

Effort Underway to Extend Service Life of Light Armored Vehicles

MARINE CORPS BASE QUANTICO, Va. – The fleet of Marine Corps Light Armored Vehicles (LAVs) will begin receiving a number of necessary upgrades under the terms of a \$37.2 million contract awarded Jan. 4. General Dynamics Land Systems-Canada will perform the work, which includes the procurement of 60 hardware kits in support of the Light Armored Vehicle Reset Program. The enhancements are designed to extend the service life of the LAV into the 2030s.

Embedded in their original design, LAVs combine speed, maneuverability and firepower to perform a variety of functions, including security, command and control, reconnaissance and assault. The first LAVs were initially fielded in 1983.

The reset effort will focus on five key areas:

- Modernized powerpack to improve reliability, cooling capacity and diagnostics with the added benefit of better fuel economy.
- New drive train which will improve towing capability.
- Steering dampener to improve road feel and usability.
- Digitized drivers' instrument panel.
- LAV 25 slip rings – doubling power supply capability to the turret and modernized to handle additional channels for gigabit Ethernet, video and fiber optics.

“The Marine Corps is committed to ensuring this platform remains viable into the 2030s,” said Steve Myers, LAV program

manager.

Active light armored reconnaissance battalions will be the first units to receive the upgraded vehicles, which will become LAV A3s.

The hardware kits will be installed at Marine Corps Depots, with initial operational capability targeted for the second quarter of fiscal 2021.

The contract was awarded through the Army Contracting Command in Warren, Michigan.

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**Heavy Deployment Schedule
Limiting Marine Corps**

Training Time

ARLINGTON, Va. – The Marine Corps is meeting its global commitments and national mission to be the ready expeditionary force but needs a reduction in its current high deployment rate to allow it to train the force for a possible future high-end fight, the Corps' top resource officer said Jan. 16.

With one-third of its operating forces currently deployed overseas, "our surge forces on each coast are ready to go now," and Marine forces "are responding and competing in every corner of the globe, providing critical deterrence, and when deterrence fails, they'll fight and win," Lt. Gen. Brian Beaudreault, the deputy commandant for Plans, Policy and Operations, said at the Surface Navy Association's annual symposium.

While giving a generally positive view of the Corps status, with aviation readiness improving and its expeditionary forces supporting the anti-terrorism mission and training with allies and partners, Beaudreault presented a long list of things the Marines need to prepare for the future.

Those requirements included increasing the self-protection and offensive capabilities of the amphibious ships, moving toward the goal of 38 gators, continuing experiments with alternative platforms, including the littoral combat ship as a possible troop carrier and armed escort, and improving its long-range precision fires.

It also needs to improve its capabilities in information warfare, cyber defense, "protected mobility" with the Joint Light Tactical Vehicle and Amphibious Combat Vehicle, the multimission group five unmanned aerial vehicle program called MUX, and air defense capabilities.

Beaudreault gave significant emphasis to the growing threat from Chinese area-denial defense capabilities to the naval

forces' ability to project power where needed, saying the Navy-Marine team must "maintain freedom of maneuver, leveraging freedom of the sea, using land-based expeditionary bases to hold adversary's assets at risk ... [and] deliver long-range precision fires from land and sea base to achieve sea control or sea denial."

While urging faster acquisition of amphibious ships, he said the Marines must do better with what they have and "need to increase the offensive lethality of amphibious warships to meet the contested environment."

He said the amphibious fleet "must integrate organic vertical launch offensive and air defense capabilities and reduce its electronic signal."

But when asked, he said he did not know of any current program to add vertical launch systems in existing amphibs or put them in the LPD 17 variant being planned to replace the aged dock landing ships.

Beaudreault said the Marines were addressing future readiness on two paths – first, to meet its statutory mission of providing ready forces, and then preparing the force to combat potential peer adversaries. The second path requires relief from its heavy deployment schedule, he said.

The Corps was operating at a one-to-two deploy-to-dwell rate, which he said was a "short-term decision made to balance modernization, satisfy global demand and meet the current requirement to regain readiness."

The current deploy-to-dwell pace "does impact the Corps' ability to execute a high-end combat mission" because of limited training time, he said.

If they added more people to reduce that deploy-to-dwell burden, it would create budget stress on modernization and readiness, he explained.

“So over time, we will need to reduce operational commitments in order to return forces back to CONUS [continental United States] and to get us into the desirable one-to-three” pace.

Talking to reporters after his remarks, Beaudreault said aviation readiness has improved after two years of increased budgets allowed an increase in depot maintenance, supply of spare parts and trained maintainers at the squadron level. He touted the F-35Bs for maintaining a high mission-capable rate on the first two at sea deployments.

And he said he was not concerned that the Marines would be unable to meet their recruiting goals with the current low unemployment rates, as the Army experienced last year.

“I have no reason to be greatly concerned,” he said. Having met their quotas every year for more than a decade, “we hope the past is an indicator of the future.”

LAV Anti-Tank Weapon System to Reach FOC By End of 2019

MARINE CORPS BASE QUANTICO, Va. – The Marine Corps continues to upgrade the turret system for one of its longest-serving fighting vehicles – the Light Armored Vehicle-Anti-Tank (LAV-AT).

In September 2017, Marine Corps Systems Command’s (MCSC’s) LAV-AT Modernization Program Team achieved initial operational capability by completing the fielding of its first four Anti-Tank Light Armored Vehicles with the upgraded Anti-Tank Weapon Systems (ATWS) to Light Armored Reconnaissance Battalion Marines.

The ATWS fires the tube-launched, optically tracked, wire-guided – or TOW – missiles. It provides long-range standoff anti-armor fire support to maneuvering Light Armored Reconnaissance companies and platoons. The ATWS also provides an observational capability in all climates, as well as other environments of limited visibility, thanks to an improved thermal sight system that is similar to the Light Armored Vehicle 25 mm variant fielded in 2007.

“Marines using the new ATWS are immediately noticing the changes, including a new far target location capability, a commander/gunner video sight display, a relocated gunner’s station, and an electric elevation and azimuth drive system, which replaced the previous noisy hydraulic system,” said Steve Myers, LAV program manager.

The ATWS also possesses a built-in test capability, allowing the operators and maintainers to conduct an automated basic systems check of the ATWS, he said.

The LAV-ATM Team continues to provide new equipment training (NET) to units receiving the ATWS upgrade, with the final two training evolutions scheduled for early this year. Training consists of a 10-day evolution with three days devoted to the operator and seven days devoted to maintaining the weapon system. Follow-on training can be conducted by the unit using the embedded training mode within the ATWS.

“This vehicle equips anti-tank gunner Marines with a modern capability that helps them maintain readiness and lethality to complete their mission,” said Maj. Christopher Dell, LAV operations officer.

Full operational capability for the ATWS is expected at the end of fiscal year 2019.

“Currently, there are 58 in service within the active fleet,” said Myers. “The original equipment manufacturer delivered 91 of the 106 contracted kits and is ahead of schedule. Now

MCSC's focus is directed at the Marine Corps Forces Reserve, ensuring they receive the same quality NET and support as their active counterparts."

Marine Special Task Force Deployed with Colombian Deputy Commander

ARLINGTON, Va. – A Special Purpose Marine Air-Ground Task Force (SP-MAGTF) returned from a five-month deployment to Latin America last month as the first to deploy with a deputy commander from a partner nation.

"We were the first SP-MAGTF to incorporate a partner-nation officer into our formation," said Col. Michael H. Oppenheim, commanding officer of SP-MAGTF-Southern Command for the 2018 deployment, speaking Jan. 11 at the Potomac Institute. "He was a lieutenant in the Colombian Marine Corps, [recently] out of battalion command."

The unnamed officer in the Personnel Exchange Program joined the SP-MAGTF at Camp Lejeune, North Carolina, for predeployment training and returned to Colombia last week.

"We were able to effectively incorporate him into the formation," Oppenheim said, noting that the Colombian officer was very helpful in untangling bureaucratic and diplomatic situations that cropped up and smoothed the way.

"He was able to dovetail right into our efforts," Oppenheim said.

The SP-MAGTF-Southern Command deployed to several Central

American nations from June to December, operating mostly in small teams for Theater Security Cooperation, such as weapons training and humanitarian aid. The U.S. Marines and Sailors in the force consisted of 113 active-duty and 117 Reserve personnel, plus one U.S. Army officer and the Colombian officer. The force included four CH-53E heavy-lift helicopters and one KC-130 tanker/transport aircraft.

The deployment was timed for hurricane season to be available to provide disaster relief, but no hurricanes savaged the region. There was one volcano eruption in Guatemala that caused hundreds of casualties. A group of Marine engineers working with the SP-MAGTF was deployed to aid in the relief efforts.

This deployment also was the first of an SP-MAGTF-Southern Command to venture into South America, operating with the armed forces of Chile, Argentina, Brazil, Peru and Colombia.

The Colombian officer "helped seal the deal for us in many cases," Oppenheim said.

"He has more combat experience than I have," Oppenheim said, noting the officer's long experience fighting guerrillas in Colombia's long counter-insurgency war in-country.

Oppenheim pointed out that deployments like the one recently concluded helped to build readiness as the Marines were "doing real-world things," and that the interaction with partner nations would yield immeasurable benefits in the future by building trust among the militaries and civil officials and providing material assistance in the form of humanitarian and disaster relief.

Coast Guard, Partners Recover Section of Downed Jet off Oahu

HONOLULU – Personnel from the Coast Guard and the State of Hawaii oversaw local salvor's recovery of a section of the fuselage from a Hawker Hunter aircraft, downed initially in December, off Honolulu, Jan. 8.

“Using a blend of local salvage assets, remote engineering guidance, and advanced sensing technology sourced from the mainland, the locally based salvage company Parker Marine Corp. has completed the next stage of the aircraft salvage,” said Chief Warrant Officer Russ Strathern, a marine safety specialist, and response officer at Sector Honolulu. “The main section of the fuselage containing residual oil and potentially hazardous substances has been salvaged and transported to a staging location for the ongoing National Transportation Safety Board-led investigation.”

Strathern also noted, “Because of the incident complexity and operational environment, this evolution was technically challenging. The aircraft owners worked tirelessly with the salvor and jurisdictional authorities to safely mitigate the threat to the public and environment, all while preserving evidence critical to future root-cause analyses. I’m pleased to note that there were no reported injuries after the initial accident or impacts to wildlife, these are great measures of success, and indicative of the hard work of the involved parties.”

Following exhaustive searches, the fuselage was positively identified in 260-foot of water by a remotely operated vehicle (ROV) in early January. After analyzing the data from the ROV, the salvor consulted with an engineer, formulated a plan, and

received concurrence from the Coast Guard to proceed.

Using the ROV, the salvage company lassoed the tail of the aircraft wreckage with line and slowly raised it to the surface. The team towed the section to a haul-out point designated by the State's Department of Land and Natural Resources Division of Boating and Ocean Recreation Division. Following the section's removal from the water, it was transported by truck to Marine Corps Base Hawaii, where the National Transportation Safety Board will continue its investigation into the cause of the crash.

Throughout the operation, the Coast Guard worked closely with representatives from the Hawaii State Department of Health Hazard Evaluation and Emergency Response and Department of Land and Natural Resources offices to monitor the salvage and recovery efforts.

"With the removal of this section, which contained the aircraft's engine, any oil or hazardous substances from the aircraft has either been removed or naturally dissipated and the remaining pieces do not pose a significant or substantial threat to the public or environment," Strathern said. "Any future actions related to the crash site or remaining debris will be coordinated with the State's Department of Land and Natural Resources."

The privately owned aircraft crashed in December while participating in the Hawaii Air National Guard-sponsored training exercise Sentry Aloha. The pilot ejected before the crash and was rescued by the Coast Guard with the assistance of nearby good Samaritans.

Additional TROPHY Active Protection Systems Provided to Army and Marine Corps

ARLINGTON, Va. – Leonardo DRS Inc. has been awarded an undefinitized contract action initially worth \$79.6 million to provide the U.S. Army and Marine Corps with additional TROPHY Active Protection Systems, Rafael Advanced Defense Systems Ltd. said in a Jan. 9 release. This brings the total funded value of the program to over \$200 million.

Developed by long-time partner Rafael Advanced Defense Systems Ltd. of Israel, TROPHY provides combat-proven protection against anti-armor rocket and missile threats, while at the same time locating and reporting the origin of the hostile fire for immediate response.

“Leonardo DRS is proud of the confidence shown by the Army in deciding to field TROPHY to even more U.S. combat brigades,” said Aaron Hankins, vice president and general manager of the Leonardo DRS Land Systems division. “Together with our Rafael partners, we are fully committed to meeting our customers’ demands and are working in parallel to further address the urgent protection needs of other U.S. platforms.”

The DRS and Rafael team led a successful demonstration featuring a new, lighter TROPHY VPS variant on a Bradley Fighting Vehicle in Israel in August. The team will also be participating in the Army’s Stryker Expedited APS demonstration “rodeo” in February.

“Rafael does not stand still. TROPHY VPS provides the same capabilities and performance as TROPHY in a significantly smaller package,” said Moshe Elazar, executive vice president and head of Rafael’s Land and Naval Division. “We are also leveraging our global leadership in both active protection

(close to 1,500 TROPHY systems) and medium-caliber remote weapons systems (over 1,000 systems), to offer the mature, reliable, lightweight Samson turret, which combines both capabilities. Given our wide customer base and existing production lines for both, Samson is a capable, affordable, low-risk solution for the U.S. Army's Next Generation Combat Vehicles, other programs in Israel and other markets."

ONR Recognizes 2019 Young Investigators

ARLINGTON, Va. – The Office of Naval Research (ONR) recognized 25 awardees of the 2019 Young Investigator Program (YIP) Dec. 17. These recipients will share \$16.5 million in funding to conduct naval-relevant scientific research with direct benefits for Sailors and Marines.

"To meet the demand signal from the National Defense Strategy, we must attract the best and brightest minds to work on naval warfighting challenges. The Young Investigator Program does just that, and I'm honored to announce the recipients for 2019," said Chief of Naval Research Rear Adm. David Hahn. "Since 1985, this program has attracted outstanding scientists and engineers from across academia to support our Navy and Marine Corps – and in this era of great power competition, that is more important than ever before."

The ONR YIP is a highly competitive program in which academic achievements and potential for scientific breakthroughs are major factors in the evaluation process. The winning candidates were selected from more than 260 applicants – all of whom are college and university faculty and obtained a PhD

within the past seven years.

Awardees represent 23 academic institutions nationwide, supporting efforts related to aerodynamics, autonomy, energetics, power and energy, machine learning, sensing and sensors, quantum materials and undersea-breathing technologies. The YIP awards support laboratory equipment, graduate student stipends and scholarships, as well as other expenses critical to ongoing and planned research. Typical grants range between \$500,000 to \$750,000 over a three-year period.

Established in 1985, the ONR YIP is one of the nation's oldest and most selective basic research early career awards in science and technology. Its purpose is to fund tenure-track academic researchers, or equivalent, whose scientific pursuits show outstanding promise for supporting the Department of Defense, while also promoting their professional development.

Marine Task Force Operates Across Africa During 'New Normal' Mission

ARLINGTON, Va. – A relatively small Marine Corps task force spent seven intense months operating across the vast expanse of Africa, focusing on the “New Normal” mission of ensuring there would be no repeat of the deadly 2012 attack on the American diplomatic compound in Benghazi, Libya, that killed the U.S. ambassador and three other Americans.

“New Normal dominated. ... That’s why we were there,” to support the State Department’s missions, Col. Adam L. Chalkey,

commander of the recently returned Special Purpose Marine Air-Ground Task Force (SPMAGTF) Crisis Response-Africa 18-2, said Dec. 14.

The task force's "No. 1 operational priority," and what he considered would be "the minimal mission success," Chalkey said, was "we could not have another Benghazi," with a loss of American lives.

Focusing on that mission, one of the SPMAGTF's five infantry platoons rotated on 24-hour alert status prepared to fly wherever needed to reinforce or evacuate a U.S. diplomatic facility that was threatened. That response force would have been augmented as required by additional personnel and transported by some of the unit's six MV-22 tiltrotor Ospreys, with aerial refueling and communications support by its three KC-130 tanker-transports.

Asked if he was confident that they could have met their primary mission, Chalkey noted that "there always is uncertainty" and some places in Africa are more unstable than others. But, he said, "I'm confident we're not going to have another flashpoint incident" like Benghazi.

He attributed that confidence to the fact that organizations that might think of attacking a U.S. installation "know we are there, able to respond," which serves as a deterrent.

And it was not just the SPMAGTF that could respond. The Marine unit was tied closely in with the U.S. European/Africa commands and the conventional and special operations forces under their authority, he said.

But while part of his force was standing that fly-away alert, the rest were conducting a staggering array of cooperative security exercises across most of Western and Central Europe and the vast expanse of Africa, as far from its European operating bases as Madagascar, which is nearly twice the east-west distance across the United States. Those operations

required a total of 3,077 flight hours, with no mishaps.

And he had to maintain a balance between standing alert and doing unit training, Chalkey said.

“If all we did was standing alert, we would not be able to train and stay mission-ready,” he said.

They were able to maintain that balance through the security cooperative arrangements and access to allied training areas. As a result, the colonel said his units returned home better trained than when they deployed.

“Even though our mission was New Normal, we were operating out of Europe ... taking full advantage of Europe and our strategic partners,” to keep his own force well trained and to help improve the combat capabilities of U.S. allies in Europe and Africa, Chalkey said at a Potomac Institute briefing.

The unit, which averaged about 850 Marines and Sailors, rotated between out of Moron, Spain, and Sigonella, Italy, with most of its time at the latter facility on the island of Sicily.

“The efforts of and the relationships built with our host nations, Spain and Italy, gave us the opportunity to train,” he said.

And they also were conducting security cooperation missions across Africa, “helping our partners mature their skills, to the point where they could export those skills to other African nations.” That was in keeping with the intentions of Marine Gen. Thomas D. Waldhauser, commander of the U.S. Africa Command.

L3 OceanServer Awarded Contract for UUV to Support the Marine Corps

FALL RIVER, Mass. – L3 OceanServer was awarded a contract to support the U.S. Marine Corps Systems Command with an Iver3 unmanned underwater vehicle (UUV) to be used for testing and evaluation, the company announce in a Dec. 13 release.

Over the past four years, L3 OceanServer has leveraged hundreds of thousands of operational hours on Iver vehicles to build a system with warfighter-driven attributes. With more than 300 vehicles sold to various customers worldwide, the Iver is a commercial, off-the-shelf product that delivers the latest advances in technology with proven performance in real-world situations.

The Iver is a purpose-built UUV that carries the highest-performance, man-portable sensor package available, including the iXBlue PHINS Compact Inertial Navigation System and the EdgeTech 2205B Bathymetry and Side Scan Sonar. The longer runtimes of the Iver, paired with its precise navigational accuracy, enable long ingress/egress missions to allow the operator greater standoff distances, increasing overall mission safety.

“L3 OceanServer has been focused on supporting the Marine Corps’ total mission profile,” said Daryl Slocum, general manager, L3 OceanServer. “We have incorporated their direct feedback into two of our vehicle platforms, the Iver3 and Iver4, to build a premier product that supports nearshore and very shallow hydrographic surveys.”

The Iver is an open platform and often the vehicle of choice for development programs interested in designing and testing new behaviors to be used across the fleet. Many of the recent

mine countermeasure behaviors and automatic target recognition algorithms were originally designed and validated on the Iver platform. Today, there are more than 50 Iver systems in use by the U.S. Navy.

L3 OceanServer is part of the Maritime Sensor Systems sector within L3's Communications & Networked Systems business segment.