Marine I-CsUAS Works to Defend Against Drones

Program Executive Officer Land Systems recently started fielding the Installation-Counter small Unmanned Aircraft Systems, depicted in this simulated graphic, to select Marine Corps installations. *U.S. MARINE CORPS / Andrew Reynolds*

MARINE CORPS BASE QUANTICO, Va. – The battle to keep Marines and their critical assets safe is constantly evolving. As technology advances, so does the need to field more cutting-edge equipment to counter threats, such as those posed by small unmanned aerial systems.

With these challenges in mind, Program Executive Officer Land Systems is fielding the Installation-Counter small Unmanned Aircraft Systems, the Marine Corps Systems Command Office of Public Affairs and Communication said July 14.

Known as I-CsUAS, the system is designed to protect Marine Corps installations by detecting, identifying, tracking and defeating small UAS.

“The Marine Corps, and DoD in general, required the capability to defend against SUAS years ago,” said Don Kelley, program manager for Ground-Based Air Defense at PEO Land Systems. “The threat of SUAS is only proliferating every day. The bottom line is, we need to provide this capability to our Marines as rapidly as possible.”

I-CsUAS features an integrated system equipped to carry out all phases necessary to counter small unmanned aerial systems such as commercially available drones, said Kelley. The system will primarily provide a service to ensure Marines or security forces have the capability to defend installations against sUAS at all times.

Maj. Kyle Yakopovich, fixed site project officer for Program Manager Ground Based Air Defense at PEO Land Systems, said I-CsUAS is intended to defeat commercial off the-shelf Group 1 and Group 2 UAS. I-CsUAS also provides detection, tracking and identification capabilities.

“What makes this system interesting is it fuses multiple modalities together into a single system,” Yakopovich said. “This allows us to more accurately detect, track and identify [small unmanned aircraft systems].”

Yakopovich said the program’s system is equipped with a few different components for better detection and ultimately, defense. The Long-Range Sentry Tower is comprised of a radar system and an optical sensor, and works in conjunction with a passive radio frequency detection capability to present the operator with a visual depiction of the threat’s flight path. While each of the towers’ sensor components are already widely in use, Yakopovich said I-CsUAS is special because it uses machine learning and artificial intelligence to constantly and autonomously analyze the sensor data faster and more accurately than a human operator. The system enhances the capability to detect, track, and identify the threat while reducing the amount of manpower previously required to perform these actions.

Yakopovich also said the I-CsUAS also has a separate non-kinetic defeat capability that has proven itself capable in other programs within PM GBAD. Using this capability, a Marine who has detected an intruding sUAS is able to disrupt the sUAS communication link. This enables Marines operating the LRST-42 or LSTR-82 tower will be able to determine the drone’s point of origin.

PM GBAD’s Fixed Site Product Manager Jessica McCauley said the Marine Corps plans to use this technology to defend critical assets, following the requirement set forth in Title 10 of the U.S. Code, which outlines the role and responsibilities of our

nation’s armed forces.

“The I-CsUAS protects the facility by detecting, tracking identifying the drone and empowering law enforcement to defeat it,” McCauley said. “We are delivering a system to select installations, providing them the ability to conduct that kill chain in order to protect critical assets against small UAS threats.”

“These small commercial off-the-shelf drones – they’re everywhere,” Yakopovich said. “You can’t walk into a park without seeing them, and our enemies know how to use them. If you follow the news you can read articles about these drones being used as weapons of war in places like Ukraine, and those drones are capable of doing similar damage here at home. We’re delivering these systems to CONUS locations and defending certain assets aboard those installations that have been deemed critical to national security.

“Use your imagination of how much damage and chaos could be done by these small commercial off-the-shelf drones by attacking or otherwise harassing domestic Marine Corps installations. That’s why we’re doing this – to protect those assets and to enable the warfighter to do what the warfighter should be doing, which is keeping his focus oriented toward the enemy.”