Marine Squadron Completes F/A-18 Phase-Out

Two F/A-18 Hornets, attached to Marine Fighter Attack Squadron (VMFA) 314, fly over San Diego during the Marine Corps Air Station Miramar Air Show in September. U.S. Marine Corps/Lance Cpl. Israel Chincio

ARLINGTON, Va. – The next U.S. Marine aircraft squadron scheduled for transition to the F-35 Lightning II strike fighter made its last flight in an F/A-18 Hornet strike fighter Jan. 23.

The flight by Marine Fighter Attack Squadron (All-Weather) 225 (VMFA(AW)-225), based at Marine Corps Air Station Miramar, California, completed the phase-out of its last F/A-18D Hornets, the 3rd Marine Aircraft Wing said on its website.

The squadron is slated to begin transition to the F-35B, the short-takeoff/vertical landing version of the Lightning II. According to the fiscal 2019 Marine Corps Aviation Plan, VMFA(AW)-225 is scheduled to begin its transition to the F-35B in fiscal 2021.

Presumably the squadron designation will drop the (AW) suffix for transition. The squadron will follow VMFAs 121, 211 and 122 as the Corps' fourth operational F-35B squadron. VMFA-225 will move to MCAS Yuma, Arizona, to join 211 and 122.

The Corps plans to stand up a second F-35B replacement training squadron, VMFAT-502, at Miramar this year to support the increasing F-35B training load. The temporary stand-down of VMFA-225 will enable the Corps "to recapitalize structure and manpower to help VMFAT-502's stand up and then transition to F-35B at MCAS Yuma," according to the aviation plan.

The last Hornet flight of VMFA(AW)-225 occurred two days after

VMFA-314 flew the Corps' first carrier-capable F-35C versions to Miramar from Naval Air Station Lemoore, California, where VMFA-314 has been going through transition from the F/A-18C Hornet to the F-35C. VMFA-314 is scheduled to be ready for a deployment on an aircraft carrier in early fiscal 2022.

New Shotgun-like Ammo Could Shield LCS from Drones

ARLINGTON, Va. — Naval ordnance experts will be testing heavy weapons precision ammunition, that could hit enemy drones "like a shotgun blast," offering a counter-unmanned aircraft system (C-UAS) shield for littoral combat ships (LCS).

Rogue civilian drones and enemy attack and surveillance UAS are a growing concern across the military, especially after swarms of drones attacked Saudi Arabian oil facilities last September. Two months earlier, a Marine Corps anti-drone system downed an Iranian UAS that got within 1,000 yards of a Navy ship in the Strait of Hormuz.

"There's a lot of interest in the Navy now for a counter drone system," said Kevin Knowles of Northrop Grumman Mission Systems. "How do you shoot down these quadcopters? Trying to hit them with a round is not that easy," he added.

Northrop Grumman, which makes mission modules for the LCS, is exploring something called precision air burst munition for the twin 30 mm guns in one of the Surface Warfare Mission Modules. A laser range finder on the

gun determines the range.

“There’s a modification that would need to be made to the gun to fire the round,” Knowles explained Jan. 16 at the Surface Navy Association convention. “It actually programs the round to fly out a certain distance. And then it blows up almost like a shotgun blast,” he said, noting the point-and- shoot proximity round can actually detect the target and gets about a certain distance away before exploding.

The Naval Surface Warfare Center Dahlgren Division (NSWCDD) is slated to run tests on the proximity rounds in the Spring, he said.

“And so, assuming that test goes well, then we’ll start putting those rounds in the magazines” of the 33 mm guns on both the Freedom and Independence variants of the LCS. Because the 30 mm gun has a dual ammunition feed, the high explosive rounds the guns now fire could be loaded in one feed while the precision air burst proximity rounds could be fed into the other. “That will give the LCS a counter UAS capability,” Knowles said.

BAE Systems Selected to Provide Technical Support and Life Cycle Sustainment to the

Naval Air Warfare Center Aircraft Division

McLEAN, Virginia – The U.S. Navy has awarded BAE Systems a prime position on a five-year, $34.9 million indefinite delivery/indefinite quantity (IDIQ) contract to provide life cycle sustainment and technical support for the Naval Air Warfare Center Aircraft Division's (NAWCAD) Special Communications Mission Solutions Division, the company said in a Jan. 23 release. The contract was awarded through the Naval Air Warfare Center Aircraft Division Contracting Office.

"For more than 40 years, BAE Systems has been the contractor of choice for life cycle sustainment and technical support for NAWCAD's Special Communications Mission Solutions Division," said Mark Keeler, vice president and general manager of BAE Systems' Integrated Defense Solutions business. "As a leading systems integrator, we understand the need for quick-reaction field support to ensure our military customers are mission ready and maintain a tactical edge."

Through this award, BAE Systems will support and sustain variety of C5ISR (command, control, computers, communications, cyber, intelligence, surveillance and reconnaissance) systems embedded within vehicles, watercraft and specialized communications platforms in the NAWCAD inventory. The company's C5ISR efforts will include maintaining and upgrading command, control, communications, computers, cyber, intelligence, surveillance, and reconnaissance systems, integrated and networked to improve the situational awareness of military operators and decision makers. Work on this program will be performed in forward deployed mission locations include Central Command and Africa Command Areas of Responsibility.

Coast Guard's Only Heavy Icebreaker Arrives in Antarctica

The crew of the U.S. Coast Guard Cutter Polar Star (WAGB-10) poses for a group photo Jan. 2, 2020, about 10 miles north of McMurdo Station, Antarctica. U.S. Coast Guard photograph by Senior Chief Petty Officer NyxoLyno Cangemi

MCMURDO STATION, Antarctica – The 159 crewmembers of the U.S. Coast Guard Cutter Polar Star (WAGB 10) arrived Jan. 22 at McMurdo Station, following a 58-day transit from the United States, the Coast Guard Pacific Area said in a Jan. 22 release. The cutter departed its homeport of Seattle on Nov. 26.

This year marks the Polar Star's 23rd journey to Antarctica in support of Operation Deep Freeze, an annual joint military service mission to resupply the United States Antarctic stations, in support of the National Science Foundation, the lead agency for the United States Antarctic Program.

The 399-foot, 13,000-ton Polar Star arrived after creating a 23-mile channel through the ice to McMurdo Sound, which will enable the offload of over 19.5 million pounds of dry cargo and 7.6 million gallons of fuel from three logistic vessels. Together

these three ships carry enough fuel and critical supplies to sustain NSF operations throughout the year until Polar Star returns in 2021.

Each year, the Polar Star crew creates a navigable channel through seasonal and multi-year ice, sometimes as much as 21 feet thick, to allow refuel and resupply ships to reach McMurdo Station.

“I am immensely proud of all the hard work and dedication the men and women of the Polar Star demonstrate each and every day,” said Greg Stanclik, commanding officer of the Polar Star. “Maintaining and operating a 44-year-old ship in the harshest of environments takes months of planning and preparation; long workdays; and missed holidays, birthdays and anniversaries with loved ones. The Polar Star crew truly embodies the ethos of the Antarctic explorers who came before us – courage, sacrifice and devotion.”

Commissioned in 1976, the Polar Star is the United States’ only operational heavy icebreaker. Reserved for Operation Deep Freeze each year, the ship spends the winter breaking ice near Antarctica, and when the mission is complete, returns to dry dock in order to conduct critical maintenance and repairs in preparation for the next Operation Deep Freeze mission.

If a catastrophic event, such as getting stuck in the ice, were to happen to the Coast Guard Cutter

Healy (WAGB 20) in the Arctic or to the Polar Star near Antarctica, the U.S. Coast Guard is left without a self-rescue capability.

By contrast, Russia currently operates more than 50 icebreakers several of which are nuclear powered.

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.

In April, the Coast Guard awarded VT Halter Marine Inc. of Pascagoula, Mississippi, a contract for the design and construction of the Coast Guard's lead polar security cutter, which will be homeported in Seattle. The contract also includes options for the construction of two additional PSCs.

"Replacing the Coast Guard's icebreaker fleet is paramount," said Vice Adm. Linda Fagan, commander of the Coast Guard's Pacific Area. "Our ability to clear a channel and allow for the resupply of the United States' Antarctic stations is essential for continued national presence and influence on the continent."

Marines to Receive New, Lightweight Ammo for Machine Gun

MARINE CORPS BASE QUANTICO, Va. – Marine Corps Systems Command (MCSC) on Jan. 16 awarded a contract to MAC LLC – a Mississippi-based small business – for about $10 million for polymer ammunition to be used in the M2 machine gun.

The ammo is significantly lighter and easier to haul than traditional brass casings.

“Polymer ammunition meets the same specifications for effectiveness as the brass ammo,” said Lt. Col. Bill Lanham, MCSC’s deputy program manager for ammunition.

Polymer is a class of plastic-like material that weighs less than brass and other metals commonly used in weapon systems.

The Corps intends to replace brass ammunition with polymer ammo, steel cans with polymer cans and traditional metal links with nylon links used to hold ammunition. The transition from brass to polymer enables them to carry more ammo.

Lightening the load of ammunition ultimately will increase efficiency on the battlefield, Lanham said.

“When we go to war, we need more ammo to defeat our adversaries,” he said. “Polymer ammo gives Marines the opportunity to carry more ammunition or make trades with what gear is important to carry during combat.”

In addition to the weight advantage, polymer has myriad other benefits over brass. For example, a machine gun often heats up when Marines rapidly fire brass ammo. Over time, the weapon’s high temperature can soften the material and accelerate erosion. Parts can also break more easily.

However, polymer ammo absorbs heat expelled from the casing, preventing the machine gun from warming. This means Marines can fire for longer periods of time with less problems, said John Carpenter, assistant program manager for engineering with PM Ammunition.

Carpenter also noted how the polymer ammo will provide logistical benefits. Before Marines access the ammunition on the battlefield, it must be transported across the ocean during a process that requires much fuel, manpower and money. Lighter ammo can mitigate this burden.

“Everything goes on a boat, ship or plane,” Carpenter said. “But when we reduce the weight of ammunition, we also reduce the number of vehicles in a convoy, amount of funding and the number of Marines we put in harm’s way.”

The Marine Corps isn’t the only service pursuing polymer ammo. The U.S. Army is exploring the 7.62 lightweight small-caliber ammunition with the same polymer technology, while the Navy is pursuing an effort to develop small caliber lightweight cartridges and links that exceed the ballistic requirements of traditional cartridges.

The Navy will partner with the Marine Corps to further advance their lightweight case and link development for a solution. Per the contract with MAC Technology, MCSC will receive a small quantity of polymer ammunition in the fourth quarter of fiscal years 2020 and 2021. Marines will assess the ammo to increase familiarity and validate the polymer rounds during an operational validation scheduled for the third quarter of fiscal year 2021.

The program office estimates fielding will begin in fiscal year 2022. Lanham and Carpenter said the Corps is excited for the potential that polymer ammunition will have in winning the future fight.

“What you’re seeing is not a quick surge of new technology,

but the work of engineers, project officers and logisticians for the past decade," Carpenter said. "The goal is to provide innovative and effective technology for the Marine Corps."

Bell Boeing CMV-22B Osprey Successfully Completes First Flight

AMARILLO, Texas – The first CMV-22B Osprey, built by Boeing and Bell Textron Inc., completed first flight operations at Bell's Amarillo Assembly Center, Boeing said in a Jan. 21 release. The CMV-22B is the latest variant of the tilt-rotor fleet, joining the MV-22 and CV-22 used by the U.S. Marine Corps and Air Force.

The U.S. Navy will use the CMV-22B to replace the C-2A Greyhound for transporting personnel, mail, supplies and high-priority cargo from shore bases to aircraft carriers at sea. Bell Boeing designed the Navy variant specifically for carrier fleet operations by providing increased fuel capacity for the extended range requirement. The mission flexibility of the Osprey will increase operational capabilities and readiness, in addition to ferrying major components of the F-35 engine.

"With the ability to travel up to 1,150 nautical miles, the CMV-22B will be a lifeline for our servicemen and women out at sea," said Kristin Houston, vice president of Boeing's tilt-rotor programs and director of Bell Boeing's V-22 program. "The quality and safety built into this aircraft will revolutionize the way the U.S. Navy fulfills its critical carrier onboard delivery mission."

Bell Boeing will deliver the first CMV-22B to Air Test and Evaluation Squadron (HX) 21 in early 2020 for developmental testing.

Coast Guard, Too, Has Role to Fulfill in 'Great Power Competition,' Vice Commandant Says

A group of scientists and engineers from the Coast Guard Cutter Healy deploy equipment on the Arctic ice in 2018. Healy is in a maintenance period now until June. U.S. Coast Guard/NyxoLyno Cangemi

ARLINGTON, Va. – The U.S. Coast Guard has a unique role in the growing global rivalry with Russia and China, the service's second-ranking leader says.

In addition to Department of Homeland Security, law enforcement and maritime rescue missions, Coast Guard assets are deployed with the Navy in the Middle East, seizing illegal narcotics shipments in South American and Caribbean waters and traveling the increasingly tense Indo-Pacific region, said Adm. Charles W. Ray, the Coast Guard's vice commandant.

In addition to interoperability with the Navy overseas, the Coast Guard forms "a unique element of the joint force with

the smaller countries and navies of the world” because it is both a military and law enforcement organization, Ray told the annual Surface Navy Association convention here Jan. 15. “There’s something unique about a white ship with a racing stripe,” he said, adding the Coast Guard operates at “the level below lethal level.”

That role has become more significant because the “Great Power Competition” has reached the High North, where “the Coast Guard is the nation’s presence,” he said.

The Arctic region makes demands not seen in a long time. When the medium icebreaker U.S. Coast Guard Cutter Healy sailed above the Arctic Circle last summer, “she was literally off the grid for almost a month,” Ray said.

“There’s not a lot of there, there, when it comes to comms and navigation,” the deputy commandant added, noting the issue isn’t just communications but domain awareness. As Arctic sea ice melts, previously impassable sea lanes are opening during the summer to commercial maritime traffic and naval vessels. “We’ve got to be aware of who else is up there,” Ray said.

Designed to break 4.5 feet of ice continuously and operate in temperatures as low as 50 degrees below zero, the Healy is out of service for maintenance work until June. The nation’s only operational

heavy
icebreaker, the much larger but aging Polar Star, can break ice 21 feet thick. Commissioned
in 1976, Polar Star is on its seventh tour of icebreaking duties in Antarctica.
Both vessels are homeported in Seattle, far from Arctic waters.

The Coast Guard wants to increase its icebreaking fleet with six new polar security cutters. Congress appropriated $655 million in fiscal
2019 to begin construction of the first, with another $20 million appropriated
for long-lead-time materials to build a second icebreaker.

While the Coast Guard has gotten funding to build five
classes of new cutters including icebreakers, Ray expressed concern about where
they all will be homeported and maintained in the future. “We’ve got about $2
billion in shore infrastructure backlog,” the admiral said.

Navy Names Future Aircraft Carrier Doris Miller During King Day Ceremony

Family members of World War II hero Doris “Dorie” Miller react after the unveiling of the new Ford-class aircraft carrier USS Doris Miller at a Martin Luther King Jr. Day celebration at Joint Base Pearl Harbor-Hickam. U.S. Navy/Mass Communication Specialist 2nd Class Alexander C. Kubitza

WASHINGTON – Acting Navy Secretary Thomas B. Modly on Jan. 20 named a future aircraft carrier the USS Doris Miller (CVN 81) during a Martin Luther King Jr. Day ceremony in Pearl Harbor, Hawaii, honoring black Americans of the Greatest Generation.

The day's ceremony also paid homage to the beginning and end of America's role in World War II and the scene where Doris Miller's heroic actions cemented him into America's history books.

"It's an honor to join you today on the birthday celebration of one of our nation's – and the world's – greatest spiritual, intellectual and moral leaders," Modly said. "Seventy-five years ago, our nation bound together to secure victory against an existential threat, but also to secure opportunities for broader liberty and justice for the entire world."

"But we were not perfect in our own pursuits of these values here at home," Modly continued. "That contradiction is an undeniable part of our history, one that cannot be glossed over or forgotten."

Doris "Dorie" Miller manned anti-aircraft guns during the attack on Pearl Harbor on Dec. 7, 1941, for which he had no training, and he tended to the wounded. He was recognized by the Navy for his actions and awarded the Navy Cross – the first black man to ever receive the honor.

U.S. Rep. Eddie Bernice Johnson (D-Texas) delivered an emotional speech about the influence of Miller's legacy on her own life.

"All of my life, I've heard about how great Doris Miller was," Johnson said. "[He] was my childhood hero. It was the spirit of Dorie Miller that made me appreciate being an American more than anything else because, in the days of real segregation, a black man from my hometown had stepped up to help save America. Dorie Miller started the civil rights movement and

perhaps even gave Martin Luther King Jr. the spirit to lead us into the era of which he did."

Modly noted that throughout U.S. history, the finest of every generation have stepped forward to serve the cause of freedom around the world even if they were denied those same freedoms at home simply because of the color of their skin.

On Dec. 7, 1941, Doris Miller did not let the prejudice of others define him, the Navy secretary said. Johnson said naming CVN 81 in honor of Doris Miller has done so much to recognize and highlight that no matter the color of a person's skin, they can achieve anything.

U.S. Rep. Bill Flores (R-Texas), which includes Miller's hometown of Waco, said it was an honor to pay tribute to one of America's heroes from the Greatest Generation.

"[Miller] was a man who exemplified the hearts of our Sailors and the spirit of Rev. Martin Luther King Jr., who we also recognize today," Flores said. "Dr. King once said, 'The time is always right to do something right' and that is what Petty Officer Miller did. His story of bravery is a testament to his courage and commitment to serve both his fellow Sailors and his country."

For the members of Miller's family present at the ceremony, it was a moment to reflect on the legacy their family lives to honor with every generation.

"When Uncle Doris decided that he was going to step up to the machine gun and shoot, it was a 'why not me?' moment," said Henrietta Blednose Miller, a niece of Miller's. "As we go through life, we're all going to be confronted with 'why not me?' moments whether they are small or big, but with each one, you will be affecting someone if you take an action at that moment."

CVN 81 will be the second ship named in honor of Miller and

the first carrier ever named for a black American. The Doris Miller will also be the first aircraft carrier to be named in honor of a Sailor for actions while serving in the enlisted ranks.

Unmanned Watercraft for Expeditionary Warfare Progressing Rapidly

Bruce Connor (left), chief mate of the expeditionary fast transport vessel USNS Spearhead, and General Dynamics marine operations engineer Dan McDonald prepare a Knifefish UUV for deployment. U.S. Navy/Mass Communication Specialist 2nd Class Anderson W. Branch

ARLINGTON, Va. — The development of unmanned watercraft for expeditionary warfare has been progressing rapidly, said the program manager of U.S. Navy Unmanned Maritime Systems.

"We made a tremendous amount of progress in the expeditionary warfare area in 2019," Capt. Pete Small, PMS 406, said Jan. 16 during a briefing at the Surface Navy Association symposium here. That progress included successful testing of three Mine Countermeasures USVs (MCM USV) on three different platforms.

The Navy is

using Textron’s Common Unmanned Surface Vehicle for the MCM USV program, one of the mission modules for littoral combat ships. The long endurance, semi-autonomous, diesel-powered boat has been tested with Raytheon’s AQS-20 and Northrop Grumman’s AQS-24 mine-hunting sonars.

“We have three vehicles operational in the water,” Small said. In 2019, all three were operated with three different payloads – a suite payload and the two different towed sonars. Testing was done in different locations on the East, West and Gulf coasts, sometimes simultaneously in multiple locations. “We have accrued just shy of 900 hours of on-water operational time deploying this payload in 2019,” Small said.

Additionally, PMS 406 conducted integration tests with the LCS and two different vessels of opportunity – a U.S. expeditionary sea base and a British amphibious platform.

Small said formal developmental testing and operational assessment of the suite variant of the MCM USV was completed in late November. “That was a major milestone for us, and we are rapidly nearing a milestone C decision and the award of low rate production,” Small said.

Progress also continued with the Knifefish Unmanned Undersea Vehicle (UUV), another counter-mine package for the LCS,

completed formal testing and operational assessment in August. “We’ll continue low rate production of that throughout [fiscal 2020],” Small said, adding the Navy will continue additional development and testing of the General Dynamics-made, medium class UUV to demonstrate the full capability of the mine counter measures mission package.

PMS 406 – a unit of Program Executive Office Unmanned and Small Combatants, which oversees the littoral combat ship and its mission modules and related systems – also develops unmanned maritime vehicles, both surface and undersea, for three different warfare domains: unmanned expeditionary, unmanned undersea and unmanned surface, “our most rapidly growing warfare domain,” Small said.

Coast Guard Expedites ScanEagle ISR Services for National Security Cutters

A ScanEagle is launched during a Strait of Hormuz transit aboard USS Lewis B. Puller. The U.S. Coast Guard is expediting installation of the unmanned aerial vehicle on its Legend-class national security cutters. U.S. Navy/Chief Logistics Specialist Brandon Cummings

ARLINGTON,
Va. – The U.S. Coast Guard is so bullish on the Insitu-built ScanEagle unmanned
aerial vehicle (UAV) that it is moving up the schedule of installing it on its Legend-class
national security cutters (NSCs).

The Coast Guard awarded Insitu an ISR (intelligence, surveillance and reconnaissance) services contract to Insitu in 2016 to deploy the ScanEagle onboard one NSC, the Stratton. Two years ago, the Coast Guard awarded Insitu a contract to operate the ScanEagle on board all NSCs.

"Over the past year and a half, we have begun integration on board all national security cutters," said Ron Tremain, vice president of Insitu Defense, a Boeing company, who spoke to *Seapower* on Jan. 15 at the Surface Navy Association's gathering here.

"We had a notional timeline to integrate over a five-year period and [Coast Guard Commandant Adm. Karl Schultz] stated in his speech last year that he wanted to integrate it on board all national security cutters by the end of 2020."

"So that expedited the program," Tremain added. "We've installed it on five national security cutters to date, and it will be installed on all national security cutters currently built by the end of 2020."

Insitu installs the UAVs and their launch-and-recovery equipment and ground-control stations on board the ships, he said. Insitu sends four-person teams to deploy with each ship. They operate the entire system once on board.

The teams are fully embedded with their ship's crew.

"The ground-control station is fully integrated into the command-and-control structure of the ship," Tremain said. "The launch-and-recovery equipment is roll-on/roll-off."

A standard pack-out for a deployment is three ScanEagle UAVs, he said. The sensor systems include and electro-optical/infrared camera, a laser pointer, a communication relay, an Automatic Identification System interrogator and Vidar (visual detection and ranging, a surface search capability).

Retired Coast Guard Vice Adm. John P. Currier, head of JP Currier Consulting LLC and former head on Coast Guard acquisition, told *Seapower* that the sensor data product from the ScanEagle is provided to the cutter for analysis and action.

Currier said that before deployment of the ScanEagle the NSC had a scan of 35 miles either side of the ship with its organic sensors.

"With ScanEagle on board, for good parts of the day, you're up to 75 miles either side of the ship as you're moving through the sea space," he said. "ScanEagle is a game-changer."

“We’ve effectively doubled the search area of a national security cutter,” Tremain said. “We’re he only company flying with Vidar, and we’re surveilling up to 1,000 square miles of open ocean per flight hour, and we’re identifying greater than 90% of the targets.”

Deployments under the current contract have been made by cutters Monroe, James and Stratton. Four were made on Stratton on the 2016 contract.

Tremain said the ScanEagle teams have been credited with assisting in the interception on nearly $3 billion worth of narcotics to date.

The current $118 million ISR services contract is a one-year contract with seven options for one-year extensions. Tremain said that with the expedition of the installations the value of the contract will go up exponentially.

He said that Insitu is integrating ScanEagle on a number of ships of other navies around the world.

The Coast Guard also plans to integrate the ScanEagle on the forthcoming Heritage-class offshore patrol cutters.