

Nonlethal Munitions (NLM) Expand Warfighter Capabilities

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In the jumbled terrain of modern urban combat, the preferred theater of operations for today's terrorists, the need to distinguish combatant from noncombatant is paramount. In a war with no fixed fronts, with no clearly identifiable foe, where the very definition of the word enemy is maddeningly fluid, our Soldiers require better, smarter and more innovative ways to defend themselves without jeopardizing their overall mission.

A Soldier loads an XM1091 40mm nonlethal point cartridge into his M203 grenade launcher. This new NLM is designed to deliver a measured effect against a specific target to cause blunt force trauma to an individual at distances from 10 to 50 meters. The munition can be fired from the M4 carbine or M16 series rifle mounted with an M203 grenade launcher. (U.S. Army file photo.)

Instead of “shoot first and ask questions later,” NLM allow our Soldiers to “ask questions by shooting.” The judicious application of nonlethal effects allows the Soldier to interrogate the intent of the target by giving it ample warning and incentive to cease any questionable or objectionable behavior prior to resorting to more extreme measures. NLM are, therefore, analogous to precision guided weapons, in that they are designed to deliver a measured effect against a specific target while minimizing the likelihood of collateral damage.

Many of the current NLM were type classified from specifications drawn up in a bygone era. The Cold War had ended, the military was downsizing, the so called “Peace Dividend” was on every politician’s lips and the Berlin Wall was being broken up into souvenirs for tourists. The Army’s NLM were based on civilian law enforcement models — short-range, low-velocity rounds intended for use only as a last resort. After all, the greatest foreseeable threat to law enforcement at that time was from “peaceniks” and antiglobalization protestors.

But times changed quickly and our deployment with NATO to Kosovo identified a real and urgent need for NLM in a military role. In April 2000, the Office of the Project Manager Close Combat Systems (PM CCS), part of Program Executive Office Ammunition (PEO Ammo), deployed the Army’s first ever Nonlethal Capabilities

Set. A large part of that set was the munitions. “Bottom line is that our new equipment works well and the NLM kept us from having to kill someone,” noted COL James B. Brown, then serving as Task Force Falcon Provost Marshall. The Army seemed well on the way to acquiring a nonlethal capability that would protect our troops while avoiding unnecessary civilian casualties.

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A New Era Harkens New Needs

Sept. 11, 2001, changed all that. Those attacks plunged our Nation into a new kind of war, one that many predict will be as long, if not longer, than the Cold War. It holds the potential to be bloodier and far more complex and the stakes will be just as high. In adapting to this new kind of warfare, nonlethal capabilities were thrust to the forefront and our current assumptions and ways of thinking about



The 40mm Sponge Grenade is an NLM used to provide a standoff capability in conjunction with riot/crowd control during low-intensity conflict and peace-keeping missions where use of deadly force is unwanted or unwarranted. The nonlethal 40mm crowd dispersal round provides U.S. forces the capability to enhance force protection by stopping, confusing, disorienting or deterring a potential threat without using deadly force. (Photo courtesy of the Military Analysis Network.)

NLM would have to adapt as well to meet warfighters’ evolving needs.

As stated in *FM 3-22.40, Tactical Employment of Nonlethal Weapons (Air Land Sea Application Center)*, “NLWs [Nonlethal Weapons] provide commanders the flexibility to influence the situation favorably with increased safety to U.S. Forces while reducing risk of both noncombatant fatalities and collateral damage.”

Next-Generation NLM Extend Range

PM CCS is working closely with PM Soldier to acquire the next-generation, extended-range NLM for the warfighter. Two, in particular, the XM1091 40mm extended range marking round and the XM1116 12-gauge extended-range marking round, will fill critical gaps in



Soldiers from the 114th Transportation Battalion, Illinois National Guard, conduct nonlethal weapons training at Camp Atterbury, IN, last May. NLM will help warfighters enhance force protection measures by countering civil disturbances and responding to various levels of threat by employing nonlethal means. (U.S. Army photo by SSG Russell L. Klika.)

U.S. Marines and Soldiers demonstrate the use of NLWs and tactics during an exercise sponsored by the U.S. European Command and hosted by U.S. Marine Corps Forces, Europe, in Boeblingen, Germany, June 21, 2006. (DOD photo by GSGT Donald E. Preston, U.S. Marine Corps.)



current nonlethal capabilities and assist warfighters immeasurably in applying escalation of force (EOF) procedures.

The XM1091 is similar in appearance and function to the Army's current M1006, 40mm non-lethal point cartridge. It produces a blunt trauma impact on the target and will be capable of being fired from the M203 and XM320 as well as the Marine Corps' MK 1 and Penn Arms XM328, 6-shot multigrenade launcher. What's new is the range. The XM1091 will have nearly twice the

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M1006's effective range. And range matters. Similarly, the XM1116 will provide an extended range capability (far in excess of the current M1012) to standard 12-gauge manually operated platforms.

Both rounds incorporate a fluorescent green marking powder that disperses on impact to identify troublemakers for later detention or to

single out individuals for extraction teams that must be able to identify their target from within a crush of hostile bodies.

Cooperative Acquisition Approach Facilitates Development

The XM1091 and XM1116 are being developed jointly by PEO Soldier and PEO Ammo. Through its innovative Soldier Enhancement Program, PEO Soldier is providing the funding for developmental testing and safety certification of these rounds, which will type-classify standard for fielding and use by the Army. Through PM Soldier Weapons, they are providing strong experience and expertise in small-arms ammunition. The U.S. Army Armament Research, Development and Engineering Center (ARDEC) at Picatinny Arsenal, NJ, is providing the engineering expertise and support. As part of PEO Ammo, PM CCS will provide life-cycle

management. As with all other NLM, PM CCS will have ownership and management responsibilities of these extended rounds as part of its growing nonlethal inventory.

As with past NLM, the Army is leveraging the best available technologies from the civilian world. Defense Technologies of Casper, WY, longtime partner with the Army's NLM development and production efforts, is the current manufacturer for the rounds upon which the military versions will be based. Building on experience gained through civilian law enforcement, PM Soldier Weapons and ARDEC engineers are working to enhance performance to better meet user community needs. They will also "militarize" the rounds, toughening them up to handle the stringent requirements for shipping, storage and handling, as well as the shelf life required by the services.

All this takes time. To meet the current operational needs, PM CCS is rapidly fielding the required XM1091 and XM1116 munitions quantities per the urgent materiel release (UMR) process. This UMR process provides the most expedient means for acquiring these capabilities and getting safe and reliable products into the warfighter's hands in a timely manner.

Of course the story doesn't end here. The XM1091 and XM1116 represent the best available capabilities right now. Research continues to achieve even greater ranges and better performance and to expand the list of platforms that

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can fire NLM so that they will be available to suit every situation or operational need. PM CCS will continue to work with the user community and, wherever possible, anticipate future requirements to ensure that the best available technologies are fielded as quickly as possible.

Greater Range Equals More Time

The range advantage of the XM1091 and XM1116 over the M1006 and M1012, respectively, will provide warfighters with that extra split second

to evaluate the situation and avoid a tragic mistake. EOF is all about a measured, sequential response to a perceived threat. The time to evaluate that threat is greatly increased when warfighters can

employ the nonlethal option at longer and more practical engagement ranges. As GEN David H. Petraeus, Commanding General Multi-National Force-Iraq has noted, "... you must shape situations to minimize the tough calls, and train our leaders on how to react ... this will reduce the number of Iraqi civilian injuries and deaths."

With the XM1091 and XM1116, PM CCS is saving the lives of Soldiers and innocent civilians alike, and increasing the NLM capabilities for warfighters and the law enforcement community moving forward.

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Various types of NLM including foam, rubber and bean bags, rest on a target impacted by Taser probes after an NLW demonstration last February at Fort Leonard Wood, MO. (Photo by Charlie Riedel courtesy of the Associated Press.)