U.S. Marine, British F-35Bs Flew Seamlessly with Israeli, Italian, Japanese F-35s during Queen Elizabeth Deployment

U.S. Marine Corps Brig. Gen. Simon Doran, U.S. Senior National Representative to the United Kingdom Carrier Strike Group 21, and Royal Navy Commodore Steve Moorhouse, commander of the CSG-21, stands in front of a Marine Fighter Attack Squadron 211 F-35B Lightning II aboard HMS Queen Elizabeth in the South China Sea Oct. 8, 2021. *U.K. ROYAL NAVY / LPhot Unaisi Luke*

ARLINGTON, Va. – The senior U.S. officer embarked on last year's deployment of the Royal Navy aircraft carrier HMS Queen Elizabeth, who also flew the F-35B Lightning II strike fighters from the ship, praised the F-35B and the Marine Corps

and Royal Air Force pilots who flew them and the crews who maintained them during the wide-ranging deployment and operated with F-35s from three other nations: Israel, Japan and Italy.

“It’s quite interesting having come from a background in F/A-18s to now be in the F-35 and to just see the manner in which this airplane can share information not just between U.S. and U.K. jets, but we had the opportunity to fly with Italian, Israeli and Japanese F-35s,” said Brig. Gen. Simon Doran, who served as U.S. senior national representative to Carrier Strike Group 21 (CSG-21), speaking to reporters during a Feb. 15 phone conference sponsored by Headquarters Marine Corps, along with Rear Adm. Steve Moorhouse, former commander of CSG-21, now the U.K. Royal Navy’s director of force generation.

“The manner in which this airplane processes information, … I can tell you, having flown it, it really does some tremendous things in the air that provides situational awareness that can be used by decision makers to hopefully give an advantage,” Doran said. “I truly do believe that in the world of aviation right now it’s an unmatched capability that was demonstrated by us moving around the world and operating with so many different nations – our allies and our partners.”

Moorhouse said the Queen Elizabeth’s F-35Bs operated over the Black Sea in support of a Royal Navy Type 45 destroyer and a Royal Netherlands Navy frigate and conducted sorties in support of Operation Inherent Resolve in Syria and Iraq.

Doran said the deployment was “a fantastic experience for us. We got to stress the system both in the material condition of the F-35, its ability to sustain sorties that were of longer duration, and also number of sorties per day. It was really interesting to see if we could demonstrate the unmatched capability of the F-35 against some of the Russian aircraft and we were quite fortunate in that we got to intercept and

escort more Russian aircraft than any other deployments, certainly since the Cold War.

“It was a really good experience for our aircrew as well a great experience for our maintainers to really stress the system while at sea and demonstrate that capability, to not just talk about something but actually do it in some strenuous conditions, while still maintaining a level of professionalism,” he said.

Doran said that VMFA-211deploed with 10 F-35Bs and flew more than 1,200 sorties and more than 2,000 flight hours during the Queen Elizabeth’s 6.5-month, May to December 2021 deployment, which ranged over 40,000 nautical miles, operated with more than 40 nations, and participated in 17 operations and named exercises. The squadron interacted with 13 of those nations.

Doran, who was born in Liverpool, England, was an F/A-18 Hornet pilot for six deployments in U.S. Navy aircraft carriers and has since learned to fly the F-35B. He was frocked to brigadier general while at sea on the Queen Elizabeth. He flew both U.S. and U.K. F-35Bs during the deployment.

“Operating from Queen Elizabeth was not difficult whatsoever,” he said. “With a ship that is purpose-built for a particular airplane and with an airplane as advanced as the F-35, most of your training in the F-35 goes into using it as a weapon system or as a system to gather and disseminate information. The actual takeoff and recovery of the airplane is thankfully quite easy. It really was a pleasure to fly to and from that ship.”

While deployed, the F-35Bs on the Queen Elizabeth also operated from the U.S Navy’s amphibious assault ships USS America and USS Essex and the Italian aircraft carrier Cavour.

Doran said planning for the deployment began more than a

decade ago, even while the Queen Elizabeth was under construction. VMFA-211 worked up on the carrier in 2020 well before deployment and completed a Red Flag exercise after shortly after 617 Squadron – the U.K. F-35B unit paired with VMFA-211 for the deployment – completed the exercise.

During the deployment, Doran served as adviser to then-Commodore Moorhouse and represented the U.S. geographic combatant commanders in maintaining operational control of all U.S. units assigned to the CSG. He also was on hand to address any issues that countered U.S. policy and could negotiate with the commodore "to make sure that everything complied with the guidance and intent that I was provided by the Office of the Secretary of Defense and the chairman of the Joint Chiefs of Staff."

"I think having the sons and daughters of the U.S. and the U.K serving side-by-side around the world, especially sharing some of the hardships of operating while a global pandemic is going on has lasting friendships that will serve both nations quite well," he said. "It was incredibly pleasing from a both a personal and professional level to see U.S. Sailors and Marines working alongside Royal Navy Sailors and airmen side-by-side over seven months and really learning how to operate at a very high level under some adverse conditions and still have a smile on their face and execute at a very professional level."

The general said, "the return on the investment [of the deployment] from the U.S. point of view was really good when it came down to the tactical level of warfighting and training together."

Doran said the visit of Queen Elizabeth II to her namesake ship "really cemented in our minds the importance of this deployment from the very beginning and what is does to reinforce the special relationship between our two nations to demonstrate that on the high seas is absolutely incredible."

Carl Vinson Carrier Strike Group Returns Home for Valentine's Day

The Nimitz-class aircraft carrier USS Carl Vinson (CVN 70) returns to its homeport of Naval Air Station North Island, San Diego. The Carl Vinson Carrier Strike Group returned to San Diego after an eight-month deployment to U.S. 3rd and 7th Fleets in support of regional stability and a free and open Indo-Pacific. *U.S. NAVY / Mass Communication Specialist 2nd Class Kevin Johnson*

SAN DIEGO – The Carl Vinson Carrier Strike Group returned to San Diego on Feb. 14, Valentine's Day, marking the end of an eight-month deployment to U.S. 3rd and 7th Fleets areas of operation, said U.S. 3rd Fleet Public Affairs.

After an accelerated departure from San Diego, the Carl Vinson CSG supported integrated operations in the Hawaiian Islands operating area with the U.S. Marine Corps, Air Force and Coast Guard as part of the Defense Department's ongoing presence in the Indo-Pacific region. They continued into the western Pacific demonstrating U.S. commitment to partnerships and alliances in the region while upholding a free and open Indo-Pacific.

"The tireless dedication and professionalism of our Sailors, through a global pandemic, challenging operational tempo, and sacrificed time away from family, is truly humbling," said Capt. P. Scott Miller, commanding officer of Nimitz-class aircraft carrier USS Carl Vinson (CVN 70), the strike group's flagship. "Their efforts have demonstrated flexibility and resiliency and ensured mission success in every task. They have directly supported a free and open Indo-Pacific and have underscored our Navy's readiness, strength, and lethality."

Ships in the Carl Vinson CSG sailed more than 80,000 nautical miles while underway for 262 days, conducted dual carrier operations and multinational exercises, including maritime security operations, integrated training between surface and air units, long-range maritime strike, anti-submarine warfare, information warfare operations, maritime interdiction operations, personnel recovery, air defense operations, multiple ship navigation and formation maneuvering and refueling-at-sea operations. While deployed, the strike group operated in some of the most heavily navigated waters of the Indo-Pacific including the South China Sea and the Philippine Sea.

Carl Vinson is the first aircraft carrier to deploy with a combination of fourth- and fifth-generation platforms within Carrier Air Wing (CVW) 2 that predominantly represent the "Air Wing of the Future," including the F-35C Lightning IIs of Strike Fighter Squadron (VFA) 147, the CMV-22B Ospreys of

Fleet Logistics Multi-Mission Squadron (VRM) 30, the F/A-18E/F Super Hornets of VFAs 2, 113, and 192, the EA-18G Growlers of Electronic Attack Squadron (VAQ) 136, the E-2D Advanced Hawkeyes of Airborne Command & Control Squadron (VAW) 113, the MH-60R Sea Hawks of Helicopter Maritime Strike Squadron (HSM) 78, and the MH-60S Sea Hawks of Helicopter Sea Combat Squadron (HSC) 4. The complete Air Wing of the Future will also include the MQ-25 Stingray unmanned aircraft system, which is planned to be incorporated into carrier air wings in 2025.

During the deployment, the air wing executed more than 15,000 fixed-wing and helicopter flight hours comprising of 7,791 sorties, 7,702 launches and 7,761 aircraft arrestments.

The strike group successfully completed operations and exercises alongside multiple partners and allies including navies from Australia, Canada, Germany, India, the Netherlands, New Zealand and the United Kingdom as well as the Japan Maritime Self-Defense Force.

Notable multinational, bilateral, and U.S.-only exercises included Large Scale Exercise 2021 in August, Operation Malabar and Maritime Partnership Exercise 2021 in October, Annual Exercise 2021 in November, U.S. and Australia's bilateral exercise in December and Expeditionary Strike Force and dual carrier operations in January 2022.

"Alongside our partners and allies, we have aggressively pursued every opportunity to elevate our combat readiness in a drive to continue upholding regional stability," said Rear Adm. Dan Martin, commander, Carrier Strike Group (CSG) 1. "We've been doing this for 75 years and I'm proud to say that our team has relentlessly paid tribute to this legacy with many long hours of sweat and determination that started well before we left San Diego."

The Carl Vinson CSG consists of Carl Vinson, embarked staffs

of CSG 1, CVW-2 and Destroyer Squadron (DESRON) 1; nine embarked air wing squadrons; guided-missile cruiser USS Lake Champlain (CG 57); and DESRON 1 guided-missile destroyers USS Chafee (DDG 90), USS O'Kane (DDG 77), USS Stockdale (DDG 106), and USS Michael Murphy (DDG 112).

Navy Team Christens First Snakehead Advanced UUV Prototype

Cheryl Mierzwa, Naval Undersea Warfare Center Division Newport's technical program manager for the Snakehead Large Displacement Unmanned Undersea Vehicle, christens the underwater vehicle at the Narragansett Bay Test Facility in Newport, Rhode Island, on Feb. 2. *U.S. NAVY*

WASHINGTON – A Navy team led by the Naval Undersea Warfare Center Division Newport and the Program Executive Office for Unmanned and Small Combatants conducted a vehicle christening for the first Snakehead Large Displacement Unmanned Undersea Vehicle prototype Feb. 2 at the Narragansett Bay Test Facility in Newport, Rhode Island, PEO USC said Feb. 11.

Snakehead is a modular, reconfigurable, multi-mission LDUUV deployed from submarine large ocean interfaces. It is equipped with a government-owned architecture, mission autonomy capabilities and vehicle software, employing innovation in the areas of hull materials and lithium-ion battery certification. Deployed from a submarine dry deck shelter, Snakehead provides guidance and control, navigation, situational awareness, propulsion, maneuvering and sensors in support of undersea missions.

The Navy continues to invest in a family of unmanned undersea vehicles to meet the mission requirements for maintaining undersea domain superiority. Snakehead is the Navy's largest submarine-launched UUV, providing increased endurance, depth capability, and payload capacity beyond small and medium UUVs.

Coast Guard Cutter Valiant Returns Home after 30-day Patrol

The Coast Guard Cutter Valiant (WMEC 621) crew transfers migrants to Coast Guard Cutter Joseph Doyle (WPC 1133) crew in the Caribbean Sea during a 30-day patrol on Feb. 11. The Valiant crew repatriated over 200 migrants interdicted in the high seas. *U.S. COAST GUARD*

JACKSONVILLE, Fla. – The Coast Guard Cutter Valiant (WMEC 621) and crew returned to Naval Station Mayport on Feb. 11 after completing a 30-day patrol in the Caribbean Sea, the Coast Guard 7th District said in a release.

The Valiant's crew patrolled over 6,300 miles in the Caribbean Sea, conducting a variety of operations in support of Coast Guard District 7.

The crew partnered with both foreign and domestic military agencies in the detection, interdiction and repatriation of over 200 migrants interdicted in the high seas.

During their patrol, they received word that a suspected migrant vessel had suddenly and unexpectedly sank, leaving 39 people in the water. The Valiant crew assumed on-scene command of the situation upon arrival and coordinated with Fuerzas

Unidas de Rapida Acción assets operating out of Aguadilla, Puerto Rico, to ensure the safe rescue and care of all persons in the water.

The crew conducted two joint operations with forces from the Dominican navy involving the transfer and repatriation of migrants interdicted by Valiant crew and other U.S. Coast Guard assets. Combined, the evolutions conducted between the Valiant crew and the Dominican Republic navy vessel Aldebarán ensured the safe and efficient return of over 120 migrants to their home country. Such operations continue to showcase the value of partner nation operations and joint efforts to combat human trafficking.

“Combating illegal immigration and protecting the safety of life at sea are extremely challenging missions that require the utmost flexibility and dedication,” said Cmdr. Jeff Payne, Valiant’s commanding officer. “I could not be more proud of the crew executing the missions flawlessly, saving over 200 lives and working with multiple government agencies to keep our nation safe.”

The Valiant is a multi-mission 210-foot medium-endurance cutter. Missions include search and rescue, maritime law enforcement, marine environmental protection, homeland security and national defense operations.

Navy to Deliver Next-Generation Ship-to-Shore

Connectors to Assault Craft Unit

The next generation landing craft, ship-to-shore connector, landing craft, air cushion (LCAC), successfully completed well

deck interoperability testing with USS Carter Hall (LSD 50) and demonstrated the craft are another step closer to fleet integration. *NSWC PANAMA CITY / Ron Newsome*

ARLINGTON, Va. – The Navy is set to deliver the first two operational next-generation landing craft, air cushion 110-class ship-to-shore connectors on Feb. 11 to an assault craft unit in Little Creek, Virginia, Navy officials said.

The two SSCs are on board the dock landing ship USS Carter Hall (LSD 50) inside the ship's well deck en route to Joint Expeditionary Base Little Creek-Fort Story, Virginia, after having completed well deck interoperability testing in Panama City, Florida. The two craft will be delivered to ACU-4, which has long operated the SSC's predecessor, the LCAC 01 class, said Thomas Rivers, executive director, Amphibious, Auxiliary and Sealift Ships, Program Executive Office-Ships, speaking Feb. 10 at the National Defense Industrial Association's Expeditionary Warfare Conference.

Four LCAC 100s have been delivered to the Navy so far, with delivery of three or four more expected in 2022, said Capt. Scot Searles, program manager, Amphibious Assault and Connectors Programs, PEO-Ships, also speaking at the conference. A total of 24 are on contract, with 12 under construction.

Rivers said initial operational capability of the LCAC 100 class will be reached when the ACU is equipped with six craft.

Capt. Kevin Lane, the Navy's resource sponsor for Amphibious Warfare, also speaking at the conference, said IOC is expected in 2023, with first deployment of the craft expected in 2024.

The deck operability testing "was conducted as part of the first phase of ship interface testing and helped validate user requirements by performing multiple well deck entries and exits from USS Carter Hall," said Team Ships Public Affairs in a release. "LCACs are built with similar configurations,

dimensions, and clearances to the legacy LCAC – ensuring the compatibility with existing well deck equipped amphibious ships."

"The success of the well deck testing and other recent evolutions validates these modernized craft will be a game changer for the Navy-Marine Corps team as they execute various missions in the maritime domain," Searles said.

The test event, a collaboration between, PEO Ships, USS Carter Hall, Naval Surface Warfare Center Panama City Division and other stakeholders, was the culmination of months of preparation. The testing also has historical significance, as Panama City is the location of the Navy's Air Cushion Vehicle Center of Excellence with the first-ever well deck operations occurring off Panama City in 1985 between legacy LCAC 01 and USS Whidbey Island (LSD 41).

Navy, Marine Corps Labs Exploring How to Keep Advanced Bases Supplied and Safe

Marines hold a support-by-fire position in an amphibious combat vehicle during exercise Iron Fist, a joint amphibious exercise with Japan, at Marine Corps Base Camp Pendleton, California, Jan. 14. *U.S. MARINE CORPS / Cpl. Sydney Smith*

ARLINGTON, Va. — In addition to developing expeditionary warfare concepts like Marine Littoral Regiments and the light amphibious warship that would transport and supply them, the Office of Naval Research is looking into how to keep both safe and unseen by adversaries.

The first Marine Littoral Regiment, or MLR, an evolution of a traditional Marine infantry regiment, is being built in Hawaii and expected to be fully operationally capable next year for live force experimentation, complemented by war gaming and simulations, Marine Corps Brig. Gen. Benjamin Watson told the National Defense Industrial Association's virtual Expeditionary Warfare Conference Feb. 10.

The light amphibious warship, an anticipated bridge between traditional big L-class amphibious warfare ships and smaller ship-to-shore connectors like the across-the-beach air

cushioned landing craft, is still in the concept stage, said Watson, the commanding general of the Marine Corps Warfighting Laboratory/Futures Directorate and vice chief of the Office of Naval Research.

Both the MLR and LAW are expected to be key factors in the expeditionary advanced base operations concept, which envisions littoral operations by specialized mobile, low signature units within larger distributed maritime operation areas. Small, maneuverable expeditionary advanced bases will conduct sea control and denial operations using advanced sensors and long range missiles and artillery.

But the heat and radiation emitted by such high-powered platforms can be a liability in a very degraded and denied environment, said Marine Corps Col. William DePue Jr., ONR's Expeditionary Portfolio director. "In this environment, if you emit, you're a target. If you don't, you're blind," he said.

ONR is working on technologies that will allow the expeditionary advanced base Marines to passively sense the environment and sense what adversaries are doing while managing their own signatures "so that we emit when it's smart to do so and in ways that limit or avoid detection by the enemy," DePue said.

Researchers are also working ways to reduce food and fuel demands, particularly the shipment of liquids to advanced bases that make them and their supply vessels vulnerable. How to access more energy is a multi-faceted problem, according to Watson.

"It's one we really need industry's help with," he said. "You can't just solve the problem with enhanced distribution and sustainment capabilities. You need to reduce demand."

CNO Emphasizes Joint All-Domain Operations in Texas Visit

Chief of Naval Operations, Adm. Michael Gilday speaks Feb. 4 during an establishment ceremony for the Naval Safety Command. *U.S. NAVY / Mass Communication Specialist 2nd Class (SW/AW) Weston A. Mohr*

FORT WORTH, Texas – Chief of Naval Operations Adm. Mike Gilday traveled to Fort Worth, Texas, and visited Lockheed Martin on Feb. 10, with Rep. Kay Granger (R-Texas), the CNO's Public Affairs Office said in a release.

Gilday and Granger toured facilities and received updates about F-35C Lightning II advancements and capabilities, joint all-domain operations, anti-surface warfare and weapon

technology.

“The work that we’re doing here in Fort Worth in partnership with Lockheed Martin is delivering cutting edge capabilities for the Navy now and into the future,” said Gilday. “These advanced capabilities will ensure the U.S. Navy will maintain our warfighting advantage against increasingly competitive adversaries and ensure tomorrow’s Sailors will have what they need to win the fight.”

The F-35C is an aircraft that redefines the multirole fighter. It is a fifth-generation aircraft that integrates advanced stealth technology that provides unprecedented situational awareness to the pilot, as well as lethality and survivability. Major advances in network enabled mission systems, reliability and interoperability make this platform powerful and effective.

“Today’s visit from Admiral Gilday highlights the role played by Texas, and North Texas in particular, at the forefront of our nation’s strong national defense,” Granger said. Our visit gave us greater insight on the incredible capabilities of the F-35 and the advancements being made to ensure we have the best fighter fleet in the world. I will always remain the F-35 program’s staunchest advocate.”

The aircraft, satellites, ships and ground vehicles Navy forces operate have the ability to collect information from air, sea, space, land and cyber, but processing and analyzing that amount of data can be a difficult task, Gilday added.

Gilday explained the industrial base plays a key role in maintaining the current fleet as well as developing and building platforms and capabilities for the future fight. “We will seek opportunities to accelerate the development and fielding of needed capabilities ahead of our rivals,” he said.

Playing a large role in joint all-domain operations, the F-35C

fighter brings increased situational awareness, information sharing and connectivity to the naval force, as well as our allies and partners.

This visit marked CNO’s second trip to Fort Worth.

COVID Challenges Toughened 7th Fleet Sailors, Vice Adm. Merz Says

U.S. Navy Vice Adm. Bill Merz, then commander of U.S. 7th fleet, addressed Carrier Strike Group Nine warfare commanders on the pier in Naval Base Guam April 5, 2020. Merz arrived in Guam to assess and support the ongoing COVID-19 recovery efforts for the crew of USS Theodore Roosevelt (CVN 71). *U.S. NAVY / Mass Communication Specialist Seaman Kaylianna Genier*

ARLINGTON, Va. — The coronavirus pandemic may have disrupted normal operations and planned training exercises over the last two years, but it drove U.S. Navy and Marine Corps units in the Indo-Pacific to work together and solve problems under trying conditions, a former 7th Fleet commander says.

Outbreaks of the COVID-19 virus sidelined some warships, like the aircraft carrier USS Theodore Roosevelt, and extended at-sea deployments for all the rest, "but a lot of good came out of it if you put it in context," Vice Admiral William Merz, the deputy chief of naval operations for Operations, Plans and Strategy (N3/N5), told the National Defense Industrial Association's virtual Expeditionary Warfare Conference Feb. 9.

Merz, who commanded the 7th Fleet before assuming his N3/N5 role, told online viewers they should be "celebrating the Sailors, how they just came alive under those oppressive conditions, coming together against this common enemy. I'll tell you, COVID's probably the best thing that's happened to 7th Fleet, at least in recent memory. It allowed us to stay together as a fleet, we pretty much stayed at sea the entire time, undistracted."

Because of COVID restrictions on travel, Merz said he cut his routine trips to Washington way back, "so it allowed me to engage very heavily" with all parts of the fleet. He kept the amphibious command ship USS Blue Ridge (LCC-19), usually based at Japan's Yokosuka Naval Base, at sea for a total of 200 days during his last 15 months at 7th Fleet, using its flight deck to helicopter around his command.

Once counter-virus practices were in place aboard ships, Merz said he was able to move his expeditionary force around the 7th Fleet area of responsibility at sea undistracted. Other U.S. and allied naval vessels kept China's People's Liberation Army Navy from taking advantage of the Roosevelt's absence from the

sea, he noted.

Construction projects and test concepts like unmanned undersea vehicles kept on track even more efficiently because exercises and other distractions were canceled during the height of the pandemic, Merz said.

“Probably most revealing was the time period that I had the Theodore Roosevelt in Guam coordinating her recovery,” he said. “The whole world is benefiting from the lessons we learned from that large scale but very focused recovery, and we had doctors from all over the globe coming to study how we moved through that.”

Commander, Task Force 75, based in Guam, built two expeditionary hospitals on the island and reopened the hotels closed by the pandemic, to treat, quarantine and house the 5,000 crew members disembarked from the Roosevelt while it was sanitized. CTF 75 also provided security and logistics for those facilities, Merz said.

CTF 75 also constructed two bubble liberty ports on Guam and Okinawa, as well as a backup one in Diego Garcia in the Indian Ocean. “This just proved to be a life saver” and not just for the 7th Fleet, Merz said. Naval vessels from South Korea, Japan, France, Britain and Malaysia also made stops at the COVID-free bubbles to enjoy beer, pizza and the beach facilities.

“It just became this wonderful resetting for the crews, who were heavily stressed, not just by the virus or what was going on at home, but the much longer at-sea periods that we levied on them to make sure that once they were cleaned, they stayed clean,” Merz said.

Boeing to Offer the P-8A Poseidon for Canada's Multi-Mission Aircraft Project

An artist's rendering depicts the P-8A Poseidon in Canadian livery. *BOEING*

OTTAWA, Ontario — Boeing announced on Feb. 10 its intent to offer the P-8A Poseidon in response to Canada's request for information for long-range maritime patrol aircraft. The Canadian Multi-Mission Aircraft project will replace the Royal Canadian Air Force fleet of CP-140 Aurora aircraft and enhance its antisubmarine warfare and intelligence, surveillance and reconnaissance capabilities.

With more than 140 aircraft in service, the P-8 has executed more than 400,000 mishap free flight-hours around the globe. Militaries that operate or have selected the P-8 include the U.S. Navy, the United Kingdom's Royal Air Force, Royal Australian Air Force, Royal New Zealand Air Force, Indian navy, Royal Norwegian Air Force, Republic of Korea navy and German navy.

“The P-8A Poseidon has demonstrated that it is the world’s most capable multi-mission aircraft currently in production and offers a complete solution for Canada’s CMMA requirements,” said Tim Flood, international business development director for Europe and Americas. “The range, speed, and endurance of the P-8 makes it the perfect platform to monitor Canada’s northern and maritime approaches and the P-8 will ensure allied interoperability to meet Canada’s security commitments. Coupled with a robust industrial partnership plan, Boeing’s offer will build on its successful record of contributing to Canada’s economic growth throughout the life of the CMMA program.”

The P-8A’s multi-mission capability has delivered mission success in antisubmarine warfare, ISR, humanitarian assistance and disaster relief and search and rescue missions. These multi-mission capabilities are enhanced through secure, interoperable, net-ready systems that will provide Canada with the ability to engage/control and to fully integrate with other antisubmarine warfare and ISR assets.

In addition, the P-8 shares extensive commonality with Boeing’s 737NG, which has support infrastructure around the globe. Commonality in spares and training for aircrews and maintainers reduces costs substantially and enables military operators to leverage support throughout the world.

General: Marine Corps Future Force to Include VTOL Family

of Systems

A U.S. Marine UH-1Y Venom helicopter prepares to land at a forward arming and refueling point at Marine Corps Base Hawaii on Feb. 3. Marine Corps plans to replace its rotary wing aircraft is evolving into a concept called VTOL family of systems. *U.S. MARINE CORPS / Cpl. Dalton J. Payne*

ARLINGTON, Va. — The U.S. Marine Corps' plan to develop future replacements for its rotary wing aircraft is evolving to a concept called VTOL FOS, or vertical takeoff and landing family of systems, a senior Corps aviation official said.

Brig. Gen. Matthew Mowery, assistant deputy commandant for aviation, speaking Feb. 9 at the National Defense Industrial Association's Expeditionary Warfare Conference, said the Corps' plans to replace its AH-1Z and UH-1Y helicopters in the future has evolved over several iterations over the past few years, especially as Commandant Gen. David Berger's Force Design 2030 was introduced.

Mowery said the initial effort was centered on involvement in

the Army's Future Vertical Lift program, specifically its Capability Set 3. As the various services branched out, the Marine Corps' effort became the Attack-Utility Replacement Aircraft, or AURA.

Mowery said the Corps "started thinking differently" about the AURA with the emergence of Force Design 2030, and now has folded AURA into the VTOL FOS. The data generated from the Marine Corps' Future Vertical Lift analysis of alternatives, which concluded in 2019, laid the groundwork for analysis and to develop the capability development document. The Marine Corps issued a request for information in September 2019 and a "broad agency announcement for the introduction of advanced technologies in model-based systems engineering and condition-based maintenance in 2020," the Corps said in information provided to *Seapower*.

The VTOL FOS program "will develop a weapon system or systems that fills capability and performance gaps identified by the Marine Corps," the Corps told *Seapower* in November 2021. "The VTOL family of systems will be designed for optimal manning and for manned-unmanned teaming with the MAGTF [Marine Air-Ground Task Force] Unmanned Aircraft System Expeditionary capability. Additionally, it will include a common mission system architecture to enable interoperability across the MAGTF. The Marine Corps' driving requirement is attached escort in tomorrow's battlespace during distributed expeditionary operations from the sea. Speed, maneuver envelope, all-weather capability and survivability will facilitate full integration of this aircraft into the MAGTF. To meet these goals, the VTOL family of systems will operate above legacy helicopter performance attributes like airspeeds, combat range, altitude and endurance with a full payload.

"The VTOL family of systems program will require a comparable mission radius and loiter time to match MV-22Bs, as well as time on station to support distributed air combat element operations," the Corps said. "The VTOL family of systems will

have a greater capability to employ a more diverse set of weapon systems and operate in a larger spectrum of environments by using fused, onboard sensor data and terrain avoidance systems. Amphibious operations and shipboard compatibility will be a key attribute to this air vehicle.”