

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.”

Admiral: ‘Urgency’ Needed in Fielding of New Systems



Lt. Stephen Yaccarino observes an F/A-18E Super Hornet, assigned to the “Vigilantes” of Strike Fighter Squadron (VFA) 151, launch from the flight deck of the Nimitz-class aircraft carrier USS Abraham Lincoln (CVN 72) on Feb. 8. *U.S. NAVY / Mass Communication Specialist 3rd Class Michael Singley*

ARLINGTON, Va. – The current world geo-political climate is evidence of the need for urgency in the fielding of new systems, a Navy program executive officer said.

“It shouldn’t take 18 months to get [a new system] on contract; it should take 90 days,” said Rear Adm. Shane Gahagan, the Navy’s program executive officer for Tactical Aircraft Programs, speaking Feb. 9 at the National Defense Industrial Association’s Expeditionary Warfare Conference.

Gahagan discussed several ongoing and future programs such as a replacement for the MH-60 helicopters; the Next-Generation Air Dominance program to replace the FA-18E/F Super Hornet strike fighter; the fielding of the Block III of the F/A-8E/F, and the life-extension program for the F/A-18E/F.

“The pressure is the idea to pull all that to the left,” he said, stressing the need to accelerate development and field systems sooner in order to counter the rapid development weapons and other systems by potential adversaries such as China and Russia.

Fleet Oiler USNS John Lewis Conducts Builder’s Trials



USNS John Lewis (T-AO 205), the Navy's lead ship of its new class of fleet replenishment oilers, conducted initial builder's trials and returned to port on Feb. 4. *GENERAL DYNAMICS NATIONAL STEEL AND SHIPBUILDING. CO.*

WASHINGTON – USNS John Lewis (T-AO 205), the Navy's lead ship of its new class of fleet replenishment oilers, conducted initial builder's trials and returned to port on Feb. 4, Team Ships Public Affairs said in a release.

Builder's trials consist of a series of in-port and at-sea demonstrations that allow the Navy and the shipbuilder, General Dynamics National Steel and Shipbuilding Co., to assess the ship's systems and readiness prior to acceptance trials and delivery to the Navy.

"Ensuring readiness through sea trials is a crucial step to bringing this ship closer to fleet tasking," said John Lighthammer, program manager at the Auxiliary and Special Mission Shipbuilding Program Office. "USNS John Lewis will provide much needed capability to the fleet as the primary fuel pipeline at sea. We are looking forward to getting the

ship into the hands of Sailors and merchant mariners as another tool to support at-sea operations.”

The new John Lewis-class T-AOs will be operated by Military Sealift Command to provide diesel fuel and lubricating oil, and small quantities of fresh and frozen provisions, stores, and potable water to Navy ships at sea, and jet fuel for aircraft assigned to aircraft carriers. The new T-AOs will add capacity to the Navy’s combat logistics force and become the cornerstone of the fuel delivery system.

General Dynamics National Steel and Shipbuilding Co. is currently in production on USNS Harvey Milk (T-AO 206), USNS Earl Warren (T-AO 207) and USNS Robert F. Kennedy (T-AO 208). The future USNS Lucy Stone (T-AO 209) and USNS Sojourner Truth (T-AO 210) are under contract.

Two Sea Cadet Units Qualify for National CyberPatriot Finals



Band of the West and Sacramento Division Sea Cadets shown with Navy League CEO Mike Stevens in 2019. U.S. NAVAL SEA CADET CORPS

BETHESDA, Maryland – The U.S. Naval Sea Cadet Corps has qualified two teams to compete in the CyberPatriot National Final team competition set for March 17-21 in Bethesda, Maryland.

Sacramento Division and Band of the West Division will represent the youth organization at the All-Services Division Nationals. Both units are based in California and have years of experience competing in CyberPatriot annual competition.

Sacramento Division's Team Spartan has competed in the All-Services Division Nationals competition five years in a row since 2018.

"I enjoy witnessing each one of my CyberPatriot members develop their skills, foster friendships, and work as a team,"

said Sea Cadet Ensign Matt Foreman. "I feel like my job is to provide general direction, a safe place to compete, and the resources for them to succeed."

Foreman added that four of the youth team members have made it to nationals four years in a row.

"This year, three of those elite members are now celebrating their fourth year in a row, which should qualify them for special recognition," said Foreman.

Each of the Team Spartan cadets specializes in one of three platforms: Microsoft Windows, Linux, or Cisco. When he thinks of leaders and the impact they can have, he recalls the famous Gen. George S. Patton quote. "Don't tell people how to do things, tell them what to do and let them surprise you with their results."

In its 14th year, the CyberPatriot program has more than 5,200 teams competing, of which the Sea Cadet youth organization had nearly 20 teams enrolled. The CyberPatriot program helps direct students toward careers in cybersecurity or another computer, science, technology, engineering, and mathematics discipline.

Band of the West Division's CyberPatriot Team Silicon Knights Team and the Sacramento Division's Team Spartan benefit from keen experts who guide cadets, such as the instructor Lt. j.g. Ming Ikehara, who serves as a volunteer training officer and brings forth extensive knowledge and experience in cybersecurity for the Silicon Knights.

"For cadets to acquire technological skills and critical thinking to protect personal privacy to national defense is extremely essential and important," said Ikehara. "I also volunteer to inspire girls to get into cybersecurity and engineering disciplines."

Petty Officer 1st Class Arkin Si, team captain, Silicon

Knights, emphasized the amount of time devoted to the CyberPatriot team leading up to the annual competition to the nationals.

“Our team practiced every week for an hour each time, which doesn’t include the countless hours outside of practice that members needed in order to become accustomed to the various operating systems that they were unfamiliar with, especially the strategies needed for the competition,” said Si.

The Silicon Knights have been to National Finals three previous times, in 2016, 2018 and 2020. The members join the CyberPatriot team. They practice and compete outside of their regular drill time since they represent the nation’s only Sea Cadet band.

Team Spartan is like Team Silicon Knights in the type of dedication these cadets displayed.

“Most learning took place independently via school classes, independent practice, and team collaboration,” said Foreman. “These cadets are passionate about preparing for CyberPatriot competitions. They spend countless hours preparing for each competition.”

The Sea Cadets who participate and lead the teams, such as Chief William Smith, who serves as the captain of Team Spartan, said participating in CyberPatriot has been an unforgettable experience for each of them and they are honored to represent the Sacramento Division again this year.

“CyberPatriot has provided Team Spartan the unique opportunity to broaden our cybersecurity skills through learning from real-world scenarios and threats,” Smith said. “We are very grateful for the tremendous support from Sacramento Division of the Sea Cadet Organization. The discipline, teamwork, and leadership skills we’ve trained have helped us qualify for National Finals in the past five years.”



Band of the West and Sacramento Division Sea Cadet teams at the 2019 CyberPatriot finals. *U.S. NAVY SEA CADET CORPS*

Foreman added that new team members experience a steep learning curve, but senior team members mentor the new cadets and foster their skills.

"Overall, the success of team Spartan is not forced. Rather, it is fueled by their desire and personal interest," said Foreman.

Ikehara said she enjoys teaching the youth about cybersecurity, and her motivation to instruct the youth centers on introducing them to cybersecurity career paths, but more importantly to training them to be vigilant cyber citizens in everyday life.

The Silicon Knights team has a better understanding of cybersecurity from participating in CyberPatriots.

“Understanding cybersecurity is crucial to ensure safety as the world moves toward automation and increases its reliance on computers. It is also important to understand how to secure a computer and ensure that it has no vulnerabilities that can be exploited,” said Si.

Each member spends at least 80 hours of instructor-led and online courses each season. Many of the cadets spend more hours on their own to study and research materials on their own.

“We have great resources to tap into and of course, it furthers esprit de corps and brings pride to our unit. We are also proud to serve and represent the NSCC on a national level,” said Lt. Cmdr. Jo-Anne Dao, commanding officer, Band of the West Division. “I always remind my cadets that this is their team, not mine. And they may take it as far as they wish, but I am here to offer support in any way or form for them to succeed. But ultimately, it is their hard work, determination, and teamwork that will get them to where they want. Great life lessons here.”

For the Silicon Knights Team, many of their youth members start as middle schoolers and continue to the high school team. In the past six years, their team has consistently achieved the Platinum tier. The unit has a second high school team, the Silicon Ensembles, which has also achieved 1st place in the state awards in season 10.

Dao emphasized the sheer level of training, commitment and talent that went into competing this year.

“The Silicon Knights must be in good standing in the Band of the West in order to even participate,” she said.

This means that in addition to the weekly drill, team members train, practice, and compete outside drill hours from November through March. This is a huge commitment from cadets and staff,” said Dao, but all that effort definitely paid off.

“For me, I am just so proud of my cadets. They come from all over the San Francisco area from different backgrounds and they all work together as a team to make it this far,” said Dao.

She added that the cadets competing in CyberPatriot are also based in Silicon Valley and from her vantage point, it is important because so many cadets have an interest in this field for future careers.

Lt. Cmdr. Jeffery Dao, who is married to Jo-Anne Dao, serves as the regional director for the U.S. Naval Sea Cadet Corps.

“We are so proud of the cadets and grateful to Lt. j.g. Ikehara for making this opportunity possible,” said Dao, who serves as the executive officer for Band of the West, was thankful to the Navy League Marin County Council for their financial support and the Navy League STEM Grant which allowed his unit to equip its cadets with the computing gear and instructional materials needed for this training. “U.S. Naval Sea Cadet Corps units should apply for STEM grants,” he said.

Teledyne FLIR Defense to Service U.S. Navy and Coast Guard Sensor Systems

THOUSAND OAKS, Calif. – Teledyne FLIR Defense, part of Teledyne Technologies, announced Feb. 9 that the U.S. Naval Surface Warfare Center has awarded the company an indefinite delivery, indefinite quantity contract worth up to \$43.9 million to service electro-optical sensor systems used for intelligence, surveillance and reconnaissance.

The contract will provide replacement parts and technical support for several land- and sea-based systems used by the United States Navy and Coast Guard, including the BRITE Star II, the Sea Star SAFIRE III, and the Star SAFIRE 380-HD.

In addition to the IDIQ award, the Defense Logistics Agency also recently awarded Teledyne FLIR two contracts with a combined value of \$16.2 million to procure BRITE Star II multi-sensory imaging systems. Those systems will support the U.S. Navy/Marine Corps H-1 program.

“Our commitment to product service and support ensures customers derive the highest level of performance over the lifespan of every system we offer,” said JihFen Lei, executive vice president and general manager of Teledyne FLIR Defense. “We’re proud to provide the U.S. Navy, Coast Guard, and Marine Corps with world-class surveillance technology and help them maintain these sensors to detect any threat, anywhere, on land, maritime and airborne platforms.”

The Star SAFIRE and BRITE Star family of systems are manufactured in Wilsonville, Oregon, and offer users superior image stabilization, ultra-long-range performance and internal navigation for precise targeting. The systems are fully hardened for military fixed-wing and helicopter operations and include a mid-wave infrared thermal imager, low-light cameras and multiple laser payload options.

AARGM-ER Completes 2nd Successful Missile Live Fire

Test



An AARGM-ER is successfully launched from a U.S. Navy F/A-18 Super Hornet during a recent test at the Point Mugu Sea Range, California. *U.S. NAVY*

LOS ANGELES – Northrop Grumman Corp. announced Feb. 7 the successful completion of the second flight test of its AGM-88G Advanced Anti-Radiation Guided Missile Extended Range.

The U.S. Navy launched the missile from an F/A-18 Super Hornet aircraft Jan. 21 at the Point Mugu Sea Range off the coast of southern California. The missile performed an extended range profile, engaging a land-based, emitter target staged at the range on San Nicholas Island.

“This second flight test verified AARGM-ER’s ability to detect, identify, locate and engage a land-based air defense radar system from an extended range,” said Captain A.C. Dutko, Navy Program Manager for Direct and Time Sensitive Strike (PMA-242). “Through the exceptional efforts of our government-

industry team, we are another step closer to delivering capability to suppress the most advanced adversary air-defense systems without putting our warfighters in danger.”

Since achieving a milestone C decision (authorization for low-rate initial production) in September 2021, AARGM-ER prime contractor Northrop Grumman has continued to lead its industry team in developing the system. Northrop Grumman is currently under contract to deliver production units of AARGM-ER to support a 2023 initial operational capability fielding. In December 2021, Northrop Grumman received a \$45.6 million contract for the second lot of AARGM-ER LRIP.

AARGM-ER leverages existing state-of-the-art AARGM sensors, electronics and digital models with the addition of a new high-performance air vehicle, solid rocket motor propulsion system and advanced warhead.

“AARGM-ER provides the U.S. Navy with the capability to stay ahead of evolving threats,” said Mary Petryszyn, corporate vice president and president of Northrop Grumman Defense Systems. “This flight test further demonstrated the critical capability of AARGM-ER to precisely engage long-range threats, while enabling launching aircrew to remain at a safe distance.”

AARGM-ER is being integrated on the Navy F/A-18E/F Super Hornet and EA-18G Growler aircraft as well as F-35A/B/C aircraft.