an additional \$5.5 million in follow-on orders against its previously announced \$152 million five-year sole-source basic ordering agreement to deliver advanced Digital RF Memory (DRFM) jammers to the U.S. Navy.

The orders were received in the second and third quarters of the company's fiscal 2019 are expected to be delivered over the next several quarters.

"These orders reflect the U.S. Navy's continuing commitment to the advancement of our electronic warfare test and training capabilities," said Mark Bruington, vice president and general manager of Mercury's electronic warfare and mission solutions group.

“Recent electronic attacks by known adversaries have sparked a renewed commitment to maintaining U.S. superiority in electronic warfare. Our ongoing efforts to design, develop and produce innovative DRFM jammers directly supports the growing need to effectively train U.S. warfighters and keep U.S. electronic protection technology at the leading edge.”

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## **BAE Systems Updates F-35 Electronic Warfare Systems**

NASHUA, N.H. – BAE Systems reached a critical program milestone with the successful insertion of new technology into its electronic warfare (EW) systems for the global fleet of Lockheed Martin F-35 Lightning II fighter aircraft, the company announced in a Feb. 28 release. Upgrades to the AN/ASQ-239 system position it to meet future capability requirements and improve warfighters’ ability to conduct critical missions in contested airspace.

The improved EW system delivers the world-class functionality of the previous system in a smaller footprint, reducing volume and power requirements – creating space for Block IV modernization upgrades. The system update also resolves issues with manufacturing obsolescence that would have otherwise required costly redesign work.

The company’s capacity expansion strategy – including a \$100 million investment in 80,000 square feet of state-of-the-art manufacturing space, process automation and the growth of its highly skilled electronic warfare workforce by more than 23 percent – enabled BAE Systems to become the first F-35 supplier to insert updated technology into its systems at full

production speeds, delivering 11 systems monthly and ramping production to match aircraft production.

The Digital Channelized Receiver/Techniques Generator and Tuner Insertion Program (DTIP) technology was introduced into BAE's manufacturing process in 2018, with the first deliveries starting in July. The team is consistently providing 11 shipsets per month, enabling the company to continue on-time delivery to its customer.

"We've delivered almost 400 EW systems to date, and now we've updated the architecture and are manufacturing it at a high rate of production. This technology insertion gives the EW system room to grow and will help the F-35 maintain its dominance of the electromagnetic spectrum," said Deborah Norton, vice president of F-35 Solutions at BAE Systems. "The successful insertion of DTIP was the result of the outstanding focus, dedication and teamwork of our engineering and production teams working in close coordination with our customer."

The advanced F-35 EW system is a proven digital electronic warfare/countermeasures suite that provides pilots with real-time battlespace situational awareness and rapid-response capabilities. The ASQ-239 system provides fully integrated radar warning, targeting support and self-protection capabilities to engage, counter, jam or evade threats to improve survivability and mission effectiveness. The system builds on BAE Systems 60-plus years of EW experience and legacy of providing 13,500 tactical systems for more than 80 different platforms, including F-22, F-16, F-15, B-1, B-2 and classified platforms.

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# Coast Guard Cutter Vigilant Crew Returns Home After Caribbean Patrol

CAPE CANAVERAL, Fla. – The crew of the Coast Guard Cutter Vigilant returned home Feb. 26 to Cape Canaveral after a two-month Caribbean patrol.

Vigilant's crew returned to their homeport of Cape Canaveral, concluding a patrol in which the crew enforced U.S. federal laws by conducting numerous boardings throughout the Caribbean while working with other government agencies and international partners to increase national security.

While at sea, the crew disrupted the illegal and perilous voyages of 100 Haitian migrants and ensured their safe return to their home country. Vigilant's crew also saved the lives of three men who had been lost at sea for four days without food and water and returned the survivors to their home country after providing necessary medical attention.

"Maintaining and operating a 54-year-old ship requires great effort and a lot of dedication from everyone onboard," said Cmdr. Jerome Dubay, Vigilant's commanding officer. "This crew continuously meets the challenge, making mission success possible. I am proud of the compassion and professionalism our crewmembers displayed during every boarding and while assisting the migrants back to their country."

The Vigilant is a multimission 210-foot Medium Endurance Cutter whose missions include illegal drug and migrant interdiction as well as search and rescue. The Vigilant patrols throughout the Caribbean basin and Atlantic seaboard to ensure safety of life at sea and enforce international and domestic laws.

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# Coast Guard Cutter Returns Home After Seizing \$43 Million in Cocaine

VIRGINIA BEACH, Va. – The crew of Coast Guard Cutter Dependable returned home to Virginia Beach, Va., on Feb. 25 after a 59-day patrol in the eastern Pacific Ocean, the Coast Guard 5th District said in a Feb. 26 release.

While deployed, Dependable's crew aided Joint Interagency Task Force South in conducting counter-drug and alien migrant interdiction operations.

During their patrol, Dependable's boarding team intercepted a go-fast vessel off the coast of Mexico that was specially fitted to smuggle contraband. Once on scene, the boarding team confirmed that the vessel was carrying narcotics along with three suspected drug smugglers. The interdiction resulted in the seizure of about 1,235 pounds of cocaine worth an estimated street value of \$18 million.

Dependable's crew also worked alongside four partner assets to patrol an operational area roughly the size of the U.S. The cutter's crew worked with the U.S. Navy and Customs and Border Protection Maritime Patrol Aircraft to conduct aerial surveillance alongside other Coast Guard cutters patrolling the region. As a result of these collaborations, Dependable's crew was able to assist Coast Guard Cutter Alert's crew with a transfer of drugs and suspected smugglers apprehended in previous interdictions.

The Dependable crew also leveraged the cutter's embarked Helicopter Interdiction Tactical Squadron (HITRON), the

members of which launched in an MH-65 Dolphin helicopter and disrupted a drug-smuggling operation. The squadron seized an estimated 1,653 pounds of cocaine worth about \$25 million and intended for delivery to Mexico.

The Dependable crew sailed 12,904 miles and traveled nearly as far south as the Galapagos Islands and as far west as Acapulco, Mexico. In addition to the cutter's permanent crewmembers, teams from Tactical Law Enforcement Team South, based in Miami, and HITRON, based in Jacksonville, Fla., were aboard for the patrol. Each team provided expertise regarding maritime law enforcement and aerial use of force.

The Virginia Beach-based Cutter Dependable is a 210-foot Reliance-class medium-endurance cutter with a permanent crew of 77. They conduct homeland security missions in the offshore waters of the Western Hemisphere, from New England to the Caribbean Sea and Eastern Pacific.

Having surpassed its 50th year of service to America last November, Dependable and the other 26 medium-endurance cutters are slated for replacement by new Offshore Patrol Cutters beginning in 2021.

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## **NNSA Completes First Low-Yield W76-2 Nuclear Warhead for Trident Missile**

WASHINGTON – The Department of Energy's National Nuclear Security Administration (DOE/NNSA) successfully completed the First Production Unit (FPU) of the W76-2 warhead on Feb. 22 at the Pantex Plant in Amarillo, Texas, according to a NNSA

release on Feb. 25.

The W76-2 FPU represents NNSA's ability to achieve a significant program milestone in support of a national security initiative requested by the president in the 2018 Nuclear Posture Review.

"NNSA is fully committed to meeting the requirements of our partners at the Department of Defense," said Dr. Charles P. Verdon, NNSA's deputy administrator for defense programs. "The W76-2 will allow for tailored deterrence in the face of evolving threats."

The W76-2 program is a modification of the W76-1 warhead to provide a low-yield, sea-launched ballistic-missile warhead capability.

NNSA is on track to complete the W76-2 Initial Operational Capability warhead quantity and deliver the units to the Navy by the end of fiscal 2019.