EXWC
EDGE
Magazine

SUMMER 2025

DR. DELORES M. ETTER AWARD WINNER

NAVFAC EXWC Engineer Vikram Pandurangan

ANTICIPATE - INNOVATE - ACCELERATE

ISSUE #0010

In this issue

Cover Photo : NAVFAC EXWC Commanding Officer Capt. Dean Allen and Technical Director Kail Macias present Engineer Vikram Pandurangan with a 2025 Dr. Delores M. Etter Award for Individual Engineer, at NAVFAC EXWC Headquarters aboard Naval Base Ventura County, Calif., June 25, 2025.

INTERESTED IN CONTRIBUTING A STORY?

Have a question or comment?

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ACCELERATE INNOVATION TO ENABLE FLEET LETHALITY AT SEA AND ASHORE

LEADERSHIP

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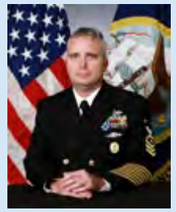
COMMANDING OFFICER

Kail S. Macias
TECHNICAL DIRECTOR
(SENIOR LEADER)

Captain Paul C. Chan
EXECUTIVE OFFICER



Master Chief Martin T. Laurie
COMMAND MASTER CHIEF

A MESSAGE FROM

Chris Kinsey, PE

Head, NAVFAC EXWC Oceans Technical Department

Happy Summer Team EXWC!
Where better to spend a summer day than at the ocean, or with Oceans! It's only fitting that the EXWC Edge for Summer 2025 would be presented by the EXWC Oceans Technical Department! Oceans is busier than ever with a range of waterfront and undersea expertise to support the Fleet and warfighter.

Whether designing, installing and sustaining undersea infrastructure or the equipment that enables mobile surveillance systems to deploy from ships, inspecting Navy waterfront structures worldwide, or providing highly specialized infrastructure that supports the Fleet with moorings, diver hyperbaric and hull magnetic signature measurement systems, Oceans' engineers, scientists and technicians are continuously in high demand.

Featured in this magazine are just a few samples of the amazing things happening in Oceans, all of which are accomplished by an extraordinary team of professionals. Two exceptional individuals, Vikram (Vik) Pandurangan and CE1(SCW) Gregory Lewis, have recently been recognized for their especially noteworthy accomplishments.

Vik Pandurangan received a 2025 Dr. Delores M. Etter Award for his exceptional engineering contributions to the Navy's Surveillance Towed Array Sensor System (SURTASS) program. The Dr. Etter Award is presented each year by the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RD&A) to engineers and scientists whose achievements represent the highest level of technical excellence and operational impact within the Naval Research and Development Establishment. Counting Vik's honor, Oceans has been fortunate to be recognized with five Dr. Etter Award winners over the past eight years!

CE1 Lewis was selected as the FY24 Navy Shore Sailor of the Year. Besides the tremendous recognition itself, Petty Officer Lewis will be meritoriously advanced to Chief Petty Officer as a result. To emphasize, this is not an EXWC- or NAVFAC-only honor, but an all-Navy selection, so a very significant honor!

Continue on in this magazine for images from a recent test and evaluation event conducted by the EXWC Dive Locker and the Expeditionary Team. Nearly all Navy dive units must strictly adhere to the use of tools and equipment listed on the NAVSEA Authorized for Navy Use (ANU) list but the EXWC Dive Locker is one of the few allowed to test non-ANU items to determine if they would safely and effectively add capability to the inventory of tools and equipment in use by Fleet dive units. Many ANU additions have been made by the EXWC dive locker and these advances in tools and systems have significantly improved the capability of Navy diving across the Fleet.

From the fantastic honors to the incredible work of the divers, these are yet more great examples of the exceptional support provided by EXWC to equip and enable our Fleet and warfighters. We are honored to have the best of the best at Oceans!

For all of us at EXWC, we have chosen a professional life of service to our nation and now more than ever we recognize the need for EXWC's unwavering support of our Navy and Marine Corps warfighters. As wisely stated by our good friend Dr. Brett Seidle, currently acting ASN RD&A, we need to "keep the main thing, the main thing." This is what we're doing in Oceans and I encourage you to keep this simple but profound phrase in mind for whatever role you play in the vital EXWC mission of delivering these agile and unique solutions that give warfighters the cutting edge and keep our nation safe.

Very Respectfully,

Chris Kinsey, PE
Head, NAVFAC EXWC Oceans Technical Department

Culinary Specialist First Class Travon Lee with Amphibious Construction Battalion (ACB) 1 prepares breakfast at the new Navy Expeditionary Field Kitchen during New Equipment Training at NAVFAC EXWC.

SOLUTIONS FOR THE FIELD:
EXWC, Army Develop Versatile Expeditionary Field Kitchen

By Kelsey Pauxtis
Expeditionary Technical Department (EX021)

The Navy Expeditionary Field Kitchen (NEFK) is a vital logistical asset designed to provide fresh, hot meals to personnel operating in remote or austere environments. Built with mobility in mind, these field kitchens are often transported via ships, aircraft, and ground vehicles, enabling rapid deployment to support expeditionary missions worldwide.

A challenge, however, is the kitchen's size, making it bulky and difficult to transport, which can be problematic in expeditionary locations where flexibility and agility are paramount.

EXWC worked with the U.S. Army Natick Soldier Systems Center to create a new kitchen to meet the requirements provided by Naval Special Warfare Command (NSW), Navy Expeditionary Combat Command (NECC), and Naval Surface Forces (COMNAVSURFPAC/LANT).

"It is a scalable solution, so you can serve 50 meals three times a day, or you can ramp up all the way to 600 with this kitchen. If you have a larger group size out in the field, you can have two kitchens and have the capacity of up to 1,200 meals three times a day," explained one of the project leads, EXWC Engineer James Pilkington, with the Expeditionary Technical Department (EX511).

Equipped with state-of-the-art cooking appliances, this NEFK can ensure service members receive sustenance regardless of location, which helps boost morale and operational effectiveness in challenging conditions, he noted.

Designed for versatility and efficiency, the kitchen features modular components that can be assembled quickly in various terrains and climates. The NEFK features multiple cooking methods including convection, steaming, boiling, braising, and a flat top griddle. This flexibility makes the NEFK an essential component of Navy and Marine Corps expeditionary operations, where logistics and supply chains may face disruptions or limitations.

The previous kitchen solution was a 20-foot container that had a meal production capacity for 500 people. EXWC took that 20-foot container model, shrunk it by 66% to fit inside a 8-foot by 6.5-foot container (TRICON), and increased meal capacity. EXWC refined a prototype to a fieldable solution, implementing feedback from the Army and working with the vendor on design improvements to ensure the kitchen could meet expeditionary needs.

In March 2025, Pilkington and fellow project leads Terry Benham and Kelsey Pauxtis (EX021), James Triplett (EX21), along with NAVFAC Training Support Agency (TSA) and contractors, conducted New Equipment Training with members from Amphibious Construction Battalion (ACB) 1.

"We came to EXWC asking for a more compact kitchen that would be easier in the field, but at the same time produce the amount of food required for our battalion," ACB 1 Construction Electrician Second Class Jacob Raines said. "This new kitchen system is going to be much more versatile in the field, compared to the other systems that were larger and complex to move."

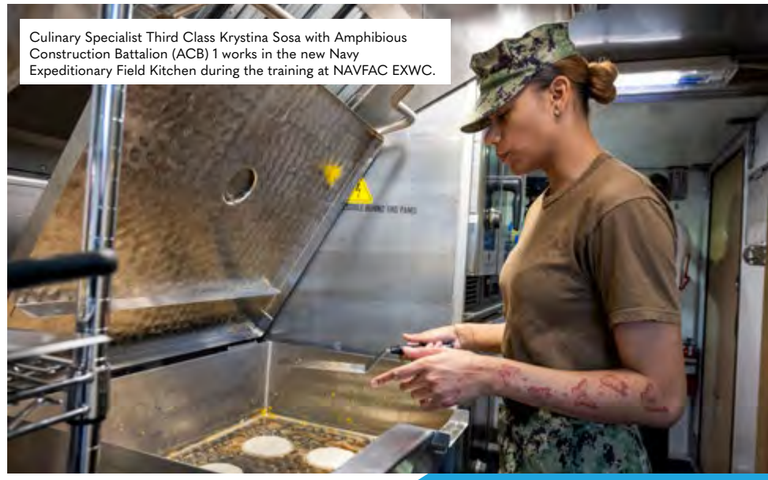
Held at EXWC Headquarters at Naval Base Ventura County, the New Equipment Training demonstrated to Expeditionary Forces how to operate these advanced field kitchens effectively. The training included instruction on the safe and efficient use of the kitchen's appliances, sanitation procedures, and troubleshooting techniques.

The objective was to ensure personnel are well-trained in operating the NEFK to enhance mission readiness and allow for seamless meal delivery during deployment. This innovative solution and the comprehensive training underscore EXWC's and the Department of Defense's commitment to supporting the Fleet and warfighters and maintaining operational excellence and logistical resilience in even the most challenging environments. ◆

The new Navy Expeditionary Field Kitchen facility set up for New Equipment Training, behind NAVFAC EXWC headquarters at Naval Base Ventura County.

The NAVFAC EXWC Expeditionary Basing Engineering Team conducts a configuration audit of the TRICON, ensuring the delivered product meets specifications.

The fully expanded Navy Expeditionary Field Kitchen TRICON.



Culinary Specialist Third Class Krystina Sosa with Amphibious Construction Battalion (ACB) 1 works in the new Navy Expeditionary Field Kitchen during the training at NAVFAC EXWC.

Amphibious Construction Battalion (ACB) 1 sailors await breakfast at the new Navy Expeditionary Field Kitchen.

Highlighting Use of Unmanned Systems to Support Fleet, Warfighter

NAVFAC EXWC Technical Director Kail Macias helped kick off the one-day Naval Base Ventura County and Community Unmanned Systems Forum, sharing how unmanned systems can provide vast benefits and complete work in a fraction of the time compared to manned systems.

"What used to take us weeks to do, we are now doing in hours to days – and the data is incredibly accurate," he told the May 28 forum in Camarillo, California.

Macias highlighted the use of unmanned systems to conduct engineering reconnaissance, mapping, inspections, and supporting logistics in forward deployed or contested environments.

The data is being used for planning, design, and construction for reestablishing ports and airfields, taking advantage of unmanned systems and the sensor payload to provide accurate information in a digital environment. "It's absolutely incredible," he said. ◆

NAVFAC EXWC UAS Team Supports Joint Efforts at Red Hill

Members of the NAVFAC EXWC Unmanned Aircraft Systems (UAS) team provided support in May at the Red Hill Bulk Fuel Storage Facility in Honolulu. The operation was part of an ongoing joint effort between Navy Closure Task Force-Red Hill (NCTF-RH), NAVFAC EXWC, and Naval Information Warfare Center Atlantic to create a 3D map of the Red Hill Bulk Fuel Storage Facility (RHBFSF). Charged with the safe decommissioning of the facility, NCTF-RH was established by the Department of the Navy as a commitment to the community and the environment. NCTF-RH continues to engage with the people of Hawaii, regulatory agencies, and other stakeholders as it safely and deliberately decommissions the RHBFSF. (U.S. Navy photos by Mass Communication Specialist 1st Class Glenn Slaughter). ◆

Construction Mechanic First Class Falcon Allaire verifies the pressures and temperatures of the low-speed diesel generator to ensure the equipment is within operating parameters.

EXWC MUSE Power Technicians Team Up with NAVFAC Utility Systems, at Naval Station Guantanamo Bay, Cuba

By Construction Electrician First Class John Collins

NAVAL STATION GUANTANAMO BAY– When you reach for the light switch, you expect to illuminate the room without a second thought. For many Americans, reliable power is as certain as the rising sun. However, that is not the case everywhere.

Within the U.S. Navy is a group of power technicians dedicated to energy resilience at military installations worldwide. These talented Seabees make up the Mobile Utilities Support Equipment (MUSE) team. They are considered the Navy's foremost experts in electrical power.

One of their active sites is Naval Station Guantanamo Bay (NSGB), Cuba, where four technicians from NAVFAC EXWC recently deployed to inspect and certify emergency backup power systems. Homeported in Port Hueneme, California, MUSE routinely deploys equipment and expertise globally, often providing power to the Navy's biggest ships or supporting various Department of Defense (DoD) priorities, to include this mission at Naval Station Guantanamo Bay.

Because of NSGB's unique isolation, where supplies and support are not readily available, it is crucial that MUSE technicians go to great lengths to ensure all equipment powering these critical facilities operate flawlessly and at a moment's notice. The team's mission included the meticulous inspecting and testing of two 1,500 kW power plants that provide power

to the airfield. They also conducted important inspections on the backup power systems at the fleet hospital and various other NSGB locations.

Ensuring the MUSE equipment is fully operational is essential for the safety of service members and civilians, and their families, as well as for the continuity of critical military operations—especially since NSGB is self-sufficient in power production.

For over 40 years MUSE has served as the cornerstone of NSGB's power grid, providing seamless power that affords the installation flexibility to expand its capabilities while awaiting infrastructure upgrades. James Miller, the Base Utilities and Energy Manager, recognizes the importance of MUSE's capabilities.

"The MUSE team is a valuable asset that allows NSGB Public Works to ensure that critical infrastructures and buildings have backup power when needed," he said. "Their response to critical failures last year has enabled the mission to continue without interruption."

Construction Mechanic First Class Falcon Allaire, who hails from Clayton, New Mexico, and has been in the Navy for 12 years, was part of the MUSE team that deployed to NSGB.

"People's lives can depend on the functionality of our equipment. It is imperative that we maintain these units to high standards," he said.

MUSE offers specialized, transportable equipment for the temporary support of utility and critical power systems, along with highly skilled Navy Seabee technicians who provide technical assistance and training.

MUSE services include power generation and transformation solutions to address energy needs and unforeseen utility shortfalls. ◆

Emergency Power Plant

> "The MUSE team is a valuable asset that allows NSGB Public Works to ensure that critical infrastructures and buildings have backup power when needed
>
> — James Miller
> Base Utilities and Energy Manager

Chief Construction Electrician Luke Clemens inspects a 1500kW emergency backup power plant.

LEARN MORE

For more information about MUSE's services, call (805) 982-5325, or visit:

https://exwc.navfac.navy.mil/Products-and-Services/Shore-Technical-Department/Mobile-Utilities-Support-Equipment/

CONGRATULATIONS!

NAVFAC EXWC Supervisory Contracting Officer Tony Gonzales for winning a Department of Defense-level honor, the 2025 Defense Acquisition Workforce Writing Award!

As just one of five individuals selected in the Innovation in the Overcoming Obstacles category, Tony explains how Artificial Intelligence solutions can be integrated into the acquisition process to reduce the time to award contracts and accelerate delivery.

Read his winning essay in the May-June *Defense Acquisition Magazine:* https://www.dau.edu/library/damag/may-june2025

The Global Race for AI Superiority

By Tony Gonzales
NAVFAC EXWC Supervisory Contracting Officer

Naval Facilities Engineering and Expeditionary Warfare Center's (NAVFAC EXWC) vision is to accelerate innovation to enable fleet lethality at sea and ashore. We are mission driven through ambition and determination, and inquisitive through constant learning. This mindset drives innovators and problem solvers to find new solutions to complex problems to deliver tailored solutions to the warfighter at quicker speeds.

As a cutting-edge Warfare Center, NAVFAC EXWC can leverage Artificial Intelligence (AI) to revolutionize acquisitions within the Department of Defense (DoD). The core objective for using AI in the acquisition process is to significantly reduce the time required to award contracts and deliver vital technologies to our warfighters. This is crucial because, in an era defined by rapid technological advancements and intensifying global competition, particularly from nations like China, the ability to swiftly acquire and deploy cutting-edge solutions is paramount to maintaining our strategic advantage.

This project originated through a growing interest in advancements in AI technology, particularly in relation to our adversaries. A key indicator was the recognition that China is rapidly outpacing the United States in Generative AI patents over the past decade. This could pose a serious threat to our national security by eroding global AI leadership and enabling potential adversarial uses of AI in cyber and military operations.

The core issues we are tackling are the inherent delays and inefficiencies within the traditional DoD acquisition process. Current policies and regulations, while essential for ensuring compliance and accountability, can sometimes hinder rapid award schedules and stifle innovation. We need to find ways to streamline and accelerate this process to ensure our warfighters have access to the technologies they need, when they need them, to maintain our military advantage.

> "It became clear to me that the potential benefits of integrating AI into government contracting could reduce the time to award a contract and accelerate the delivery of key technologies to the Warfighter.
>
> — Anthony Gonzales
> EXWC Contracting Officer

This initiative began with assembling a diverse team of contracting professionals, including procurement technicians, contract specialists, contracting officers, and technical experts. We then methodically explored various AI applications, focusing on tasks such as contract writing, price and cost analysis, market research, and document generation.

Our approach at NAVFAC EXWC involves harnessing the power of AI to transform the entire acquisition landscape. We initially explored using Microsoft Azure to systematically test and evaluate how AI can expedite contract development and execution. We then pivoted to AcqBot, a commercial solution hosted through the Air Force Research Laboratory's NIPRGPT, due to some challenges we faced.

We are leveraging AcqBot through funding from the Naval Innovation Science and Engineering (NISE) program. Specifically, we are using AcqBot to take our existing contracting templates and recreate them with AI prompts integrated in them utilizing prompt engineering. Ultimately, the goal is to standardize and accelerate document creation.

This approach aligns with NAVFAC EXWC's vision of accelerating innovation to enhance fleet effectiveness and bring agile solutions to the warfighter. By using existing commercial technology, we aim to expedite innovation, delivering superior contracting products that enable faster project execution with reduced risks and costs.

Our hypothesis was that leveraging AI through AcqBot to assist in template creation and document writing will facilitate the overall document development process by accomplishing a significant portion of the work through efficiency in standardized content, content suggestion, consistency and quality control, and collaboration.

Initial tests proved promising. We found that utilizing Acqbot provided a structured starting point for contract specialists to write their contract documents. *(continued to next page.)*

(continued from previous page.) The content suggestions that the large language model provided were valuable and tailored. Preliminary results suggested that AcqBot can significantly streamline the initial stages of document creation, allowing the contract specialists to focus on refining and enhancing for greater depth and completeness.

We have successfully tested justification and approval, pre- and post-negotiation memorandums (PNMs), limited source justifications, determination and findings, and we are actively testing and experimenting with market research reports, technical evaluations, and acquisition plans. Initial user feedback requests showed significant time savings, high user satisfaction, and actionable feedback. We are excited and actively engaged in continued testing to gain a better picture on the total time savings gained throughout the entire acquisition lifecycle.

In conclusion, the intensifying global race for AI dominance necessitates that the DoD embrace innovative solutions to accelerate its acquisition processes.

By leveraging AI, we can streamline operations, reduce delays, and ultimately deliver critical technologies to the warfighter faster. Although some may consider the acquisitions process to be a hindrance in the defense acquisition system, implementing AI-driven solutions can help clear the perception and assist the DoD in maintaining its competitive advantage over its adversaries. Delivering solutions to the warfighter at rapid pace is necessary to keep pace with China in the global patent race. The DoD has a clear path ahead for investment in AI to support the warfighter.

I firmly believe this work has the potential to significantly contribute to our national security and strategic advantage.

This is all possible thanks to the many who support and embrace this crucial effort. I want to express my sincere gratitude to NAVFAC EXWC leadership for their unwavering support of this initiative, the NISE program for providing the necessary funding, and my exceptional team of dedicated professionals who are working tirelessly to make this vision a reality.◆

TONY GONZALES is a Supervisory Contracting Officer at NAVFAC EXWC with a $30 million warrant. He has experience in services, construction, information technology, and other transactions. He has chaired multiple high-complexity source selections, including a $180 million Cost Plus Fixed Fee/Firm Fixed Price Indefinite Delivery Indefinite Quantity contract. In addition to his contracting duties, he leads a team of seven contracting professionals working on a Naval Innovation Science and Engineering (NISE) project exploring the use of Artificial Intelligence in NAVFAC EXWC's contracting processes

NAVFAC EXWC Conducts Microgrid Assessments in Northern Mariana Islands

By Bill Anderson, PhD
NAVFAC EXWC Microgrid and Energy Resilience Senior Subject Matter Expert

Team photos of a prior visit to Tinian.

NAVFAC EXWC Microgrid and Energy Resilience Senior Subject Matter Expert Dr. Bill Anderson, electrical engineers Brian Vu, Nate O'Grady and Chris Baboghli, and a team from the Hawaii Natural Energy Institute, University of Hawaii, conducted a site visit in March 2025 to Tinian, Commonwealth of the Northern Mariana Islands, a U.S. Indo-Pacific Command Island Power Study.

The team assessed the existing electrical infrastructure, met with local utility and government officials on Tinian and neighboring Saipan to study the power generation capabilities and electrical loads of Tinian, and deployed an albedometer to collect time series irradiance data. The team has shipped a SODAR (Sonic Detection and Ranging) wind profiler to Tinian to collect time series wind data.

The visit was the latest in a series of assessments for creating a conceptual microgrid design architecture to provide energy resilience to the Department of Defense, to enable off-grid power to carry out missions and allow continuous delivery of energy amid any on-grid disruptions.

NAVFAC's only warfare center, NAVFAC EXWC is dedicated to providing agile technological solutions to support the Fleet and warfighter in forward deployed expeditionary locations. This project will strengthen the capabilities of strategic places in the Pacific to provide mission assurance to U.S. Indo-Pacific Command.

As a leading authority on microgrids, NAVFAC EXWC has a pivotal role in supporting the shore and operational microgrid energy projects for the Department of the Navy, with a strategic focus on Pacific islands.◆

Mission participants pose for a group photo.

NAVFAC EXWC Supports INDOPACOM Priorities, Strengthens Partnered Capability During UAS Operation in Palau

Members of the NAVFAC EXWC Unmanned Aircraft Systems (UAS) team conducted engineering reconnaissance and aerial mapping in Palau to support the Rapid Integration of Planning and Engineering (RIPE) initiative under U.S. Indo-Pacific Command's Pacific Deterrence Initiative.

Alex Viana of EX521 led the EXWC team of Engineers Kaulin Hall of EX522, Dylan Lomas of TD12, and Kevin Vargas of EX521. They worked in partnership with the Naval Construction Group TWO (NCG 2), U.S. Marine Corps 7th Engineer Support Battalion, and industry partner Versar Global Solutions.

"The collaboration and hard work resulted in an efficient and successful project. We completed the work in just seven days – it would typically require 30 days to finish," Lomas said. "Working with EXWC and the broader team, we were able to capture all necessary data in a single operation, eliminating the need for follow-up site visits."

NAVFAC EXWC provided real-time coordination, and demonstrated its in-house aerial mapping capabilities, refining flight path mapping, ground control point placement, and communication between operators and airport authorities.

"This was a highly successful project," Vargas said. "Through extensive communication with local authorities, we flew over an active international airport as well as other locations. The detailed coordination and planning and great teamwork paid off."

Working in the field with NCG 2 and 7th ESB was an incredibly rewarding experience, Hall said.

"It gave us a broader perspective and greater insight into the impact of our mission and how we directly contribute to global operations. We are proud to be a part of the team and this is another reminder of the many great reasons why we chose to build a career with NAVFAC EXWC," he said.

NAVFAC EXWC's UAS program supports UAS-related priorities from the Naval Research and Development Establishment, conducts UAS research, development, test and engineering projects, and integrates and transitions UAS technologies. The project supports the Fleet and warfighter through advancing and exercising partnered capability development missions to achieve enhanced integrated coordination and collaboration between the Naval Construction Force, NAVFAC, and industry.

The RIPE initiative supports CNO NAVPLAN Project 33 and USINDOPACOM by enhancing expeditionary engineering capabilities and accelerating operational planning through advanced expeditionary engineering reconnaissance capability development, and remote sensing technologies test and evaluation. ◆

EXWC Engineer Kevin Vargas demonstrates the automated flight planning of the Unmanned Aircraft Systems (UAS) to the U.S. Marine Corps 7th Engineer Support Battalion.

NAVFAC EXWC Engineer Kevin Vargas pilots Unmanned Aircraft Systems (UAS) while Utilitiesman First Class Christopher Barningham from Naval Construction Group TWO and NAVFAC EXWC Engineer Dylan Lomas maintain visual line of sight and provide guidance to potential hazards.

NAVFAC EXWC Engineers Dylan Lomas, Kevin Vargas and Kaulin Hall pose with an Unmanned Aircraft System during the mission in Palau.

NAVFAC EXWC Engineer Dylan Lomas (center) outlines the Unmanned Aircraft Systems (UAS) flight plans and survey points to Naval Construction Group TWO survey team lead Steelworker First Class Kelci Brouwer and co-air vehicle operator NAVFAC EXWC Engineer Kevin Vargas.

NAVFAC EXWC Test Team Lead Brent Elkins conducts component thermal testing to evaluate the performance of novel materials to forced-entry attack. The test program examined the performance of both individual components and full magazine door sections to forced entry attack, to build a full picture of the best methods to provide physical security protection.

NAVFAC EXWC Works to Improve Storage of Munitions, Increasing Safety and Cost Savings

By Thomas J. Erickson
Engineer, Shore Technical Department
Explosive Effects and Consequences Division (SH21)

A team of experts at Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) is working on strengthening the blast door of Earth-Covered Magazines (ECMs) to enable the Fleet and warfighter to store munitions at a higher level of safety and security for less cost than ever before.

ECMs, which are semi-buried structures used to securely store munitions and other volatile material, offer protection to nearby personnel and property from an accidental explosion. Used throughout the Department of Defense, ECMs address both explosive safety and physical security considerations.

The Navy handles hazardous and dangerous munitions every day, whether missiles, bombs, ammunition or explosives. Each of these items has its own quirks, safety measures, and considerations for storage. Munitions are extremely dangerous and must be handled with care, as a single error could prove catastrophic.

It is our duty to sailors and the civilian population to keep these stockpiles safe, secure, and effective. ECMs are a solution for safe storage.

EXWC structural engineers Sean Donahue, PhD, Thomas Erickson, and Lynsey Reese, PhD, lead a program at EXWC's Explosive Effects and Consequences Division studying and improving the blast design and physical security design of ECM doors. Through analysis, modelling, and physical test programs, they aim to improve doors to reduce cost, weight, and construction complexity.

The team is modernizing ECMs to reflect a century of research. ECM blast designs are evolving with the times to account for a new generation of munitions and handling equipment. Physical security of these structures must adapt to counter the ever-changing threat from malign actors who seek to steal or sabotage munitions.

The Naval Innovative Science and Engineering (NISE) and Naval Facilities Systems (NFS) programs funded the research. The Defense Threat Reduction Agency (DTRA) and the FATHOMWERX public-private laboratory at the Port of Hueneme provided technical support.

This project aims to optimize door designs to reduce cost and enhance performance. The EXWC team developed both simulation models and physical test articles. The simulation models used finite-element analysis to simulate the behavior of blast doors in response to an explosion.

EXWC aims to optimize the security fill inside the door using novel configurations, materials, and construction techniques. The team developed a series of low-cost test panels and filled the panels with a variety of fill materials informed by an extensive study of commercially available options.

Test specimens were designed to test the behavior of both legacy blast door designs, and the performance improvements offered by low-cost modifications to the internal structure. Heavily instrumented with sensors to measure steel behavior, the specimens were tested to failure using hydraulic actuators and shock tube testing.

The test panels were constructed internally at EXWC, leveraging the resources and training of the FATHOMWERX public-private laboratory. The panels were tested against a battery of forced-entry attacks conducted both by the Department of Defense and EXWC's in-house subject-matter experts.

Data from this research indicates significant potential cost savings and design improvements that could be applied to every ECM door in the Department of Defense.

The team continues to iterate and build upon their work, and has begun transitioning the research results into Navy-owned ECM designs. These changes are set to save millions of dollars in military construction project costs, underscoring the commitment of EXWC and partners to innovate and advance technological efforts that benefit the Fleet, warfighter and the nation with brilliant and effective solutions. ◆

Defense Threat Reduction Agency (DTRA) special forces team members execute a combined thermal and power tool attack against NAVFAC EXWC test specimens.

Earth-Covered Magazine at Kadena Air Base, Japan.

A NAVFAC EXWC test specimen is tested to failure at the University of Texas at Austin to evaluate its ability to resist the extreme forces it would experience during an explosion.

NAVFAC EXWC Engineer Thomas Erickson welds test panels in the FATHOMWERX public-private laboratory to be used for forced-entry testing.

Georgia Tech Supports Testing for Earth-Covered Magazine

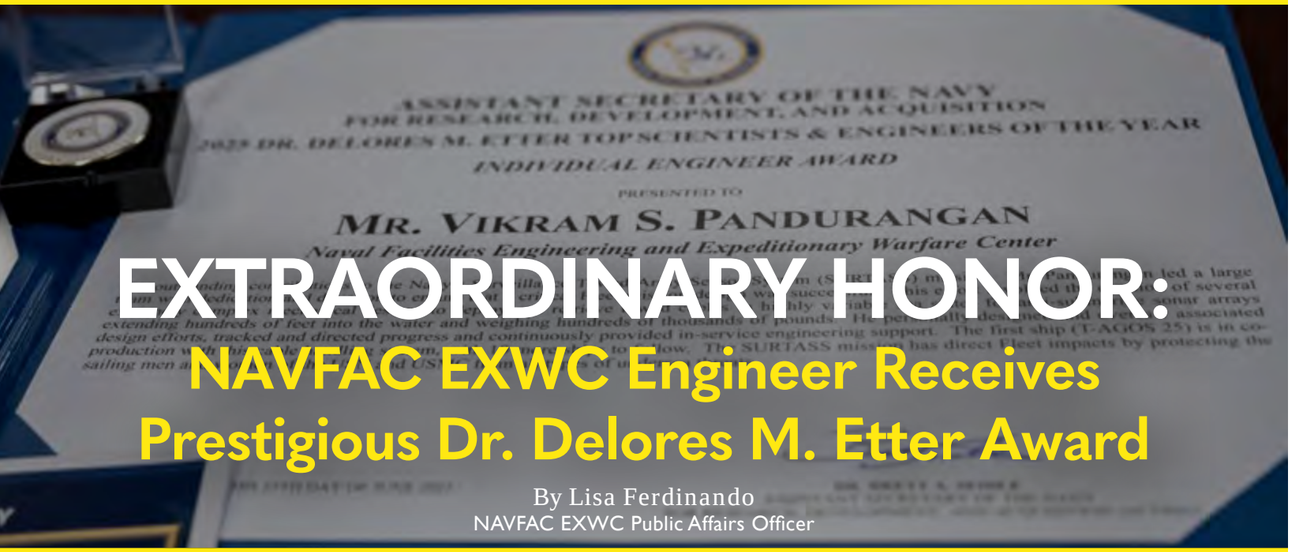
NAVFAC EXWC Commanding Officer Capt. Dean Allen visited Georgia Tech's Structural Engineering Lab to observe testing for an Earth-Covered Magazine (ECM) project – work that is supporting EXWC's research, development, test and evaluation.

The complex testing effort is validating next-generation reinforcement methods for ECMs and other potential hardened facilities.

The motivated graduate researchers understand the importance of this project. Their technical rigor and innovation under pressure are supporting EXWC's efforts to deliver safer, more effective designs to support future munitions infrastructure, Allen said.

"I had the opportunity to personally express to graduate students, research engineers, and faculty how critical their testing and analysis are to national security as they conduct a research project that will inform current and future structural designs for DoD ordnance storage facilities," he noted.

NAVFAC EXWC Commanding Officer Capt. Dean Allen inspects the test setup at Georgia Tech for a dynamic tension test of a headed rebar encased on concrete.



EXTRAORDINARY HONOR:

NAVFAC EXWC Engineer Receives Prestigious Dr. Delores M. Etter Award

By Lisa Ferdinando
NAVFAC EXWC Public Affairs Officer

NAVFAC EXWC Engineer Vikram Pandurangan celebrates receiving the Dr. Delores M. Etter Award at NAVFAC EXWC Headquarters, June 25, 2025.

> “I love that our work is going straight to the warfighter. It means that we’re doing something right, and we’re building something that is going to perform.”
>
> — Vikram Pandurangan
> NAVFAC EXWC Engineer

It is not often the United States Navy builds a ship around your technology program and recognizes you as the best of the best, but for Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC) Engineer Vikram Pandurangan these are the remarkable realities of his job supporting the Fleet and warfighter.

Pandurangan, an engineering project manager for marine handling systems in the Oceans Technical Department, is leading a team to advance and perfect a new Navy Surveillance Towed Array Sensor System (SURTASS) handling system prototype for an upcoming line of ships.

The project involves the creation of several extremely complex mechanical designs to deploy and retrieve towed cables in highly variable sea states for anti-submarine sonar arrays extending hundreds of feet into the water and weighing thousands of pounds.

Pandurangan personally designed and oversaw associated design efforts, tracked and directed progress and continuously provided in-service engineering support.

For his exceptional achievements, the Navy honored Pandurangan with a 2025 Dr. Delores M. Etter Award for Individual Engineer, an extraordinary honor that recognizes the immense technical challenges of a project of this magnitude, and its critical role in supporting the Fleet and warfighter.

Named after Dr. Delores M. Etter, a former United States Deputy Under Secretary of Defense for Science and Technology, the awards are presented each year by the Assistant Secretary of the Navy for Research, Development and Acquisition (ASN RD&A) to recognize the top scientists and engineers from the tens of thousands working within the Department of the Navy.

These awards represent the “pinnacle of scientific and engineering excellence within the Department of the Navy, recognizing accomplishments that are technically outstanding and profoundly beneficial to our operational capabilities and national defense,” said the host of the June 25 virtual ceremony, acting Assistant Secretary of the Navy for Research, Development and Acquisition Dr. Brett Seidle.

“When you consider that nearly 55,000 Navy scientists and engineers are eligible for this award each year, the significance of this honor truly comes into focus,” he said.

NAVFAC EXWC and its predecessor agencies have supported the SURTASS legacy program for more than 25 years. The Navy is seeking to modernize and streamline the delivery of SURTASS and is building ships to accommodate the new technology.

Operated by the Military Sea Lift Command, the Explorer-class T-AGOS ships will play an integral role in the Navy’s anti-submarine warfare operations.

SURTASS is a low-frequency array of hydrophones deployed from surface surveillance ships to receive acoustic data. Using SURTASS enables the Navy to detect quiet, nuclear- and diesel-powered submarines and report real-time surveillance information to Navy commanders.

The NAVFAC EXWC team lowers a prototype Surface Towed Array Sensor System (SURTASS) into the Pacific Ocean.

> “When you consider that nearly 55,000 Navy scientists and engineers are eligible for this award each year, the significance of this honor truly comes into focus.”
>
> — Dr. Brett Seidle
> Assistant Secretary of the Navy for Research, Development and Acquisition

“The first ship (T-AGOS 25) is in co-production with this cable handling system, with up to 10 more ships to follow. The SURTASS mission has direct Fleet impacts by protecting the sailing men and women of the USN and USMC from all types of undersea threats,” the award citation reads.

Building a new system comes with intense and rigorous review and overcoming unforeseen complications. It requires advanced technical expertise, ingenuity and foresight, Pandurangan said. “It’s never been done before,” he noted.

“This project directly impacts the warfighter who’s actually touching the mission. One of the challenges is that you’re carrying a big ship full of sailors in rough and unpredictable sea states. The current system is extremely complex and dangerous to deploy. We wanted to make it simpler. We wanted to just deploy it via gravity,” he said.

A Los Angeles native with a civil engineering degree from the University of California, Irvine, and a systems engineering master’s degree from the Naval Postgraduate School, Pandurangan thrives in this environment.

“Overcoming challenges is part of the job.” he said. “It is incredibly rewarding and fulfilling. I love that our work is going straight to the warfighter. It means that we’re doing something right, and we’re building something that is going to perform.”

Whether on a ship tossed around in the ocean during testing, working at headquarters, or in the laboratory devising intricate calculations and creating solutions to the prototype, Pandurangan is enjoying the journey.

“It’s been a fun mission, with a lot of prototyping, and a lot of testing. We built scale models of all sorts of sizes. We dragged them in pools. We dragged them in dive tanks. We built a 3D printed model to see what it would do in significant storms,” he said.

Working on complex and meaningful work is exactly why Pandurangan joined NAVFAC EXWC seven years ago.

“I wanted to be able to propel things forward and be a decision maker, as opposed to just getting work handed to me,” Pandurangan said. “I just want to build really cool things.”

Humbled and honored to receive the Dr. Etter Award, Pandurangan attributes the success to the dedicated NAVFAC EXWC professionals focused on the intricacies of the SURTASS prototype.

“My team deserves the credit. This group has probably been the most amazing group of individuals I have been around. They are brilliant. They love this work and what they do and that’s why we’ve been able to do what we’ve done so well.” ◆

A Brief History of the

Dr. Delores M. Etter Awards

Dr. Delores M. Etter
Former Assistant Secretary of the Navy for Research, Development and Acquisition

Department of the Navy
Distinguished Public Service Award

Secretary of Defense
Outstanding Public Service Award

Department of Defense
Distinguished Public Service Award

The Woman Herself: Dr. Delores M. Etter

Dr. Delores Maria Etter is a well-known engineer in the DOD community. From 1998 to 2001, Dr. Etter served as the United States Deputy Under Secretary of Defense for Science and Technology. From 2005 to 2007, she served as the Assistant Secretary of the Navy for Research, Development and Acquisition. During her tenure as a civil servant, Dr. Etter was responsible for strategic planning, budget allocation, program execution and evaluation for the DOD Science and Technology Program. Upon leaving office, Dr. Etter joined the electrical engineering faculty at the United States Naval Academy, where she became the first Office of Naval Research distinguished chair in science and technology. Her contributions were highly recognized, receiving numerous national awards and honors. She is the recipient of the Department of the Navy Distinguished Public Service Award, the Secretary of Defense Outstanding Public Service Award, and the Department of Defense Distinguished Public Service Award. Dr. Etter retired as a professor in the electrical and computer engineering department at Southern Methodist University in Dallas, Texas.

The Importance of the Dr. Delores M. Etter Awards

The Dr. Delores M. Etter Top Scientists and Engineers of the Year Awards are presented annually by the Assistant Secretary of the Navy for Research, Development and Acquisition to the best and brightest in the Department of the Navy.

Known as one of the highest Department of the Navy achievements for military and civilian scientists and engineers, these prestigious awards recognize technically superior accomplishments that have profound benefit to operational capabilities and national defense.

With nearly 55,000 scientists and engineers eligible for this award each year, winners of the highly competitive honor are an elite group, considered the most valuable contributors in the scientific and engineering realms in the Department of the Navy, representing the pinnacle of technical superiority, innovation, merit and applicability.

Past and Present

NAVFAC EXWC Dr. Delores M. Etter Award Recipients

2025

Recipient:
Vikram Pandurangan
Award Title:
Individual Engineer
About:
For exceptional engineering contributions to the Navy's SURTASS program

2024

Recipient:
Russel Batman
Award Title:
Individual Engineer
About:
For outstanding contributions in the design, development, prototyping, and testing of the Floating Inspection Sensor Elevator to support waterfront inspections of deep-water or remotely located pile supported structures

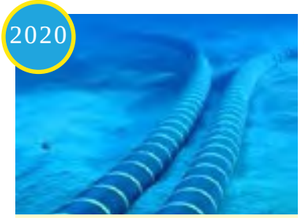
2023

Recipient:
Gerritt Lang
Award Title:
Individual Engineer
About:
For outstanding contributions in the research, development, and patenting of a novel bollard testing capability

2021

Recipient:
Dr. Robert Zueck
Award Title:
Top Individual Scientist
About:
For studies on geometric nonlinear modeling
Other Awards:
- NAVFAC Engineer of the Year
- Engineer of the Year for the National Society of Professional Engineers

2020



Recipient:
Maritime Test Bed
Award Title:
Team Award
About:
For the installation of an advanced power and data access point

2017

Recipient:
Seismo Hydroacoustic Data Acquisition System (SHDAS)
Award Title:
Team Award
About:
The SHDAS team received recognition for their collective SHDAS work which provides technical measurements that monitor nuclear treaty compliance

2014

Recipient:
Daniel Zarate
Award Title:
Top Individual Scientist
About:
For development of an epoxy coating for fuel tanks

2013

Recipient:
Galen Marks
Award Title:
Top Individual Engineer
About:
For leadership of the Hardened Installation Protection for Persistent Operations (HIPPO) Joint Capability Technology Demonstration (JCTD)

Cal Poly Engineering Students Successfully Deploy Prototype Solution for Warfighter

Engineering students with California Polytechnic State University in San Luis Obispo successfully deployed an Expeditionary Ocean Power Generator (ExOPG) they created as part of a collaboration with EXWC to bring agile technology to the warfighter.

EXWC's Marine Energy Development Program is partnering with Cal Poly to create a portable device that warfighters can use to harness power from the near-shore environment to recharge batteries without the need for resupply or stoppage in mission. This device would minimize a logistics footprint and allow for mission continuity – critical elements in austere or contested environments.

"We are thrilled to see the culmination of the hard work of the students over many months," Judy Santa Cruz, Marine Energy Development Program Technical Lead, said. "This test was a great success and demonstrates the incredible ingenuity of these students and how they are working in this successful collaboration to bring solutions into the hands of the warfighter. We are so proud of the extraordinary achievements of the team."

Launched in the 2024-2025 academic year, the collaboration is a multi-year, multi-disciplinary capstone project. The students – five mechanical engineering and four electrical engineering students – tested their device May 22 in Morro Bay as the NAVFAC EXWC team observed.

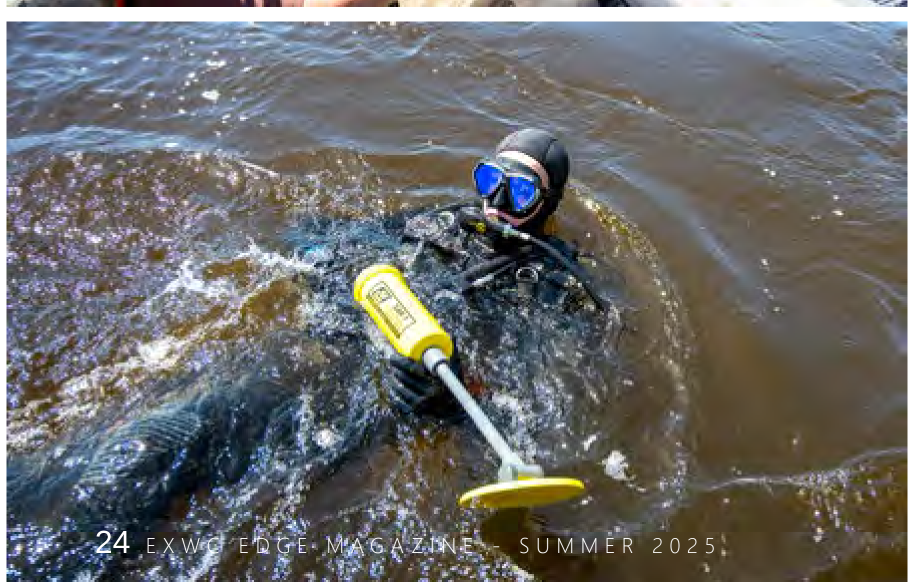
"We are amazed of the accomplishments of the ExOPG team," EXWC Senior Mechanical Engineer Dennis How, who is leading the project for EXWC, said. "Within months of choosing this project and receiving the project requirements, the team designed, engineered, manufactured, fabricated and tested their device in open waters. This was no small feat, as the students maintained a full academic schedule for a June 2025 graduation." ◆

Advancing Capabilities for the Fleet and Warfighter

NAVFAC EXWC Expeditionary Systems Engineering (EX5) and the EXWC Dive Locker conducted research and testing on underwater sonar equipment, to evaluate the effectiveness of these tools in advancing the capabilities of Fleet divers.

The EX5 Research, Development, Test, and Evaluation (RDT&E) Team has been working with the EXWC divers on testing and evaluating Maritime Engineering Reconnaissance Systems, to include sonar, Light Detection and Ranging (LiDAR) and materials testing systems. This technology enables recon teams to quickly gather high fidelity data of maritime environments in the battlespace, informing decision makers and port damage repair teams.

EXWC has one of the few dive lockers in the Navy authorized to test equipment for use within the Fleet. This unique authority allows EXWC to put cutting-edge technologies into the hands of Fleet divers, ensuring the Fleet and warfighters have the most advanced tools and equipment to carry out their complex and rigorous underwater operations. ◆



WELCOME ABOARD

NAVFAC EXWC 2025 Summer Interns!

We are thrilled to have more than 30 participants in our Summer Intern program to enrich and advance the work we do here to support the Fleet and warfighter.

NAVFAC EXWC Technical Director Kail Macias, who started as an intern himself four decades ago, welcomed the interns and shared career advice, encouraging them to be curious, and confident about the significance of their contributions to the NAVFAC EXWC mission.

"Be brave. Ask questions. Seek out projects that interest you – we have so many amazing things for you to work on as upcoming STEM professionals. Learn and contribute all you can. We are excited to have you aboard and are eager to learn from you," Macias said, highlighting the many opportunities to make valuable contributions at NAVFAC's only warfare center.

Interns are placed throughout the command across diverse departments, including Shore, Oceans, Expeditionary, and the Technical Directorate. Whether working independently or collaboratively, they contribute to a wide range of projects tailored to their department's needs. Supervisors guide and shape these talented individuals into subject-matter experts in their respective assignments.

"Our STEM internship program enriches the entire NAVFAC EXWC community by building bridges between seasoned professionals and emerging talent," NAVFAC EXWC STEM Manager Mark Campbell said. "While interns gain valuable experience, current engineers benefit from fresh insights and evolving academic trends brought by the next generation.

"Together, EXWC and its interns cultivate innovative solutions to meet complex challenges," he said.

Each intern is paired with a mentor to support professional growth, provide exposure to the command's operations, and offer real-world experience that fosters a deeper understanding of NAVFAC and Department of Defense culture.

Immersed in hands-on learning, interns gain a firsthand perspective of life as a civilian Naval Engineer! ◆

NAVFAC EXWC personnel ride suspended scaffold to work area roughly 700 feet above ground, as part of tower recoating project at a Navy communications facility.

Safety First! NAVFAC EXWC Trains Climbers in Workplace Fall Protection

By Dave Rich
NAVFAC EXWC Safety Director

At NAVFAC EXWC, technicians work around the globe climbing tall towers, navigating up scaffold, and ascending other vertical sites. In all this, it is absolutely critical personnel are properly trained, strictly adhere to all safety guidelines and have advanced knowledge of climbing techniques and safety measures.

EXWC's Fall Protection Program Manager Bryan Stone conducted a comprehensive End-User Fall Protection training session for EXWC employees. The outdoor setting at the Port Hueneme Equipment Maintenance Center provided the perfect backdrop to highlight the importance of safety when working at heights.

Stone outlined the Navy's fall protection requirements and obligations surrounding worker safety. Proper protection isn't just about compliance, he said, it's about saving lives and preventing devastating injuries.

"The EXWC fall protection program builds on the basic core principles of fall protection by empowering its end-users through practical hands-on exercises that emphasize climbers to learn and know their tools, reinforce proper climbing technique and implement hazard mitigation steps," Stone said.

Stone guided the participants through proper donning and adjustment of various fall protection harnesses, demonstrating how to ensure a secure and comfortable fit. He emphasized the vital importance of pre-use inspections, teaching how to identify worn straps, damaged buckles, and other potential defects that could compromise the integrity of the equipment.

"Fall protection end-user training is vital because of the invaluable safety knowledge and risk reduction gained," EXWC Safety Team member Beverly Maxion said. "Even if I don't personally climb heights and need fall protection, understanding the program and its end-user applications is crucial for overall workplace safety awareness and support."

Participants identified and discussed potential fall hazards, fostering a proactive awareness of potential dangers in their work environment.

Stone walked the team through the creation and implementation of effective fall protection plans, fall hazard surveys, and rescue plans.

He then concluded the session by demonstrating proper climbing technique and the intricacies of fall rescue plans, stressing the importance of swift and decisive action in the event of a fall.

The training, a blend of knowledge, practical application and hands-on climbing exercises not only fulfilled a safety training requirement, but gave participants a renewed sense of responsibility and a valuable toolkit to ensure safety on the jobsite, according to Stone. ◆

EXWC Safety Team member Beverly Maxion demonstrates properly worn fall protection gear.

FOR MORE INFORMATION

Contact NAVFAC EXWC Safety Director Dave Rich at david.r.rich8.civ@us.navy.mil

Congratulations

Navy Shore Sailor of the Year

Construction Electrician First Class (SCW) Gregory Lewis!

Vice Chief of Naval Operations Adm. James Kilby announced CE1 Lewis as the Fiscal Year 2024 Navy Shore Sailor of the Year – a Navy-wide honor recognizing superior military accomplishments.

CE1 Lewis, who was honored for his service at the NAVFAC EXWC Dive Locker, is an extraordinary sailor who performed at the level of a seasoned chief petty officer, NAVFAC EXWC Executive Officer Capt. Paul Chan said.

"Petty Officer Lewis embraced all challenges and tasks put before him with consistently flawless results. Because of his superior technical knowledge and work ethic, I assigned him the most demanding high-risk projects where his leadership, diligence, and strategic thinking were instrumental," Capt. Chan said.

"As a member of the dive team working on complex testing and operations, his professionalism, enthusiasm, and superior performance were invaluable to NAVFAC EXWC's success through technology-driven developments," he continued.

CE1 Lewis will be meritoriously advanced to Chief Petty Officer upon successful completion of chief petty officer initiation.

"The competition was exceptionally strong – a true testament to the professionalism and talent of sailors across navy shore commands worldwide. Each finalist exemplified excellence and represented their command with honor and distinction. Bravo ZULU!" Adm. Kilby said in announcing the selection. ◆

OUTSTANDING

Commanding Officer Capt. Dean Allen Recognizes Outstanding Military and Civilian Personnel!

Recognition: Defense Acquisition Workforce Award:
Tony Gonzales is one of five individuals across Department of Defense to receive the 2025 Defense Acquisition Workforce Writing Award for "Innovation in Overcoming Obstacles."

Award: Military Navy and Marine Corps Commendation Medal:
Recipient: Construction Mechanic First Class **Michael Monteleone,** with the Mobile Utilities Support Equipment Team

Award: Civilian Service Achievement Medal:
Recipient: **Marie DeBenedetto**, Business Directorate, BD52

Award: Military Outstanding Volunteer Service Medal:
Recipient: Construction Mechanic First Class **Falcon Allaire**, with the Mobile Utilities Support Equipment Team

Award: Civilian Awards Of the Quarter:
Recipient: **Lorraine Aguon,** Acquisitions – Supervisor of the Quarter for the Second Quarter

Award: Civilian Awards Of the Quarter:
Recipient: **Deborah McKay**, Oceans – Civilian of the Quarter for the 2nd Quarter

Recognition: Letter of Appreciation:
Recipient: **Thomas Lebo**, Business Directorate, BD55

Recognition: Length of Service Awards: 75 Total Years!
Angela Hebden, EX31 – 40 yrs
Jill Lomeli, SH322 – 35 yrs (pictured above)

Award: FY24 CNO Safety Ashore Award Winner:
Recipient: **Dave Rich,** NAVFAC EXWC Safety Director, received a Navy-wide award, an honor that is a testament to his exceptional professionalism, commitment to excellence, leadership, teamwork, and an in-depth risk management culture that resulted in safe and effective operations, increased safety awareness and comprehensive and professional safety reporting.

Recognition: EXWC Nomination for the Command Project Manager of the Year is:
Alexandre Viana, EX521, Senior Project Manager, for leading a cross-functional team to award NAVFACSYSCOM's first Other Transaction Agreement to prototype the Rapid Integration of Planning and Engineering prototype concept. The RIPE concept demonstrated its effectiveness in producing 3D visualizations, project planning and management documents, enabling the whole of engineering capability as a model across the NAVFAC enterprise.

Congratulations!

to the Brilliant Inventors at NAVFAC EXWC!

We held our 3rd Annual Inventor's Bravo Zulu Breakfast to recognize new innovations that are making incredible advances in supporting the Fleet and warfighter. This year, we have a lot to celebrate!
Bravo Zulu to all our Inventors!

7
Non-Provisional Patent Applications

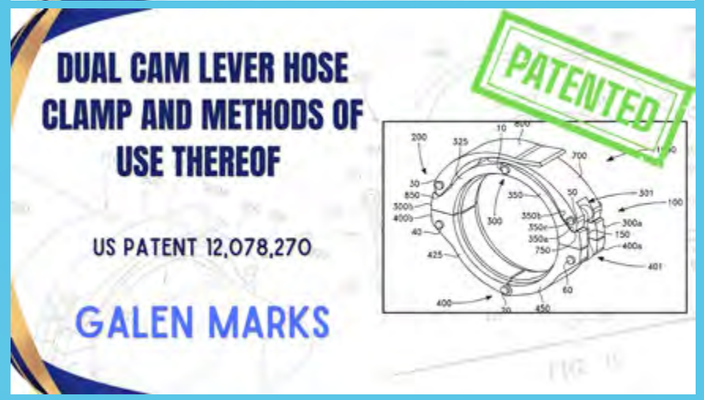
3
New Patents This Year

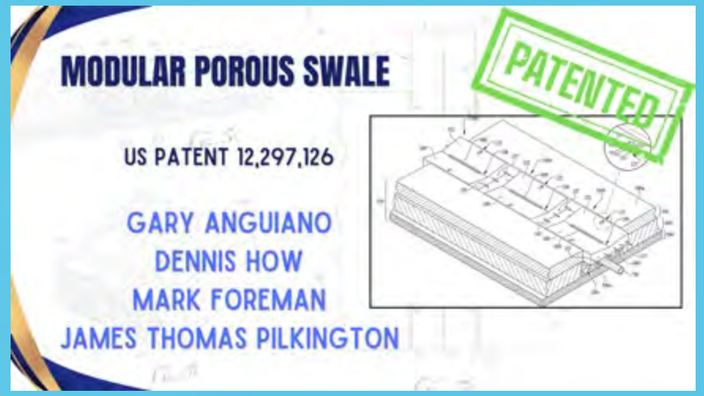
2
New Patent Licenses

SPECIAL RECOGNITION

Special recognition to Rance Kudo for holding the standing record of 11 patents with seven licensed and commercialized!

New Patents This Year:





POSTCARD

Rebuilding History & Supporting the Community!

BZ NAVFAC EXWC Safety Director Dave Rich, who led dedicated volunteers in rebuilding the iconic "U.S.A.'s Smallest Post Office," a charming post office from the 1930s that was operational until 1962, and destroyed in a 2017 wildfire.

"Volunteering to help design and rebuild this post office was an incredibly rewarding experience, especially knowing how much it means to the local community after the tragedy of the Thomas Fire," Rich explained. "I felt it was important for me to contribute because this beloved little building is more than just a post office; it's a piece of local Ojai Valley history and a unique landmark."

The original structure at Wheeler Springs measured a mere 6' x 7'. This new structure is located at the Wheeler Gorge Visitors Center, a perfect spot where it can be enjoyed by all, Rich explained.

"By lending a hand, we were directly involved in recreating this landmark for future generations, ensuring that this tangible link to the past remains accessible and appreciated. I was honored to pick up the tools and get to work with friends and colleagues from EXWC and the community," Rich, a retired Seabee Master Chief, said.

"Beyond the historical aspect, this effort supports the local community. Knowing this mission played a part in preserving this charming, quirky landmark was truly fulfilling and I look forward to continuing to support the community whenever and however I can!" he noted.

This was a wonderful event for the community, with many friends and neighbors and even Smokey the Bear taking part in the ribbon cutting in May!

Established in 2012, the Naval Facilities Engineering and Expeditionary Warfare Center (NAVFAC EXWC), headquartered at Naval Base Ventura County, California, is a command of approximately 1,200 dedicated federal civilian employees, contractors, and military personnel providing research, development, test, and evaluation, and in-service engineering to deliver specialized facility and expeditionary solutions to the warfighter. As NAVFAC's only warfare center, our engineers, scientists, analysts, logisticians, contract specialists, and other professional personnel provide technology and unique, agile solutions for the warfighter that specifically focus on expeditionary, oceans, and shore needs from enduring bases to forward deployed expeditionary locations. In 2017, NAVFAC EXWC became a Defense Department Science and Technology Reinvention Laboratory.

MISSION

Provide research, development, testing and evaluation, in-service engineering, and life-cycle management for shore, oceans, and expeditionary domains.

VISION

Accelerate innovation to enable fleet lethality at sea and ashore.

MOTTO

ANTICIPATE • INNOVATE • ACCELERATE

View past EXWC Edge issues on the Defense Visual Information Distribution Service website:
https://www.dvidshub.net/unit/NFEEWC