

# SAIC Wins Contract to Support U.S. Navy Networks

RESTON, Va. – Science Applications International Corp. has been awarded a \$163 million contract by the U.S. Navy to support design, development, integration, modernization, sustainment and life cycle support to shore networks, network components and network service solutions for the Naval Information Warfare Center Pacific Shore Networks Branch located in San Diego, the company said Aug. 25.

Under the contract, SAIC will maintain Naval Enterprise Networks for all shore-based U.S. Navy commands and personnel critical to the Navy's day-to-day operations, as well as supporting command and control of U.S. Navy units deployed by operational commanders.

"SAIC is honored to build on our work supporting the U.S. Navy and NIWC Pacific," said Bob Genter, SAIC president, Defense & Civilian Sector. "We are focused on delivering valuable support and solutions to a range of U.S. Navy network challenges and initiatives."

NIWC Pacific provides technological and engineering support critical to information warfare for the U.S. Navy, as well as for Marine Corps, Air Force, Army and Coast Guard programs. Systems development and support includes basic research and prototype development through systems engineering, and integration to life cycle support of fielded systems.

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# George H.W. Bush Carrier Strike Group Enters the Mediterranean Sea



Ships from the George H.W. Bush Carrier Strike Group (GHWBCSG) transit the Atlantic Ocean following a straits transit training event. *U.S. NAVY / Mass Communication Specialist Seaman Apprentice Samuel Wagner*

STRAIT OF GIBRALTAR – The George H.W. Bush Carrier Strike Group, embarked aboard the Nimitz-class aircraft carrier USS George H.W. Bush (CVN 77), transited the Strait of Gibraltar and entered the Mediterranean Sea as part of a regularly scheduled deployment in the U.S. Naval Forces Europe-Africa area of operations on Aug. 25, the group's public affairs office said.

The strike group ships, squadrons and staff departed from the

United States earlier this month, aggregating as a strike group in the Atlantic Ocean before beginning the transit through the Strait of Gibraltar.

“We are here to provide the flexibility and combat power that only a U.S. Navy carrier strike group can provide combatant commanders,” said Rear Adm. Dennis Velez, commander, George H.W. Bush Carrier Strike Group, Carrier Strike Group 10. “The Sailors of the George H.W. Bush Carrier Strike Group are clear-eyed about our mission, ready to execute, and prepared to reassure our partners and allies while allowing our diplomats to negotiate from a position of strength, knowing the U.S. Navy is on station.”

While in the NAVEUR-NAVAF area of operations, the strike group will work alongside allied and partner maritime forces, focusing on theater security cooperation efforts to further regional stability and demonstrate the strong maritime partnership between the U.S. and these allies and partners. This marks the first time that USS George H.W. Bush has operated in the region since its 2017 deployment, after which it entered an extensive maintenance period.

Prior to deployment, the carrier strike group completed its final certification exercise with the Italian Navy destroyer ITS Caio Duilio (D 554) as part of the team. Later in the same exercise, the strike group came under the leadership of Naval Striking and Support Forces NATO to flex command and control between U.S. and NATO chains of command, highlighting integration and interoperability between partners and allies.

Carrier strike groups are an inherently flexible naval force capable of deploying across combatant commands to meet emerging missions, deter and defend against potential adversaries, enhance security, reassure allies and partners, and guarantee the free flow of commerce in the region.

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# Ohio-Class Submarines Work with USAF and USMC During VERTREP



An MH-60R Seahawk helicopter, assigned to the “Wildcats” of Helicopter Sea Combat Squadron 23, delivers supplies to the ballistic missile submarine USS Nevada (SSBN 733) during a vertical replenishment at sea. U.S. NAVY

NAVAL BASE KITSAP, BANGOR, Wash. – Two Ohio-class ballistic missile submarines demonstrated their ability to replenish while operating at sea during a series of vertical replenishment exercises off the coast of California July through August 2022, said Submarine Group 9 public affairs.

During the exercise, the Ohio-class ballistic missile

submarines USS Nevada (SSBN 733) and USS Henry M. Jackson (SSBN 730) operated jointly with U.S. Navy MH-60R Seahawk helicopters, U.S. Marine Corps MV-22 Ospreys, and U.S. Air Force C-17 Globemaster IIIs.

“Recently the Pacific SSBN submarine force exercised a vertical replenishment capability for at-sea SSBNs to prove our resiliency for worldwide operations and to replenish our ships with materials, food and operational gear,” said Capt. Kelly L. Laing, director of maritime operations for Commander, Task Group 114.3. “This allows us to maintain an unpredictable forward presence and continued demonstration of the unmatched strength of our strategic forces.”

The event showcased the submarines’ ability to remain on mission and at sea while performing essential replenishment operations.

“Our fundamental mission is to deter a strategic attack, which is an existential threat to the United States and our allies.” said Rear Adm. Mark Behning, commander of both Submarine Group 9 and Task Group 114.3. “Testing our readiness ensures we maintain a safe, secure and reliable strategic deterrent force.”

The event was part of a U.S. Strategic Command exercise which highlights the interoperability of multiple U.S. military platforms in order to implement the strategic deterrence mission.

“Exercising these VERTREPs was a joint operation involving Marine and Air Force assets,” Laing said. “This shows our commitment to joint operations worldwide and between combatant commanders. This is important so that we don’t stovepipe ourselves under one community or brand. We are committed to operating together as a global force.”

This event is the latest in a series of efforts by the United States submarine force to look at alternative operations that previously required a submarine to be pierside to accomplish. For example, in May, the Ohio-class ballistic-missile submarine USS Alabama (SSBN 731) conducted an at-sea crew exchange, swapping out the blue and gold crews. This demonstrated the submarine's ability to continuously operate and stay on mission for longer periods of time while sustaining quality of life for the crews and their families.

"What this shows to our allies and adversaries is that we have the ability to keep our boats at sea," Laing said. "This shows them that we are ready."

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**Bahrain Conducts Fifth  
Sentinel Shield Exercise with  
IMSC; Includes Saildrone  
USV**



Royal Bahrain Naval Force patrol boat RBNS Ahmed Al-Fateh (P20) sails in the Arabian Gulf during exercise Sentinel Shield on Aug. 23. *U.S. COAST GUARD / Electronics Technician 1st Class Jason Pickens*

MANAMA, Bahrain – Forces from Bahrain and the United States completed a joint exercise in the Arabian Gulf on Aug. 23, led by a nine-nation coalition staff based in the Middle East, NAVCENT Public Affairs said Aug. 25.

Royal Bahrain Naval Force ship RBNS Ahmed Al-Fateh (P20) and U.S. Coast Guard patrol boat USCGC Baranof (WPB 1318) participated in exercise Sentinel Shield with a Saildrone Explorer unmanned surface vessel from U.S. 5th Fleet.

Sentinel Shield is a monthly exercise series organized by the International Maritime Security Construct (IMSC) to enhance communication and coordination among partner naval forces. This month's iteration was the first designed to integrate unmanned systems.

“The continued interoperability and coordination of U.S. and Bahraini naval assets are crucial to stability in the Arabian Gulf,” said Lt. Vaughn Gehman, commanding officer of Baranof. “Integration of unmanned systems is a force-multiplier for IMSC and its ability to detect and deter malign activity.”

IMSC was formed in July 2019 in response to increased threats to freedom of navigation for merchant mariners transiting international waters in the Middle East. Coalition Task Force Sentinel was established four months later to deter state-sponsored malign activity and reassure the merchant shipping industry in the Bab al-Mandeb and Strait of Hormuz.

The coalition is headquartered in Bahrain under U.S. 5th Fleet and includes forces from Albania, Bahrain, Estonia, Lithuania, Romania, Saudi Arabia, the United Arab Emirates, the United Kingdom and the United States.

“I was delighted to see our host nation participating in this month’s exercise, and especially pleased to again see Bahrain leading the way in unmanned systems integration,” said British Royal Navy Commodore Ben Aldous, commander of IMSC and CTF Sentinel.

In October, Bahrain was the first nation U.S. 5th Fleet partnered with after establishing a new unmanned systems and artificial intelligence task force. During a two-day training exercise, U.S. patrol craft and Bahrain Defense Force maritime assets sailed alongside Mantas T-12 unmanned surface vessels in the Arabian Gulf, marking the first time the platforms operated in regional waters.

“Incorporating unmanned systems into Sentinel Shield enables the coalition to plan for the future by developing and exercising concepts of employment that most effectively utilize this new technology to benefit the Sentinel mission and strengthen our coalition,” said Aldous.

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# Coast Guard Offloads \$3.1M in Seized Cocaine, Transfers Custody of 8 Smugglers



The Coast Guard offloaded 330 pounds of seized cocaine and transferred custody of eight suspected smugglers to Caribbean Corridor Strike Force agents in San Juan, Puerto Rico Aug. 24. *U.S. COAST GUARD*

SAN JUAN, Puerto Rico – The crew of the Coast Guard Cutter Legare and Caribbean Corridor Strike Force agents offloaded 330 pounds of seized cocaine Aug. 24 in San Juan, following the interdiction of a smuggling vessel near Puerto Rico, the Coast Guard 7th District said Aug. 25.

The eight men apprehended in this case claimed to be Dominican Republic nationals and are facing federal prosecution in Puerto Rico. The seized contraband has an estimated wholesale value of approximately \$3.1 million.

Special Agents supporting the Caribbean Corridor Strike Force are leading the investigation into this case. The apprehended smugglers are facing federal prosecution in Puerto Rico on drug smuggling criminal charges of conspiracy to possess with intent to distribute a controlled substance aboard a vessel subject to the jurisdiction of the United States. The charges carry a minimum sentence of 10 years imprisonment and a maximum sentence of imprisonment for life.

During the late night hours of Aug. 16, the aircrew of a Customs and Border Protection Air and Marine multi-role enforcement aircraft detected a 25-foot suspect vessel north of Isabela, Puerto Rico. During the interdiction, the smugglers jettisoned multiple bales of suspected contraband into the water. The Coast Guard Cutter Joseph Doyle stopped the suspect vessel, apprehended eight men and recovered five bales of the jettisoned cargo.

“This interdiction is an example of how successful interagency cooperation can be through the use of our collective resources,” said Lt. Cmdr. Charles Wilson, cutter Joseph Doyle commanding officer. “Customs and Border Protection Caribbean Air Marine Branch and the Coast Guard worked seamlessly to detect and interdict this suspected narcotics trafficking operation before it reached the shores of Puerto Rico.”

The seized contraband and the apprehended men were transferred to the cutter Legare for their final transport to Puerto Rico.

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# DARPA's NOMARS Program to Build, Test, Demonstrate First Unmanned Ship



A concept design for the NOMARS Defiant unmanned ship. *DARPA* ARLINGTON, Va. – DARPA is moving into Phase 2 of the No Manning Required Ship (NOMARS) program, which seeks to build and demonstrate a revolutionary new medium unmanned surface vessel that can go to sea and perform missions with unprecedented reliability and availability, while carrying a significant payload, the agency said Aug. 22. DARPA selected Serco Inc.'s design to move forward at the conclusion of Phase 1.

NOMARS took a clean-sheet approach to ship design, holding to the requirement there will never be a human on board the vessel while it is at sea, including during underway replenishment events. By eliminating all constraints and requirements associated with humans, NOMARS opened up the design space to novel ship configurations and capabilities that could never be considered for crewed vessels.

NOMARS is also pushing the boundaries on ship reliability.

Because there is no crew on board to perform maintenance, NOMARS required new approaches for power generation, propulsion, machinery line-up, and control schemes to ensure continuous functionality throughout a long mission in all weather, temperature, and sea states.

“NOMARS plans to demonstrate a next-generation completely unmanned ship that will enable entirely new concepts of operations,” said Gregory Avicola, program manager in DARPA’s Tactical Technology Office. “We will enable methods of deploying and maintaining very large fleets of unmanned surface vessels that can serve as partners, across the globe, for the larger crewed combatants of the U.S. Navy.”

In Phase 1, Serco developed a new Design Space Exploration toolset that can evaluate spaces with a variety of parameters and outputs millions of ship designs to meet a diverse set of performance objectives and constraints. Serco used their DSX tool to create a set of ship designs ranging from 170-270 metric tons, then refined those into a single ship for the preliminary design review, which the company dubbed Defiant. In Phase 2, Serco will finalize ship design, build the ship and work through a series of rigorous testing activities before taking it to sea for a three-month demonstration event.

Defiant will be the first of its kind. The 210-metric ton medium USV-class ship aims to maximize performance, reliability, and maintenance efficiency while still carrying significant payload at tactically useful ranges. The goal is to achieve ultra-reliability objectives by integrating distributed hybrid power generation, podded propulsors and high-capacity batteries.

A key philosophy of NOMARS is “graceful degradation,” which allows individual equipment to fail over time by having enough system-level redundancy to meet full system requirements at speeds of at least 15 knots after one year at sea. The major system components of the selected design are modularized, so

repairs can be conducted with equipment typically found in yacht yards worldwide. This maintenance philosophy supports rapid turnaround, allowing the ships to spend a majority of their lifetime at sea performing missions.

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## **NCMS to Test Ship Maintenance Tech in Navy's New REPTX Event**

ANN ARBOR, Mich. – NCMS will assist the U.S. Navy in keeping ships in top shape while at sea through the new Repair Technology Exercise (REPTX), taking place Aug. 22 through Sept. 2 at Naval Base Ventura County, the consortium said Aug. 24.

More than 60 technology suppliers are testing their products' capacity to tackle real-world fleet maintenance challenges, including assessing and repairing potential battle damage during REPTX's 12 days of technical demonstrations and field experiments aboard the Navy's Self Defense Test Ship, an asset of Naval Surface Warfare Center, Port Hueneme Division..

REPTX offers a unique opportunity to evaluate innovative products and services that could potentially help Sailors carry out the repairs needed to keep them underway. Industry and academic participants were identified and vetted via NCMS's engagement with its network of hundreds of innovative technology solutions providers.

"Our priorities as a warfare center are to deliver and sustain readiness, modernize and maintain the current fleet, and field the surface fleet of the future," said Capt. Andrew Hoffman,

NSWC PHD commanding officer. "REPTX demonstrates these priorities by allowing both industry, government and academia to work side-by-side while exploring innovative maintenance concepts that we can rapidly deliver to our forward-deployed warfighters."

REPTX participants include private industry, academia and government that will demonstrate technologies designed to address four focus areas: visualization, command and control aids, forward manufacturing and expeditionary maintenance.

During REPTX, the technology suppliers will test their solutions on NSWC PHD's Self Defense Test Ship, a 563-foot-long decommissioned Spruance-class destroyer the Navy uses to evaluate naval weapons and emerging technologies.

Naval Sea Systems Command's Naval Systems Engineering and Logistics Directorate Technology Office selected 65 technologies to take part in the event, including unmanned aerial vehicles and submersibles, additive manufacturing equipment, ship-to-shore communication systems, inspection and repair tools, and above- and below-water visualization devices.

REPTX will immerse the technologies in a variety of shipboard scenarios, such as loss of lighting, an unidentified object on the hull, pipe corrosion and leakage, and damage to the ship's superstructure.

"The format will provide a realistic fielding environment, both pier-side and underway, allowing teams the chance to field, adjust, learn and retest their solutions," said Janice Bryant, sustainment technology manager at Naval Systems Engineering and Logistics Directorate Technology Office and the sponsor of REPTX.

REPTX is part of the broader Advanced Naval Technology Exercise-Coastal Trident 2022, which began in June and runs to September, and which NSWC PHD organizes and aims to bolster

port and maritime security through field experiments involving emerging technologies and training events with law enforcement and other first responders.

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## **BAE Systems to Perform Extended Work aboard USS Ross**



The Arleigh Burke-class guided-missile destroyer USS Ross (DDG 71) transits the Mediterranean Sea Sept. 3, 2018. *U.S. NAVY / Mass Communication Specialist 1st Class Ryan U. Kledzik*  
NORFOLK, Va. – BAE Systems has received a \$107.7 million contract from the U.S. Navy to modernize the guided-missile destroyer USS Ross (DDG 71), the company said Aug. 24.

Under this extended dry-docking selected restricted

availability contract, the company will perform the modernization work at its Norfolk, Virginia shipyard. The contract includes options that, if exercised, would bring the cumulative value to \$123.8 million.

BAE Systems will dry-dock USS Ross to perform maintenance on the underwater hull, repair the ship's main propulsion system, preserve internal ballast and fuel tanks and external superstructure and rehabilitate crew berthing and dining compartments. The modernization project is scheduled to take more than 500 days and be completed in April 2024. Once complete, the ship will be capable of serving in the fleet for another 10 years. The 16-year-old ship recently completed a seven-year operational period in Rota, Spain as a forward-deployed U.S. Navy combatant.

"This is an important job for our employees, subcontractors, and the Navy to accomplish," said Mike Bruneau, vice president and general manager of BAE Systems Norfolk Ship Repair. "We look forward to meeting the long-term maintenance goals for USS Ross to sustain the future capability and readiness of the ship."

The USS Ross was commissioned in June 1997. The ship is named after the first Medal of Honor recipient of World War II, Donald K. Ross. While serving aboard the battleship USS Nevada (BB 36) during the attack on Pearl Harbor on Dec. 7, 1941, Ross valiantly helped the badly damaged ship get underway during the attack. USS Ross is part of the Arleigh Burke class of destroyers.

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# Navy Ready to Christen New Overlord USV 'Mariner'



The Navy's newest medium unmanned surface vessel, soon to be christened Mariner, on display at the U.S. Naval Academy in Annapolis. *RICHARD R. BURGESS*

ANNAPOLIS, Md. – The U.S. Navy's newest Overlord medium unmanned surface vessel (MUSV) is moored at the U.S. Naval Academy in Annapolis, Maryland, for its Aug. 23 christening ceremony after a period of tours by dignitaries, Navy officials, academy midshipmen and media reporters.

The MUSV, produced by prime contractor Leidos, with Gulf Craft of Franklin, Louisiana, as the builder, is to be christened "Mariner" by Stacy Small, wife of Capt. Pete Small, program manager for Unmanned Maritime Systems in the Program Executive Office, Unmanned and Small Combatants (PEO-USC).

The Mariner is the fourth Overlord MUSV to be acquired by the Navy, although the third vessel, Vanguard, is still under construction. The first two Overlord MUSVs, Ranger and Nomad, were built under the Strategic Capabilities Office's Ghost Fleet Overlord Program and transferred to the Navy early in 2022. They are assigned to Unmanned Surface Vessel Division One in San Diego, California and participated in the Rim-of-the-Pacific Exercise off Hawaii this summer.

The Mariner, delivered to the Navy in March, recently completed a period at Little Creek, Virginia, for installation of some government-furnished equipment, said Brian Fitzpatrick, principal assistant program manager. Eventually it will be transferred to USV Division One via a transit of the Panama Canal.

Rear Adm. Casey Moton, program executive officer, PEO-USC, said the Overlord program is leveraging both at-sea and land-based testing. The at-sea testing is used to evaluate the performance of the MUSV in a corrosive salt-water environment.

Casey pointed out that each of the four Overlord vessels is different, with a variety of different hull, mechanical, and engineering systems and mission systems. Each MUSV also is evaluated with different mission systems that are changed out.

The Mariner, halfway built when the Navy bought it, is based on a fast supply vessel designed to service offshore oil rigs. The vessels are already significantly automated.

The MUSV is equipped with satellite communications; three radars of different bands; a mast-mounted electro-optical sensor, an electro-optical/infrared system camera system on six sides of the ship; Link 16; and several radios.

The Mariner, for example, can carry two 20-foot containers and four 40-foot containers on its aft section. The containers can

contain mission systems, spare parts, weapons and other systems.

The Mariner can accommodate a small crew – including two merchant marine captains – as needed while the technology and concepts of operation for the MUSVs are evaluated. Fitzpatrick showed reporters the “red button” at the bridge control panel that allows a captain to take control of the ship if needed.

The Mariner is powered by five 2,000-horsepower diesel engines that drive five water jets. The ship also is equipped with bow thrusters. The ship was built with two generators but a third was installed by the Navy to provide power for the expected needs of the payloads, some of which may be deployed on the ship with their own power and cooling systems.

Redundancy is necessary on an unmanned ship more than a manned ship, and for each of its diesel engines the Mariner is equipped with three oil filters instead of one.

### **‘Pushing Boundaries’**

The admiral said the Overlord vessels are designed to deploy in open oceans but declined to say they would be deployed to the Western Pacific, noting that the Ranger and Nomad deployed to Hawaii for RIMPAC.

Fitzpatrick said the Overlord MUSVs will need to be able to be refueled at sea, currently conducted by an onboard crew.

“We have to work through that,” he said.

Fitzpatrick said the program is collecting massive amounts of data – 400 terabytes so far – and has started to process it.

Moton said the Overlord program will influence the discussion in Congress and the Navy on the value and operation of MUSVs and that the program will have an impact beyond the U.S. Navy into the international maritime market, including commercial operations.

The Vanguard will be longer than the Mariner – 205 feet vice 19 feet – with a wider beam and greater capacity for payloads. Fitzpatrick said the program is “purposely pushing boundaries” with the Vanguard.

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## **Marine Corps Study on Body Composition Leads to Change**

MARINE CORPS BASE QUANTICO, Va. – The U.S. Marine Corps’ Training and Education Command, in collaboration with the United States Army Research Institute of Environmental Medicine, recently concluded a year-long study to evaluate current body composition standards and ensure service standards optimize health, performance, and fitness, Headquarters Marine Corps said in a release

Gen. David Berger, commandant of the Marine Corps, received the study’s findings and made the following decisions: the performance exemption for Marines who score a 285 or higher on their fitness tests will remain in place. Prior to assigning Marines to the Body Composition Program, commanders will assess body composition using more advanced body composition methods effective Jan. 1, 2023; and a 1% increase in total allowable body fat for female Marines, also effective Jan. 1.

The Marine Corps will codify these changes via official messages in the coming months. This announcement is being published ahead of official and final changes to the policy because the Marine Corps recognizes needed change cannot wait.

“This study marks a milestone in understanding the health and

performance of our Marines,” said Berger. “Our primary focus in the Marine Corps is the individual Marine and this study is a pivot point. We will continue to learn and explore additional modifications to our body composition program.”

This study was one of the most technologically advanced studies on the topic since the 1980s, drawing participation from a diverse group of 2,173 Marines, including 1,435 men and 738 women, 196 of whom were postpartum. The study was conducted at three locations: Marine Corps Bases Quantico, Virginia; Camp Lejeune, North Carolina; and Camp Pendleton, California.

“Ultimately, this is about warfighting. We need to find the most practical, accurate, and unbiased method of measuring body composition to maintain a healthy, ready force,” said Berger. “In order to make changes, we have to understand the impacts and availability of our proposed alternative methods. This will take some time to get it right, but we owe it to our Marines to move quickly. We continue to make changes across the force that aim to better take care of our most important asset – our Marines.”

Every participant was first assessed utilizing methods that measure the size and proportions of the human body via height, weight, and the current service wide tape test.

Then, participants received three assessments that measure tissue density. The first assessment was a Dual Energy X-Ray Absorptiometry scan, the most accurate means to estimate body fat, lean body mass and bone density. The second assessment was a 3D body scan using a two-compartment model approach to assess fat and lean mass. The third method was through bioelectrical impedance analysis, which uses an imperceptible electrical current to estimate lean mass and fat mass.

Finally, the performance assessment, called the Counter Movement Jump, was conducted on a force plate designed to

measure the forces and movement applied when conducting an upward jump.

Going forward, the Marine Corps will still conduct height and weight measurements with the accompanying tape test. The research concluded that the tape test correctly identifies 91.6% of male Marines and 92% of female Marines as over the allowable body fat. Under this new process, the 0.6% of male and 6.3% of female Marines who are erroneously identified as exceeding body fat standards by the tape test would be correctly identified within standards by completing the Dual Energy X-Ray Absorptiometry scan.

“Our research demonstrated the taping method is still a viable solution to determine if a Marine is within an optimal body composition range. However, we recognize that a more scientifically advanced method of determining body composition is required before a Marine is assigned to a program that could have career implications,” said LtGen. Kevin Iiams, commanding general, Training and Education Command.

Therefore, under this policy, Marines who are identified as over their allowable body fat percentage when taped will receive a DEXA or BIA scan to ensure body fat percentage accuracy prior to enrollment in the body composition program.

“We also recognized that male and female Marines’ body composition standards did not similarly compare to performance-related body fat. Female standards were leaner than the males,” said Iiams. “We have updated the maximum percentage allowed for females to reflect what the science told us was an equally-balanced and standardized body composition across the force.

“These are likely not the last changes to come for the body composition program,” said Iiams. “We are a learning organization and will continue to refine these important

health and readiness-programs as we collect more data.”