

# SECDEF Tours Navy EOD to Assess Unmanned Capabilities



Defense Secretary Mark T. Esper visits Naval Base Point Loma for an unmanned underwater vehicle demonstration, Point Loma, California, Sept. 17, 2020. DEPARTMENT OF DEFENSE / Lisa Ferdinando

SAN DIEGO – Secretary of Defense Dr. Mark T. Esper visited components of Explosive Ordnance Disposal Group (EODGRU) 1 at Naval Base Point Loma, California, Sept. 17, to learn how Navy EOD is building a more lethal, agile and resilient force by augmenting human expertise and decision-making with autonomous unmanned systems (UMS) capabilities for the fleet and Joint Force.

While meeting with Esper, EODGRU-1 Commodore Capt. Oscar Rojas described how Navy EOD is an integral member of the UMS triad, which is composed of the surface, subsurface and expeditionary (EOD and Naval Special Warfare) communities.

The UMS triad enables strategic effects by leveraging cutting-edge technologies to pair real-time, relevant information with immediate tactical options to deter adversaries in the maritime environment.

“We are enhancing our human-machine teaming efforts to more efficiently illuminate and eliminate or neutralize surface and undersea threats,” said Rojas. “Our UMS systems development efforts are at the front of autonomous capabilities to recognize, analyze, communicate and take appropriate response to various threats. This could involve neutralizing the threat, alerting a human operator or networking with other UMS systems, all to offer commanders the most advantageous results at a specific time and place.”

Rojas also described how the Navy EOD Expeditionary Mine

Countermeasure (ExMCM) companies help maintain freedom of navigation in denied waterways, in war and in daily competition. Created to help address the long-standing challenge of clearing naval minefields and explosive threats, ExMCM companies are used by operational commanders to maintain the military advantage before and after a threat is placed in the water. Expanded and enhanced commander's awareness and layered options result from advancing the use of the unmanned underwater vehicles (UUV) and remotely operated vehicles (ROV) embedded within the ExMCM company. Each company has 30 Sailors, tailorable to teams as small as two based on mission requirements.

"Our ExMCM companies are essential to supporting fleet and Joint Force objectives, across all environments. They are not constrained to a specific craft, allowing them to deploy from air, land and sea to neutralize surface and subsurface threats," said Rojas.

Lt. Nick Stoner briefed Esper on current and next-generation technologies in UUVs and ROVs, much of which Navy EOD is already using in operations.

"It was an honor to talk with Secretary Esper about how we are advancing artificial intelligence and human-machine teaming in our operations today," said Stoner, an EOD officer with EODGRU-1 who works on Navy EOD maritime and underwater capability development. "We are developing, implementing and rapidly adapting the vanguard of available technology for small and medium UUVs and ROVs to enhance our capability as a force and support the National Defense Strategy.

"A cornerstone of our success has been close relationships with our engineering teams. There is constant, two-way feedback between them and the users in the field, which allows for ongoing system updates and modifications to increase capabilities," said Stoner. "It has been, and continues to be, a team effort."

Developing future technology for Navy EOD also involves innovative acquisitions strategies, said Rojas. This includes collaborating with the Navy's Expeditionary Program Office and DOD's Defense Innovation Unit to capture current operational challenges and streamline the procurement process to rapidly address them.

"This allows Navy EOD to accelerate the adoption of emergent commercial technology so we can pace, and outperform, adversary threats to the fleet and Joint Force that threaten sea control and power projection," Rojas said.

The EOD operators in the field also play a critical role in refining Navy EOD technologies and systems, said Rojas.

"Our Sailors use these tools daily and understand the challenges. We empower them to give the design-to-employment team direct feedback to rapidly find solutions to any issues that might arise," Rojas said, adding that personnel conduct an in-depth, post-deployment analyses with Navy EOD leadership, as well as program management and engineering teams. This touch point drives down the time it takes to get new technology to the force and ensures prioritization of the most urgent fleet-driven requirements.

Operating from Naval Amphibious Base Coronado, California, EODGRU-1 oversees the manning training and equipping of EOD Mobile Units 1, 3, 5 and 11; Mobile Diving and Salvage Unit 1; EOD Expeditionary Support Unit 1; and EOD Training and Evaluation Unit 1. EODGRU-1 is also capable of deploying as a battalion level staff to command task forces in theater.

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# NAVWAR Provides Technical Expertise for Underwater Ice Study in Sweden



Electronics Technician 1st Class Robert Hart and Electronics Technician 1st Class Richard Goldberg assigned to Space and Naval Warfare Systems Command Reserve Program supported Naval Information Warfare Center Pacific engineers in coordination with the Swedish Defense Research Agency and the Swedish Coast Guard to explore how ice affects sound propagation and background noise in the underwater domain utilizing various sensors, magnetometers and a remotely operated vehicle. U.S. NAVY

SAN DIEGO –

Naval Information Warfare Systems Command (NAVWAR) joined the Swedish Defense Research Agency and the Swedish Coast Guard in Lulea, Sweden, to test how ice effects sound in the underwater domain March 11-23.

As part of an ongoing program with Swedish authorities, personnel from the NAVWAR Reserve Program (NWRP) and Naval Information Warfare Center Pacific (NIWC Pacific) Unmanned Maritime Vehicle (UMV) Lab teamed to support the event.

NWRP

Sailors and NIWC Pacific engineers utilized various sensors, magnetometers and a Seabotix vLBV, a remotely operated vehicle (ROV), to identify the potential impact of ice on sound propagation and background noise underwater.

NWRP

Sailors operated the ROV to test acoustic transceivers and collect sonar and video imagery of the conditions beneath the ice and to provide logistic mission support with programming magnetometers.

“Sonar

and camera data from the ROV provided insight into the structure of the ice,”

said Tom Pastore, a NIWC Pacific engineer. “Simultaneous acoustic measurement

data between various fixed points will allow researchers to characterize the

impact of ice-covered waters as compared to an open surface.

This is an

important addition to the scientific body of knowledge and leads us towards

better modeling capability in under-ice regions.”

The

collective team from NAVWAR and Sweden have a second trial scheduled for first

quarter of fiscal year 2020.

NWRP

Sailors leverage their education, corporate knowledge and military experience

and apply those skills to UMV and other technology testing events to address

potential challenges with respect to complex command, control, communications,

computer and intelligence systems.

“NAVWAR

Reservists provide manpower with diverse technical and operational skill sets,

enabling the sponsor to successfully complete the mission no

matter the challenges,”  
said Thomas McDermott, NWRP UMV program manager.

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# Bainbridge Answers Distress Call



Sailors aboard the Arleigh Burke-class guided-missile destroyer USS Bainbridge (DDG 96) render aid to the crew of the M/V Kokuka Courageous. Bainbridge is deployed to the U.S. 5th Fleet areas of operations in support of naval operations to ensure maritime stability and security in the Central Region, connecting the Mediterranean and Pacific through the western Indian Ocean and three strategic choke points. U.S. NAVY / Mass Communication Specialist 3rd Class Jason Waite GULF OF OMAN (NNS) – The Arleigh Burke-class guided-missile destroyer USS Bainbridge (DDG 96) responded to a distress call from the M/V Kokuka Courageous in the Gulf of Oman the morning of June 13.

The Bainbridge received a call from the Kokuka Courageous crew advising that their ship was in distress approximately 30 nautical miles from Bainbridge’s location.

“This is what we’re out here for,” said Cmdr. M. Kathryn Devine, commanding officer of Bainbridge. “Our mission is to ensure maritime safety and to answer the call for aid when we can.”

All 21 crew members of the Kokuka Courageous had evacuated to a tug boat and were transferred to the Bainbridge. One of the

Kokuka Courageous sailors suffered burns on his hands and was treated immediately by the Bainbridge medical team.

Once safely aboard Bainbridge, the Kokuka Courageous crew received medical check-ups, showers and clean clothes along with food and any other attention they required.

“I’m very proud of my crew and their quick response to the situation,” said Devine. “They’ve done an incredible job of making sure the crew of the tanker was safely brought aboard and taken care of.”

Bainbridge is underway as part of Abraham Lincoln Carrier Strike Group’s (ABECSG) deployment in support of maritime security cooperation efforts in U.S. 5th, 6th and 7th Fleet areas of operations.

With Abraham Lincoln as the flagship, deploying strike group assets include staffs, ships and aircraft of Carrier Strike Group 12 (CSG 12), Destroyer Squadron 2 (DESRON 2), USS Leyte Gulf (CG 55) and Carrier Air Wing 7 (CVW 7).

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**0-Level Reform: Lemoore**

# Strike Fighter Squadrons Returning More Jets to Flight Line



F/A-18E Super Hornets from Strike Fighter Squadron 136 "Knighthawks" fly in formation during a photo exercise over the California coast. The Knighthawks are an operational U.S. Navy strike fighter squadron based at Naval Air Station Lemoore, California, and are attached to Carrier Air Wing One. U.S. Navy / Chief Mass Communication Specialist Shannon Renfroe

LEMOORE,

Calif. – Two Navy Super Hornet squadrons at Naval Air Station (NAS) Lemoore,

California, have reduced maintenance turnaround times and are boosting aircraft

readiness as part of naval aviation's maintenance reform initiatives under the

Naval Sustainment System (NSS).

The NSS

initiative leverages best practices from commercial industry to help reform

aspects of naval aviation's fleet readiness centers, organizational-level

(O-level) maintenance, supply chain, engineering, and maintenance organizations

and governance processes. Initially, the NSS is concentrating on getting the

Navy F/A-18 Super Hornet fleet healthy before rolling out the approach to every

Navy and Marine Corps aircraft.

Strike

Fighter Squadrons (VFA) 22 and 122 were the first to implement 0-level maintenance reforms following visits from commercial aviation consultants in December and January.

Reforms include assigning crew leads to manage the maintenance on each aircraft and reorganizing hangar spaces, parts cages and tools.

### **Squadrons Empower Petty Officers**

The most significant change has been the delegation of ownership over each aircraft in for repairs from the squadrons' maintenance material control officers, or MMCOs, to individual crew leads comprised mostly of first-class petty officers.

Traditionally, MMCOs must keep track of the status of each aircraft in for maintenance as well as the Sailors working on them, and that's in addition to deciding what maintenance actions are required for each jet and which aircraft are safe to release for flight. Assigning junior-level crew leads to each jet removes some of that burden from the MMCOs and has led to improved communication and increased accountability.

"The crew leads are not making the maintenance decisions; that's still done by the maintenance controllers, but what it allows for is it sheds

those maintenance control chiefs of having to know every status of every jet, of every person, all day long," said Lt. Cmdr. Brandon Michaelis, O-level reform champion for Commander, Naval Air Forces (CNAF). "So they can focus on releasing safe aircraft by empowering those first-class petty officers, who can now own that process and know where the people are, know the status of the parts, and brief that up the line."

For the petty officers accustomed to doing their job a certain way, reform did not come easy. But the benefits have been evident, said Aviation Electronics Technician 1st class Victor Perez, the leading petty officer for VFA-122's avionics shop and one of the squadron's selected crew leads.

"At first the changes didn't feel productive, because we didn't really understand it, but now that we've had some time with it, it's definitely helped improve our processes and communication," Perez said.

Used to focusing exclusively on avionics, Perez said serving as a crew lead has forced him to approach the maintenance of his assigned aircraft more holistically. The increased responsibility of bringing an entire jet back online ultimately leads to a greater sense of accomplishment, he said.

“You get kind of personal with an aircraft,” he added. “Some aircraft are easy, and some are a struggle to get through. Rather than working on a jet for a couple hours to complete the one thing assigned to your shop and then moving on to the next jet, this way you take more ownership toward completing the whole thing.”

In some cases, exceptional second-class petty officers have also been considered for crew lead, including Aviation Electrician’s Mate 2nd Class Michaela Zadra, a member of VFA-22’s quality assurance division. Having crew leads that can focus on individual jets – and communicate with the various maintenance shops – relieves maintenance control from having to keep near-constant track of as many as a dozen aircraft at a time, Zadra said.

“Crew leads have cut down on empty communication, so now I, as a maintainer who is not stuck behind a maintenance control desk, can walk around to each shop and talk to them personally,” she said. “There’s a lot more communication one-on-one, instead of one-to-one-to-one and then to maintenance control. It’s definitely helped with communication and productivity with the jets.”

In tandem with the crew lead concept has been the utilization of a whiteboard alongside

each aircraft that informs anyone passing by as to the jet's status.

Information on the boards includes the names of the crew chief and additional personnel assigned to the aircraft, what maintenance is needed, and the expected completion date.

"If you physically walk through one of our hangars today, you can tell which ones have been reformed and which ones haven't," said Vice Adm. DeWolfe H. Miller III, CNAF. "You know the exact status of that airplane, you know who's working on that airplane and when they expect that airplane to be up. There's going to be a crew lead who has that ownership."

In addition, the two squadrons have begun treating the spaces around each Super Hornet in their hangars as dedicated workspaces, with all necessary tools and parts kept beside the aircraft rather than back in one of the various maintenance shops.

"We're now treating the airplane a little more, as an analogy, like a patient getting surgery," Miller said. "I am the doctor as the maintainer, and I said, 'scalpel,' and my tool is right there. What we're seeing with that sort of approach, having our tools next to the airplane, having our status board next to the airplane, everything is going to the point of action

being around that airframe, and we're seeing a really significant improvement in our mission capable rates."

Both squadrons have also begun keeping larger parts in a centralized "parts cage" in the hangar, dramatically reducing the amount of time Sailors spend traversing the hangar in search of equipment rather than with their hands on an aircraft.

"It may be five minutes here or five minutes there, but over the course of a day across all those technicians, that's a lot of time saved by having those parts close to where the job is being done," Michaelis said.

### **The 84-Day Corrosion Inspection**

Together, the changes have helped the squadrons achieve one of the first goals of 0-level reform – reducing the turnaround time for routine 84-day corrosion inspections down from 10-14 days to three days.

The 84-day inspection, so called because Super Hornets receive one every 84 days, is one of the most common checks conducted on the jet and is officially supposed to take three days.

"Our average is about 10 to 14 days," Miller said. "It's really important for us to

put some discipline into achieving these checks on a predictable three-day pattern.”

After meeting with consultants, VFA-22 was the first squadron to pilot reforms aimed at reducing the 84-day inspection time.

“They were able to do it in two-and-a-half shifts, and as we’ve been going through the process with other squadrons, we realize that yes, three days in itself is sufficient, once we weed out the inefficiencies,” said Lt. Hasely Clarke, assistant maintenance officer for Strike Fighter Wing Pacific.

Clarke said many of those inefficiencies arose from work centers waiting on one another to be finished with an aircraft before beginning their own tasks.

“There was a lot of waiting time in between,” he said.

Time management, communication and multitasking between shops have all improved following the 0-level reform, Zadra said, noting shops were encouraged to identify which of their tasks could be performed alongside another’s simultaneously. For instance, Zadra said she can check the lights in the cockpit from the side of the jet while someone from the avionics shop inspects instrumentation inside the cockpit.

“It cuts down a lot on worker hours, so we can minimize the time on the inspection,” she said.

### **Initial Skepticism**

A former MMCO, Michaelis said he was skeptical of the O-level reforms when they were initially proposed, but has come around after seeing how VFA-22 and VFA-122 have put the reforms into practice.

“It’s been a tough pill to swallow, to see how inefficient even when I was in that position, even though I thought we were on point every single time,” he said.

“To now look back and go, ‘Wow, there were a lot of places where I could have improved.’ So, that’s what’s made me a believer, is being able to look in hindsight and realize there’s tons of this stuff that I wish I had when I was an MMCO.”

Michaelis said the plan is to take the reforms to VFA squadrons at NAS Oceana, Virginia, before rolling them out across the Super Hornet community and, ultimately, to other platforms.

“As we migrate this and expand it across all type-model-series, I’m excited about what this is going to do for our future,” Miller said.

Further

evidence of the reform's efficacy will come when squadrons can keep their

Sailors on normal work schedules while preparing for deployments, Michaelis said.

"Before we go on detachments or on deployment, we often work Sailors 12 [hours] on, 12 off, sometimes seven days a week," he said. "The proof is when, on a Thursday, we can let our people out for a three-day weekend because our jets are up and ready to go, and we saw that recently in one of our transformed squadrons."