

Non-Lethal Weapons?

Will Marines ever use this capability?

by Col Wendell B. Leimbach

I used to believe that a question had an obvious answer. The United States military is the world's most feared and lethal fighting force with the Marines being among the most aggressive warriors within that force. Beyond crowd control during peacekeeping in lieu of (ILO) operations, considering the tactical employability of non-lethal weapons (NLW) as a young combat arms officer seemed irrelevant and impractical. As a tank officer, and more recently as an acquisitions program manager, I spent the majority of my career enhancing the lethality of the Corps. Given the importance of strengthening warfighting capabilities with limited time and resources, the significance of NLW, even for kinetic and potentially lethal operations, was not immediately intuitive. However, once I moved beyond conceptualizing NLW as essential equipment for only Marine Security Guards and military police, it did not take long for me to understand their utility, relevance, and importance across the spectrum of conflict.

Tactical Batons to Green Beam Dazzlers: The Recent Evolution of Non-Lethal Weapons

Twenty five years ago, when I learned to employ NLW preparing for an ILO mission to guard Haitian refugees in Cuba, common scenarios involved responses to large groups of hostile civilians. On 15 January 2003, the Marine Corps published *MCWP 3-15.8, MTTP for the Tactical Employment of Nonlethal Weapons*, (Washington, DC: HQMC). The single-source, consolidated reference describes multi-Service tactics, techniques, and procedures (TTP) for consideration and use during tactical deployment of NLW in support of warfighting personnel conducting training and tactical operations. Results from

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Solid-state active denial technology is a smaller, next-generation active denial system that will use directed energy to stop, deter, and turn back advancing adversaries.
(Photo by Jamal B. Beck, JNLWD.)

keyword searches throughout the publication indicate frequent references to riots (135), batons (92), and crowd control (50). However, keyword references to NLW employment at checkpoints (3), on convoys (0), and using laser dazzlers (0) are effectively nonexistent.

Less than two months after the MTTP was published, combat operations in Iraq highlighted the need for new procedures as well as new non-lethal systems. By 2004, vehicle-borne improvised explosive devices (VBIEDs)

emerged in Iraq as a common threat to checkpoints and convoys. Simultaneously, the VBIED threat increased the risk to innocent civilians who failed to stop at checkpoints or maintain standoff distance in convoys of becoming casualties.

Without new NLW immediately available, Marines running checkpoints improvised. Escalation of force tactics for responding to vehicles that approached too fast included shooting 5.56mm bullets into vehicle engines, firing star clusters toward windshields, and using pen flares to warn drivers. Although these field-expedient procedures were designed to avoid civilian casualties, they often did not prevent tragic unintended lethal events. Additionally, the absence of effective NLW systems made developing clear, concise, and safe TTP impossible.

By May 2006, when the Pentagon announced the standard use of M-4 mounted ocular interrupters (OIs), popularly known as "green beam laser dazzlers," at checkpoints and on convoys, non-lethal techniques and capabilities had become more formalized. The dazzlers reduced the risk of innocent casualties by causing disabling glare in the drivers of vehicles approaching checkpoints, thereby enabling coalition forces to better determine whether or not the driver's intent was hostile. The dazzlers were mounted on M-4s and used throughout Iraq, and later in Afghanistan, for over ten years as standard equipment. The ability to hail, warn, and deter personnel at long ranges compelled the Marine Corps to designate the OI program as a program of record, with full operational capability planned for 2021.

Personnel use NLW as standard procedure because they want to be able to tell, as clearly as possible, the difference between a threat that needs to be elimi-



The ocular interruption system is a light emitting, non-damaging, eye-safe device fielded to warn and suppress individuals at a 10-500 meter standoff. (Left photo courtesy JNLWD; right photo by Mimi Ho, JNLWD.)

nated (a VBIED suicide driver) and one that does not (a man whose pregnant wife is in labor). In both cases, drivers may be operating vehicles erratically, but using the dazzler at standoff range as a first option maintains force protection without increasing vulnerability. Using these two tactical goals as points of departure that are equally viable for other NLW provides decision makers with the means of recognizing the many ways that both current and future non-lethal capabilities could be employed across the operational spectrum.

Reconsidering Non-Lethal Weapons Employment in High Intensity Combat

Consider OIs. Although dazzlers are currently used for convoys and checkpoints, they have further utility in high intensity conflict. Employing dazzlers against forward observers or possible snipers in a protected structure can provide tactical maneuver advantages. With thoughtful employment, NLW such as OIs are effective tools to reduce civilian casualties and are also able to enhance the lethality and survivability of operational forces across the conflict spectrum.

Beyond the green beam dazzler, other NLW—most recently the 81 mm non-lethal flash bang munitions (FBM)—have demonstrated viability in both low

and high intensity conflict. Non-lethal 81mm mortar rounds produce the effect of 12 flash bang grenades per round to deny the enemy use of an area without destroying infrastructure or inflicting casualties. As demonstrated with the dazzler example, maneuver forces can use an 81mm non-lethal FBM in high intensity conflicts in a similar way that

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units employ flash bang grenades to immobilize personnel and reduce casualties when clearing buildings in urban combat without undesired destructive effects that threaten civilians, friendly forces, or critical infrastructure.

In either low or high intensity combat, the goal of using FBM could be to prevent enemy forces from utilizing

sensitive sites as command headquarters or meeting locations, to reduce the use of civilians as human shields, or simply to clear an area for friendly maneuver without destroying infrastructure. As with conventional indirect fire, non-lethal FBM can be used from defilade while targeting enemy or neutral locations in defilade, allowing maneuver units to remain concealed while engaging persons with unknown—but potentially hostile—intent. Within the next two fiscal years, 81mm FBM will move beyond production verification testing and be widely available for procurement.

While non-lethal munitions provide advantages, they also come with costs, and in certain situations would be less likely to be used. Expeditionary infantry units with limited capability for resupply may not want to give up any lethal ammunition stocks if expecting a high-intensity fight while also facing significant logistic constraints. However, if a commander is likely to operate in an environment where hostile forces might use civilian locations, a mission analysis and situation estimate—both tactically and politically—could still make an ammunition loadout with a mix of 81mm non-lethal FBM a favorable and effective expeditionary option.

The Future of Non-Lethal Weapons

Options for NLW beyond OIs and



The 81mm flash-bang munition integrates flash-bang counter-personnel technology with existing 81mm mortar systems to suppress, move, and/or deny personnel access to or from an area. (Photos by LCpl Adam Montero.)

non-lethal FBM, “high tech” include active denial systems that use millimeter wave technology to safely direct energy at targets that will feel as though they are standing in front of a blast furnace without any lasting effect. Such directed energy weapons, which remain in development, will enable units to engage, deter, or delay individuals and UASs at well beyond “rock-throwing” (and small arms fire, in some cases) range with a sniper’s precision while allowing those who were engaged to walk away with no

permanent ill effect. The tactical utility of employing directed energy weapons have the same opportunities as dazzlers and FBM as well as further increasing the range and capability for units across the conflict spectrum. Prototype systems for operational use, demonstrations, and exercises exist today that—if prioritized and made a program of record—could be made widely available in five to seven years.

Reflecting on the decisions I faced as a junior officer in a tank platoon,

I see the advantages of incorporating intermediate force options such as NLW at every operational phase of combat. Sitting in the commander’s seat of an M1A1 Abrams and moving across open or urban terrain at any speed, I may face tactical options that would result in charging without suppression, destroying a target, or doing nothing at all. In any case, NLW increases my ability to determine hostile intent, suppress at range, or delay the possibility of hostile actions when conducting operations other than high intensity combat. Lethality, once determined necessary, could then be immediately scaled up or down as the situation dictates.

The answer to the question as to whether Marines will ever *need* to use NLW is clear: wherever Marines are deployed, 21st century operational environments will require the use of NLW. However, the Corps and the entire DOD must invest to make these non-lethal intermediate force capabilities available to the entire force. Investing in the technology, training, and integration of NLW throughout all phases of military operations will enable Marines to conceptualize the myriad of ways that NLW can help solve complex tactical problems. This will increase the effectiveness of lethal force when it is applied while making collateral damage less likely. Preventing innocent casualties is not only politically, ethically, and morally necessary; wise commanders take every action possible to reduce the likelihood that those whom they are entrusted to lead will be forced to bear the burden of having needlessly taken innocent life or creating unnecessary blood vendettas with those they are attempting to protect. NLW enhance the lethality of U.S. military forces by enabling precision engagement and allowing units to not destroy that which is not necessary. In so doing, current and future NLW will take the Marine Corps one step closer to Sun Tzu’s greatest, and most elusive, victory: that which requires no battle.

