

Nonlethal Weapons And the Common Operating Environment

By MAJ Richard L. Scott

Every day, people are faced with complicated issues and sometimes make decisions resulting in undesired ramifications. People who feel victimized or marginalized may become disobedient or even violent. Governments will seek to seize or retain power. Populations will seek protection, fair treatment and representation. Cultural, ideological or political differences may further divide populations already separated internationally or within their own sovereign borders. Negotiations and diplomacy may fail. It is the responsibility of the government to ensure its military and law-enforcement officials are equipped with weapons that may allow them to achieve their objectives while still preserving the sanctity of life.

Current U.S. military operations aim

to establish stable governments and require cooperation with combined and joint forces. Soldiers are expected to understand complex political, cultural and religious climates and appear professional and diplomatic in an age of web-centric live streaming media and 24-hour news coverage. With expectations that the operational environment will continue to become more complex, nonlethal weapon (NLW) proponents are working toward producing a viable alternative to lethal force for irregular warfare. To back away from applying nonlethal weapons in irregular warfare risks sending the message that the United States is incapable of either developing an NLW arsenal or determining how to employ NLW, or is reluctant to attempt a form of warfare that involves dealing with dissatisfied people as human beings and not simply as targets.

How, then, may NLW be incorporated into current military operations?

Historical Relevance

During Operation Desert Storm, one of the nonlethal "smart weapons" utilized by DoD was a special warhead adapted for the Tomahawk cruise missile that dispersed thousands of carbon fibers after exploding over an electrical power station target. After the carbon fibers drifted down and settled, they caused the power station to short-circuit.

In 1995, U.S. forces deployed to Somalia to safeguard the withdrawal of United Nations (U.N.) peacekeepers. Then-Lt. Gen. Anthony Zinni, U.S. Marine Corps, was charged with leading the withdrawal of the peacekeepers, composed of Pakistani and Bangladeshi soldiers; the entire mission involved more than 2,000 coalition

troops. Zinni deployed NLW, advance notification was passed among local civilians, and the U.N. force suffered no significant problems with crowd control or rioters. All troops and equipment were withdrawn without suffering a single casualty.

After U.N. peacekeepers were successfully withdrawn from Somalia in 1995, the U.S. government began developing an official NLW policy. In 1996, DoD issued Directive 3000.3, which directs the establishment of a joint service organization responsible for the development and employment of NLW; defines “nonlethal weapons”; and designates the commandant of the U.S. Marine Corps as the executive agent for the Joint Non-Lethal Weapons Program. DoD policy specifically states that these weapons do not guarantee zero probability of fatality or permanent-injury prevention. The directive clearly defines NLW and establishes the terminology associated with its use.

A few years later, GEN Wesley Clark engineered successful air strikes against Serbian targets in Kosovo largely to minimize the risk of death to American ground forces and non-combatants and to reduce unnecessary collateral damage. Unfortunately, casualties still numbered in the thousands, partly due to lack of a non-lethal arsenal. For that conflict alone, examples abound when, after careful planning considerations, NLW could have made a difference.

- NATO could have jammed hostile TV broadcasts or radio towers similar to the way the United States employed these technologies over Iraqi power stations during Operation Desert Storm.

- Electromagnetic pulse (EMP) could have been used to disable air-defense and other military electronic systems.

- Noxious malodorants, delivering offensive odors, could have been used against command-and-control facilities.

- NATO could have blocked, rather than bombed, key bridges, railroads and roadways.

After the bombing campaign ended, military police deployed into Kosovo. The MPs were tasked with

conducting peace-support operations and civil-military operations, and providing support to local Kosovar law enforcement for various missions. While working peace-enforcement operations, the soldiers quashed civil uprisings on two separate occasions using nonlethal means such as the sponge grenade.

NLW and Irregular Warfare

The connection between NLW and irregular warfare is not easily drawn for students of conventional warfare. With irregular warfare, one must understand that goals, strategies, tactics and information operations are considerably dissimilar to conventional warfare. David Galula espoused this doctrine in 1964 when he wrote:

Reflexes and decisions that would be considered appropriate for the soldier in conventional warfare and for the civil servant in normal times are not necessarily the right ones in counterinsurgency situations. A soldier fired on in conventional war who does not fire back with every available weapon would be guilty of a dereliction of his duty; the reverse would be the case in counterinsurgency warfare, where the rule is to apply the minimum of fire.

More than 40 years later, then-MG Peter Chiarelli mirrored those sentiments in an article for *Field Artillery* magazine:

The other thing I learned is we are good at lethal effects; but in a counterinsurgency, nonlethal effects are as important as—and, at times, more important than—kinetic effects. We are very good at fighting and breaking things and teaching other people to do the same. But nonlethal effects are critical to winning the war in Iraq. So, if we’re really serious about fighting an insurgency, we have to change our culture and accept the importance, and sometimes preeminence, of nonlethal effects.

Field Manual (FM) 3-24 *Counterinsurgency* similarly states, “The military forces that successfully defeat in-

surgeries are usually those able to overcome their institutional inclination to wage conventional war against insurgents.” In the common operating environment (COE), soldiers and marines must prepare for operations in which they may be exposed to the use of humans as shields and so-called intermingled targets, whereby assailants hide among the people or in vehicles parked next to mosques, hospitals and schools. NLW could be used to target those assailants without causing unnecessary loss of life or property damage.

In order to achieve success and maintain the long-term goals of stability operations, peacekeeping, peace enforcement and humanitarian operations, casualties must be kept to a minimum. Reconstruction of infrastructure and return of security and economic viability are vital components of an effective stability operation. It is unacceptable to expect that soldiers and marines charged with enforcing the rule of law be equipped only with tools that kill or destroy that which they were sent to protect.

Contemporary U.S. military operations are aimed at restoring peace and stability. The ultimate goal of these missions cannot be accomplished through destruction and brute force. Soldiers and marines, therefore, must be equipped with an alternative to killing or doing nothing at all. NLW provide the user the ability to incapacitate or repel an adversary without permanent consequences. There are a wide variety of counterpersonnel and countermateriel NLW, as well as some countercapability options that can be referenced at www.murdoch.edu.au/elaw/issues/v7n2/sautenet72_text.html; many are ready for use in irregular warfare.

Case Studies

The year 2003 was difficult for U.S. forces in Iraq. Servicemembers struggled to preserve peace while assisting the government in protecting its resources against a growing insurgency. Examining actions taken by soldiers and marines in Iraq in 2003 is particularly advantageous because Iraq is still

considered the COE and enough time has passed that information has been compiled and analyzed and can be put into the appropriate context for future wartime planning and execution.

Three examples are discussed here: checkpoint operations, urban riots and crowd control. The conditions in each situation are similar: U.S. troops, stationed in Iraq in 2003, responding to an unconventional threat with conventional weapons and tactics. In each example, U.S. troops responded with what they believed to be the appropriate use of force. After each example, a brief discussion addresses any changes to tactics, techniques and procedures taken by U.S. or other forces since the original incident. Finally, a recommendation is included offering nonlethal tools that may further prevent similar instances from happening again. Analysis of such events allows us to determine how NLW might have been applied and catastrophic results avoided.

Checkpoint Operations. *Issue:* In March 2003, U.S. troops fired upon a

vehicle carrying 13 women and children, killing seven, at a military checkpoint. According to reports, when the vehicle failed to stop at the checkpoint, troops were ordered to open fire, as they were apparently faced with no alternate means to make the vehicle stop. U.S. Central Command in Iraq later issued a public statement that its soldiers had followed prescribed rules of engagement to protect themselves.

Discussion: Soldiers and marines must be able to differentiate between a legitimate threat and a noncombatant who might be disoriented or fleeing for his or her life. The actions taken by those charged with operating the checkpoint may have profound results.

Incidents continue in which Iraqi families fail to slow down at military checkpoints, resulting in injuries, deaths and strained relations between nations. Meanwhile, U.S. and Iraqi forces continue to face an enemy force that uses vehicles loaded with explosives for suicide missions.

Then-LTG Pete Chiarelli, the second-

highest-ranking general in Iraq at the time, stated: "If you believe, as I believe, that the insurgency over time has repopulated itself, you have to ask the question: Why has that occurred? I think this is one of the reasons. What I'm trying to tell you [is] every time we do this, we're creating more people [who] shoot at us, make bombs and plant bombs."

COL Brian Jones, then-commander of the 3rd Heavy Brigade Combat Team, 4th Infantry Division, agreed: "We need kits that block a road well up front of our lead and trail vehicles. Sawhorses, cones, signs, spike mats and similar tools help prevent these unfortunate circumstances."

In response to requests from soldiers, gun-mounted lasers are being fielded and tested as a means to get Iraqi drivers' attention so they will slow down, turn away or stop. The Iraqi Ministry of Interior is also working with the United States on a long-overdue media campaign aimed at instructing Iraqis on proper conduct around convoys and at checkpoints, so

as to avoid any unnecessary injuries or deaths.

Recommendation: The portable vehicle-arresting barrier is lightweight, easily emplaced and recoverable. This system can be unpacked/set up for use with a two-man team in less than two hours and allows normal traffic flow. Upon command, if an approaching vehicle fails to stop, the checkpoint guard activates the system in “capture mode” with a remote-control pendant from a distance between 300–1,000 feet. The capture net raises to full height in less than two seconds and wraps around the vehicle; the capture lines are tightened by vehicle motion. The capture net can stop a 7,500-pound truck traveling at 45 miles per hour within a distance of 200 feet. Vehicle occupants cannot open doors, impeding escape.

Another option is the modular crowd-control munition, which resembles the Claymore mine, except that it is filled with 600 .32-caliber rubber pellets. Yet another option is scattering caltrops on roads and runways. Caltrops are nonreflective and always land with one of their four spikes in an upright position; the spikes are hollow and can perforate a self-sealing rubber tire. In addition, road spikes can be thrown in front of speeding cars to blow out their wheels; road barriers and devices may rise multiple feet above the road surface and physically prevent access to any vehicle; and the vehicle lightweight arresting device is a small, lightweight mesh blanket consisting of road spikes that entangles wheels and axles.

Urban Riots. *Issue:* In June 2003, six British soldiers and four Iraqi civilians were killed and another eight British soldiers and 17 Iraqis wounded when a protest involving more than 400 people converged in the town of Majar al-Kabir. The protest was in reaction to alleged “intrusive searches” by the British that the local population felt offended Muslim tradition. As the situation deteriorated and grew larger, more vocal and more violent, the British were left with only rubber bullets and lethal ammunition to quell the uprising. As children began to throw

stones, the British responded with warning shots followed by lethal fires into the crowd.

Discussion: In this scenario, the British found themselves in a situation familiar to Americans serving in Vietnam three decades earlier. Troops were faced with either doing nothing at all or employing their lethal weapons. This black-and-white perspective of conflict forces ground troops to make decisions that may have international repercussions.

Recognizing this, in 2006 the British Royal Marines reached out to the international community and, along with the U.S. Marine Corps, established a nonlethal training program during the annual Tradewinds exercise in Jamaica. More than 120 troops participated in a scenario involving belligerents hurling bricks and flour bombs as well as demeaning insults at the students. To begin, the “rioters” stayed primarily on the street and moved without obstruction, but as the scenario intensified, they moved into the city alleys for a more authentic feel. British Royal Marine Capt. Rhys Hopkins stated, “We teach the troops that they just can’t shoot unruly people. ... It is good to learn nonlethal systems to establish order.” In the end, more than 1,200 troops were trained on how to appropriately handle an urban riot situation. Although it took a tragic international incident to serve as the impetus for such training, the British have recognized the urgency to correct past mistakes and properly prepare their troops for the challenges associated with unconventional operations.

Recommendation: A variety of NLW exist that may be significantly advantageous for dismounted troops encountering an unfriendly mob but preferring to maintain control of the situation rather than exacerbate it. One of the most effective systems, and the only recommendation given here that is not yet available to the military, is the active denial system (ADS). The U.S. Air Force Research Laboratory and the Joint Non-Lethal Weapons Program have teamed up to develop a nonlethal technology that may be as useful as Israel’s “Scream” weapon.

The ADS uses electromagnetic energy to stop or deter a hostile enemy, providing the user the ability to stop aggressors without causing permanent injury and before a confrontation turns deadly. With a range of 700 yards, the ADS can be used for protection of DoD resources in operations such as peacekeeping, humanitarian missions and other unconventional situations in which lethal force is undesirable.

Another interesting NLW option would be a variation of the long-range acoustic device (LRAD). This 45-pound dish emits a warning tone at an adjustable level; at its maximum level—50 times the normal human threshold of pain—it is capable of permanently damaging hearing. The maximum range of the LRAD is 500 yards, but at 300 yards its tone is similar to the high-pitched shrill of a smoke detector, only louder. These devices have been used on U.S. ships since 2003. Other options include MK4 pepper spray, M84 stun grenade, M1012 12-gauge rubber projectile, M1013 crowd-dispersal round, M203 40 mm M1029 crowd-dispersal cartridge, M1006 40 mm sponge round, GG04 stun hand grenade and the M26 taser.

Crowd Control. *Issue:* In his book *Fiasco*, Tom Ricks details an unfortunate crowd-control situation that occurred between civilian demonstrators and U.S. military personnel on patrol near Fallujah, Iraq. The situation may well have been avoided, if nonlethal technologies had been used. An active duty colonel is quoted saying, “The lead vehicle fires a warning shot to get (the people) out of the way. ... A gunner in one of the rear vehicles puts his head down and opens up with a .50 cal, just opens up, and lays down seven people.” Another witness states:

The demonstration was approximately 200 persons. ... Some shots were fired from AK-47 assault rifles from the rear of the demonstration. Generally these shots were not aimed; sometimes they were. The Humvee gunner from their D Co. (Anti-Tank Company) did fire a burst

of .50 cal. The Iraqi who was killed I remember the most was an elderly man who took a .50-cal round to the head at short range. Given that I was not in that soldier's position, I cannot say he made a bad call.

Discussion: Both descriptions of this situation reflect a common theme: U.S. forces responded to civilian demonstrators with the level of force they deemed appropriate and people subsequently died. Unfortunately, this situation may have been avoided had these troops been trained on and equipped with NLW.

Various countries around the world actively train on and employ NLW for situations just such as this. For example, the Israeli army used a nonlethal weapon to disperse a crowd of Palestinians, numbered in the hundreds, who were demonstrating against Israel's security forces in the West Bank in 2005. When the Palestinians began throwing rocks at the soldiers, the Israelis employed their Scream weapon, which emits bursts of sound that cause

an overwhelming sense of dizziness and nausea. According to a CBS report, the targeted individuals "could not stay for any length of period in the effective range of the weapon." This weapon fires what amounts to acoustic bullets at a desired frequency, which can be dialed up or down depending on the amount of energy one desires to generate. It can not be overstated how useful an NLW such as a land-based LRAD, the Israeli Scream or ADS would be for U.S. troops in future IW scenarios.

Recommendation: Barring fielding of a land-based LRAD, active denial system or Scream for U.S. troops currently deployed, M84 stun hand grenades may prove useful. These may confuse and disorient the enemy by causing pain, shortness of breath and extreme discomfort, but they have no long-term effects. Several variations of the MK19 grenade launcher can achieve effects similar to the stun grenade, but from a distance of 100–500 meters. Other options have already been mentioned.

Lessons for the Future

According to a February 2004 article by the nonpartisan Council on Foreign Relations, the use of NLW could have significantly changed the course of Phase IV reconstruction in Iraq. It states:

Wider integration of NLW into the U.S. Army and Marine Corps could have reduced damage, saved lives, and helped to limit the widespread looting and sabotage that occurred after the cessation of major conflict in Iraq. Incorporating NLW capabilities into the equipment, training and doctrine of the armed services could substantially improve U.S. effectiveness in conflict, post-conflict and homeland defense.

The article concludes that "equipping U.S.-trained and supported local forces in Afghanistan and Iraq with NLW would help reinforce authority and be more acceptable to local populations."

History generously provides us the

opportunity to look at how things might have been different given another chance. For example, NLW may have proved useful during Operation Restore Hope in Somalia between 1992 and 1993. Foamed barriers, noxious smells and piercing audio waves might have been utilized in lieu of lethal ground-based and airborne platforms. In Rwanda, EMP or other high-energy technologies could have quashed radio broadcasts urging genocide. In Macedonia, malodorants or dyed foam, coupled with personnel-capturing nets, could have been used against those who attacked the U.S. Embassy in 1999. The consequences of not having NLW alternatives are immeasurable and glaringly apparent. There must be an expectation for leaders to demonstrate vision and employ tactics that do more than bring about only death and destruction.

Some people may assert that incorporating NLW into the military arsenal is a politically correct sign of weakness. Others might argue that the United

States can conduct irregular warfare effectively while also working to control violence associated with war. What specific weapons are appropriate for one situation or another? How do we help unstable governments achieve the requisites for democracies while fighting insurgencies, crime, ignorance, superstition, radicalization and poverty? U.S. forces face challenges like these every day as they work to provide resources and services to people around the world.

NLW facilitate efforts to control or disperse a crowd, provide convoy protection, transport suspects or detainees, or augment an existing arsenal of lethal weapons. NLW are an option for use by trained professionals in appropriate situations. They are a tool that allows the legitimate government to protect its interests and achieve its objective without the secondary effects associated with lethal weapons. It is to this extent that NLW may prove to be a valuable asset for a government attempting to win the hearts and minds

of an unsettled domestic population.

As people begin to understand the vast array of NLW being developed around the world, as well as the complexity of counterinsurgency operations, it becomes very apparent that this is an issue of profound importance. Leaders must begin to look for ways to achieve their political goals while also protecting the sanctity of human life. NLW can bridge the gap between lethality and doing nothing at all. □

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