

MEDIUM AND HEAVY TACTICAL VEHICLES

BY SCOTT R. GOURLEY



// Medium Tactical Vehicle Replacement (MTVR) variants include the dump truck, cargo, wrecker, and tractor.

MTVR and LSVR are joined by LVS, P-19 fire truck, and multiple trailers under PM MHTV.

One broad area that has witnessed significant programmatic transformation over the past year encompasses the Marine Corps medium and heavy tactical vehicle fleets.

Original Portfolio

The original PEO Land Systems portfolio contained two tactical vehicle systems: the Medium Tactical Vehicle Replacement (MTVR) and the Logistics Vehicle System Replacement (LSVR).

MTVR is a family of vehicles that perform a growing variety of logistics and tactical functions. Often called the "7-ton" due to its cross-country maximum load, it can carry up to 15 tons on the road. Manufactured by Oshkosh Defense, the vehicles were first fielded in 2001 as replacements for the obsolete M813 series, M923 series and M925 series vehicles.

The platforms have an on-road cruising range of 300 miles (483 kilometers), the ability to ford five feet (1.5 meters) of water, and can traverse a 60 percent gradient and 30 percent side slope with the maximum cross-country load. Operational performance is further enhanced by advanced technologies like the Oshkosh TAK-4® independent suspension system and Command Zone™ integrated control and diagnostics system.

MTVR variants include: Standard Cargo and Extended Wheel Base Cargo Trucks; dump trucks; tractors; wreckers; and High Mobility Artillery Rocket System Resupply Trucks. The vehicles are reducible or non-reducible height and about half are armored.

The LSVR system serves as the "heavy logistics" counterpart to MTVR. The LSVR is replacing the Marine Corps' aging Logistics Vehicle System (LVS), which incorporates the MK 48/MK 48A1 front power unit with associated Rear Body Units (RBU) to transport large quantities of supplies around the battlefield.

Developed by Oshkosh Defense, the LSVR includes three variants: MKR 18 Cargo, MKR 16 Tractor, and MKR 15 Wrecker. Company descriptions highlight the system as "One of the world's most technologically-advanced logistics platforms," pointing to its 22.5-ton (20,412 kilograms) on-road/16.5-ton (14,969 kilograms) off-road payload, 600 horsepower diesel engine, Command Zone™ integrated control and diagnostics, and factory-installed armor integrated into the initial vehicle design.

Oshkosh Defense photo

Program Realignments

The end of 2011 witnessed a significant portfolio expansion through the directed realignment of the entire Motor Transport portfolio from Marine Corps Systems Command Product Group 15 to the Program Executive Office. The realignment, which focused on the synergies to be obtained from consolidating similar capabilities, brought in programs like the current LVS, the P-19 series fire truck, and multiple trailer programs affiliated with medium and heavy tactical vehicles.

According to Program Manager Medium/Heavy Tactical Vehicles Bryan Prosser of PEO Land Systems, the program consolidation did not come as a complete surprise.

"I will admit that we went through several weeks if not a couple of months of anticipation and expectation without any of the specific details on the 'who, what and when' of the new portfolio. But we were still trying to plan for it and getting ready to make it happen," he said.



// The Logistics Vehicle System Replacement MK 15 Recovery Vehicle manned by Cpl. Adam R. Tornatore, wrecker operator, Support Company, Combat Logistics Battalion 4, 1st Marine Logistics Group (Forward), patrols near Sangin, Helmand province, Afghanistan. July 11, 2012. The truck provides the heavy lift capability to help recover stuck or damaged vehicles.

// LEFT: Cpl. Jeremy Arbogast, a motor transportation mechanic with Marine Wing Support Squadron 274, helps Lance Cpl. Brandon Layell, a motor transportation mechanic with the platoon, remove the radiator cover from a P-19 fire truck, April 1, 2010. The trucks are used to fight fires on base and in the event of an aircraft emergency. RIGHT: Logistic Vehicle System Replacement (LVSR) vehicles with Combat Logistics Battalion 4, 1st Marine Logistics Group (Forward) stage to pick up supplies and equipment at Patrol Base Mirmandab, Afghanistan, March 23, 2012, during a combat logistics patrol. The LVSR's load handling systems allowed the Marines to rapidly on-load supplies for retrograde.

"As part of that process we started out trying to expand our connections with the folks in 'Motor T,'" he explained. "Obviously there were already connections between our two offices on some level, but the new connections focused on 'one team' of Medium and Heavy Tactical Vehicles."

The new team set about identifying a set of common issues surrounding the expanded portfolio, ranging from program status to key issues to upcoming decision points.

"Wouldn't you know that every one of these programs were facing a major milestone decision in the near term," Prosser said. "And in many cases those had to be adjusted because there were other issues which needed resolved first and this impacted the schedules. It would have been nice if we could have started the process a little earlier, but in the end the team did an excellent job adjusting with the schedule realities."

Acknowledging that one structure for the expanded organization could have inserted the former MARCORSYSCOM elements as "their own team," Prosser countered, "I really didn't want to do that because that would have fostered an 'us and them' mentality. So we worked with the structure by creating a Medium Team and a Heavy Team. I worked with the leadership team to integrate the programs which transitioned to the PEO into the two

teams that we had, spreading them out to not only make them a part of the team but to give them an opportunity to possibly work on other things than just the programs they had arrived with.

"And every day since has been a new adventure," he added.

Recent and Pending Milestones

Asked about recent and pending milestones across the Medium and Heavy Tactical Vehicle fleets, Prosser highlighted the Flatrack Refueling Capability (FRC), which had a Milestone C low rate initial production (LRIP) decision milestone on April 16, 2012.

Heil manufactures the FRC, describing the program as: "The Flatrack Refueler (FR) is a fueling/defueling system built in an ISO container. It's designed to transport, store and distribute JP-8, JP-5, DF-2 and other kerosene-based fuels in the expeditionary environment for Marine Corps aircraft and tactical ground vehicles. The fuel capacity of the FR is approximately 2,800 gallons. The FR is capable of being loaded, secured, transported and unloaded by the LVSR cargo variant using the LVSR's integral method of loading ISO containers or flatracks. The FR is

fully operational as a standalone system, or integrated with the LVSR. The FR minimizes fleet operating costs, enhances performance and supportability, and meets all applicable military requirements. Standard equipment includes a fuel filter separator, relaxation chamber, meter, hose reels, pressure and vacuum vents, portable grounding rod, static discharge system, vapor recovery, electronic liquid level indicator, engine and pump assembly. The FR is Air Transportable, Rail Transportable, RO-RO capable with top lift and tie down eyes."

"The FRC will provide an enhanced refueling/defueling capability," Prosser continued. "It is definitely expeditionary, a feature that becomes obvious when you compare it to driving out with your big tanker truck. Now we will have a 2,500-gallon fuel tank that can be transported on our LVSR, which has tremendous capability both on-road and off-road. So you can get this fuel capability to anywhere you want and you can leave it on the LVSR or offload the flatrack and leave it sitting at an air station or forward operating base.

"The April FRC decision was actually something of a 'limited LRIP,'" Prosser acknowledged. "The full quantity of LRIP was approved, but the

Acquisition Decision Memorandum [ADM] restricted us to only buying four until we could go out and do a little additional testing. But we have now completed that testing. The system passed. And we've received permission to procure the remaining 33 LRIP quantities."

Other ongoing activities surround a pending MTRV contract with Oshkosh Defense.

"In the aggregate, we have procured our MTRV AAO [Authorized Acquisition Objective]," Prosser said. "But when they [CD&I] changed the AAO they also changed the mix of variants that were required. Essentially, we bought more vehicles than the AAO specified, but we didn't have the right mix. Therefore, we are in the process of procuring a few more vehicles from Oshkosh. It won't get us the whole way, but it will get us closer to the mix we want. The PMO is considering a wide variety of options to digress of excess variants."

Another pending milestone surrounds the associated MTRV trailers. However, according to Prosser, the situation is a little bit complicated.

"The MTRV trailer has already had a Full Rate Production decision," he began. "And there are three variants of that trailer: cargo; general

DoD photo by Cpl. Mark Stroud

DoD photo by Cpl. Mark W. Stroud

U.S. Marine photo by Lance Cpl. Justin T. Beauregard



// Logistics Vehicle Systems line up at a gravel pit July 21, 2006 outside Al Qaim, Iraq. The LVS's were being used by Marine Wing Support Squadron 274 to haul large amounts of gravel to be used during the installation of helicopter landing pads. MWSS-274 operates under Marine Wing Support Group 37 (Reinforced), 3rd Marine Aircraft Wing.

purpose; and a water tank variant. Well, the one prototype that was built of the water trailer was apparently down at Blount Island Command in Jacksonville, Fla., and they took a picture of their forklift not able to lift it. That picture drew the attention of some who immediately criticized the program in light of our goals to lighten the MAGTF. The result was that all work was stopped on the water and general purpose trailers so that the Marine Corps could determine the direction they wanted to take. At the same time they recognized that they still needed to pursue the cargo variant because we still don't have a new trailer for behind the MTVR. We still have the 'old' trailer. But it can't keep up and the MTVR loses capability by pulling it – you're limited in where you can drive and what you can do."

The decision that emerged from the trailer quandary was to keep the chassis of the trailer as it was. Those chassis elements were already being built by Choctaw Defense (in Oklahoma) because of the earlier Full Rate Production decision. But the cargo trailer bed was redesigned to be both lighter and able to haul more cargo.

"So in the end we have less total weight but we're hauling more cargo," Prosser noted. "And we are working toward a Full Rate Production decision on that new cargo variant trailer bed, which will then be taken and married up to the chassis that are already built. That decision may happen late this calendar year or early next year."

At about that same time, the program management office will be addressing the acquisition milestone for a new fire truck.

Designed to replace the current fleet of A/S32-P19A Aircraft Crash and Structure Fire Fighting Trucks with Aircraft Rescue Fire Fighting (ARFF) trucks, the new P-19 Replacement ARFF Vehicle (P-19R) represents the first new Marine Corps fire truck procurement in 30 years.

The P-19R is intended to replace the A/S32 P-19A Aircraft Crash and Structure Fire Fighting Truck, known as the P-19A. The P-19A was introduced into service in 1984, with an intended service life of 12 years but has been in service in excess of 28 years. The P-19R Aircraft Rescue Fire Fighting vehicle will meet both the 2012 National Fire Protection Association 414 standards and the expeditionary fire fighting and aircraft rescue requirements of the U. S. Marine Corps. This program will replace P-19As at both Operational Force (OPFOR) units and garrison mobile equipment (GME) at Marine Corps Air Facilities.

If everything goes as planned over the next several months, Prosser anticipates making the contract award for P-19R in December 2012.

Tactical Performance/Future Challenges

Prosser's takeaway messages highlighted the performance of both medium and heavy fleet vehicles in theater as well as future program challenges.

"The MTVR, especially, is the workhorse of the medium fleet," he said. "It's been out there longer. And it is being used in tactical

and geographic environments that, quite frankly, were not expected when the vehicle was acquired. Take a look at things like the armoring we have applied to them or equipping them with a manned weapon station. Now I'm not going to say that they look like a combat vehicle; but they certainly don't look like a truck either.

"In fact, those are some of the big issues that the Marine Corps is facing in terms of what we do with some of those 'armored up' vehicles," he added. "We really need to evaluate how many armored MTVRs and armored LVSRs we need running around Camp Lejeune and Camp Pendleton or anywhere else in the United States. We think we want to keep them in an armored configuration, but the question becomes what we are going to do with them – store them, use them for training, or continue to run them regularly as an armored vehicle. So we have those things to work out along with the whole reset/reconstitution effort."

He continued, "Another thing I would highlight is that the last word in both truck names is 'Replacement,' so they were both replacements for old systems in the Marine Corps. They were both built with basically a 22-year service life. And at this point the first MTVR vehicles that were fielded are halfway through their expected service lives. However, if you look at our budgets, it's clear that there's not a replacement for the MTVR or LVSR out there. If there was we probably should be working on it already.

"Their planned 22-year service life did not include a depot maintenance rebuild program for them because of their technology and ruggedness," he stated. "And right now there is no SLEP [Service Life Extension Program] or modernization upgrade on the schedule. None of that is planned. So one of the things that this program office has to start thinking about is the point where we have to do a major overhaul on these vehicles, an upgrade, or a SLEP to keep them effective well into the future. We don't have the answers to that yet, but those are some of the things we are starting to explore."