

Non-Lethal Weapons: MEF Application in Joint High Intensity Conflict Battle Field Operations

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Subject Area - Warfighting

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EXECUTIVE SUMMARY

Title: Non-Lethal Weapons: MEF Application in Joint High Intensity Conflict Battle Field Operations

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Thesis: Non-Lethal Weapons (NLWs) that cause temporary mass immobilization of enemy personnel or equipment have great potential to enhance Marine Expeditionary Force (MEF) maneuver, fires, and force protection capabilities.

Discussion: The scope of this paper covers current and future NLW technology most likely to have an application in MEF high intensity battlefield operations. These principally include but are not limited to Chemical (Sleep Agents), Electro-Magnetic (Non Nuclear Electro-Magnetic Pulse Generators), and Acoustic (Pulsed/Attenuated High Intensity Sound). After discussing highlights of these NLW capabilities, this author will briefly address existing legalities associated with each that have the potential to affect their use in high intensity combat. Clausewitzian concepts regarding the nature of war, the maximum use of force, the center of gravity, and the trinity are used to shape principle political and moral considerations for developing ROE consistent with utilizing NLWs and conducting war "*jus in bello*". Additionally, economic considerations, MEF logistic concerns and other relevant NLW issues will be briefly addressed. To provide ideas that may contribute to the formulation of MEF NLW combat doctrine, this author will offer four scenarios in which NLWs could contribute significantly to the success of MEF operations. Specifically, NLWs could be used effectively to seize the initiative during attack, to delay enemy approach to our own position enabling unhindered withdrawal, to temporarily immobilize installations that are undesirable to neutralize with conventional means, or to enhance force protection while conducting various types of assault. Ultimately, even with the application of NLWS, the United States must stay wedded to the concept of total engagement and anticipate escalation as we attempt to control high intensity warfare across the full spectrum.

Conclusion: Current and future Non-Lethal Weapons (NLW) technology combined with proper ROE and doctrine have the potential to enhance MEF effectiveness in joint high intensity battle field operations. Embraced for the right reasons and employed with the right mindset, NLW technology can provide commanders greater flexibility and agility in planning and executing campaign battle space functions of maneuver, fires, and force protection.

"As we look to the future, the Joint Non-Lethal Weapon program will aggressively engage in both cooperation with foreign governments and experimentation to explore new technology as well as doctrine, training, and tactics."¹

Introduction

Do Non-Lethal Weapons (NLWs) have an application in Marine Expeditionary Force (MEF) high intensity joint battlefield operations of the 21st century? Future joint warfighting operational concepts include dominant maneuver, precision engagement, full dimensional protection and focused logistics.² Operating independently or as a component of a Joint Task Force, current and future NLWs clearly have the potential to enhance MEF capabilities across the warfighting spectrum. This study presents concepts supporting MEF NLWs utilization in joint high intensity battle field operations.

The focus of this study is directed primarily at the operational level of warfare as NLWs relate to enhancing MEF

¹ M.R. Steele, LGen, USMC, Chairman, NLW Integrated Product Team, Joint Non-Lethal Weapons Program 1997 - A Year in Review, p. iii.

² John M. Shalikashvili, Gen, USA, Joint Vision 2010, Chairman of the Joint Chiefs of Staff, 5126 Joint Staff, Pentagon, Washington, D.C. 20318-5126, pp.1.

battle space functional concepts of maneuver, fires, and force protection.³ The scope of this paper covers current and future NLW technologies most likely to have an application in MEF high intensity battlefield operations. Various Clausewitzean concepts are used to shape the principle political and moral considerations for developing NLW Rules of Engagement (ROE) consistent with conducting war in accordance with internationally established laws and "*jus in bello*".⁴ Additionally, economic considerations, MEF logistics issues, and other relevant issues will be briefly addressed. Moreover, this study suggests viable MEF NLW employment scenarios. This author's ultimate goal is to offer concepts that will assist in development of NLW ROE and MEF NLW combat doctrine.

Current and future NLWs technology combined with proper doctrine will enhance MEF effectiveness in joint high intensity battle field operations.⁵ Embraced for the right

³ U.S. Marine Corps, Campaigning, MCDP 1-2, Aug 1997, ch. 3, pp. 74-96.

⁴ Colonel Eric L. Chase, USMCR Law of War Concepts, USMC CSC Lecture of 18 September 1997.

⁵ Andrew F. Mazzara, Col, USMC, Director, Joint Non-Lethal Weapons Directorate, MEF application of NLWs, NLW program technology update, MEF NLW concerns regarding ROE and Logistics. USMC Requirements MCCDC, Personal Interview by Author, March 1998.

reasons and employed with the right mindset, NLW technology can provide MEF commanders greater flexibility in planning and executing military campaigns. This author views NLWs technology as a potentially invaluable tool which can provide a greater range of options across functional operating aspects of warfighting to enhance MEF capability, agility, and survivability.

Non-Lethal Weapons Defined

The use of NLWs is a quickly evolving issue for military operations but there is still a great deal of confusion regarding terminology and doctrine. Department of Defense Directives define NLWs as, "weapons that are explicitly designed and primarily employed so as to incapacitate personnel or material, while minimizing fatalities, permanent injury to personnel, and undesired damage to property and the environment".⁶ Some authors refer to information, electronic, and psychological warfare as non-lethal weapons.⁷ While there may be similarities between

⁶ John P. White, Department of Defense Policy for Non-Lethal Weapons, DOD Directive 3000.3, July 9, 1996 p. 1.

⁷ Colonel F.M. Lorenz, USMC, "Non-Lethal Force: The Slippery Slope to War," Parameters, US Army War College Quarterly VOL. XXVI, NO.3, Autumn, 1996, p. 53.

what these other tools of warfare and NLWs achieve from an operational standpoint, they are clearly not in the same category as discussed within the context of this paper.

DOD directives designate the Commandant of the Marine Corps as Executive Agent for the DOD NLW program.⁸ As the Marine Corps develops NLWs rules of engagement, drafts combat doctrine and begins to educate the public regarding possible battle field applications, it is necessary that a common and easily understood definition be applied to avoid confusion. Specific NLW capabilities could later be associated with the definition, when required, to dispel any negative connotations that may exist regarding NLW utilization in battle field operations.⁹ Though the aforementioned definition applies to a wide variety of NLW types, most of which have little or no application to MEF high intensity battle field operations, this author believes its simplicity and broad scope makes it the most relevant.

⁸ White pp. 1-2.

⁹ Negative connotations is associated by the author with the possibility of adverse media impact to military operations on the home front resulting from potential lack of public knowledge regarding the use and advantage of NLWs against an adversary using lethal means.

NLWs Most Likely To Have Battle Field Applications

Oversight responsibility for development and employment of NLWs rests with the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict.¹⁰ This may lead to the faulty assumption that NLWs will only have relevance in Military Operations Other Than War (MOOTW). Current DOD NLW policy is broad enough in scope to enable NLW application to high intensity battle field operations. Of special significance to this study is DOD NLW policy which states, "NLWs may be used in conjunction with lethal weapon systems to enhance the latter's effectiveness and efficiency in military operations".¹¹ The most likely non-lethal weapon types to have application to battlefield operations cause temporary mass immobilization of either personnel or equipment. These NLWs principally include but are not limited to the Chemical (Sleep Agents), the Electromagnetic (Non Nuclear Electromagnetic Pulse Generators), and the Acoustic (Pulsed/Attenuated High Intensity Sound).

¹⁰ White, p. 3.

¹¹ White, p. 2.

Chemical NLW Capabilities and Considerations

From a practical standpoint, sleep agents make an ideal choice for both high intensity conflict and urban warfare applications. When combined with dimethyl sulfoxide (DMSO) these sleep agents (sometimes called calmatative agents) can be absorbed directly through the skin into the bloodstream and result in rapid sedation of enemy forces.¹² Sleep inducing substances are stable and existing medical technology regarding its use has proven reliable. Additionally, a variety of available airborne and ground weapons delivery systems and techniques already in the field would provide timely and cost effective utilization without substantially increasing MEF training requirements or the logistics foot print.

Concerns in fielding sleep agent capability for high intensity combat operations stem from international legalities associated with chemical weapons utilization. The 1974 United Nations Draft Convention on the *Prohibition of*

¹² Paul Evancoe, "Non-Lethal Technologies Enhance Warriors Punch." National Defense, December 1993, p. 28.

the Development, Production, Stockpiling and Use of Chemical Weapons specifically lists various chemical agents that are prohibited in warfare.¹³ Some grey area may exist that would enable weapons development, production, and utilization. From a legal standpoint, if the specific sleep agents elected for use fell outside the scope of the convention's purview, it might be arguably viable to utilize it in warfare. Though sleep agent utilization may be entirely plausible as a more humane alternative to conventional weapon options against select targets, doing so would probably violate the aforementioned convention's spirit and intent. Ideally, policy makers should move to reclassify chemical NLWs apart from chemical lethal weapons to eliminate the stigma associated with WWI chemical weapons destructive implications.

Electromagnetic NLW Capabilities and Considerations

Powerful Non Nuclear Electromagnetic Pulse (EMP)

Generators have the capability to direct a line of sight EMP

¹³ Joseph W. Cook III, Maj, USAF, David P. Fiely, Maj, USAF, Maura T. McGowan, Maj, USAF, "Non-Lethal Weapons: Technologies, Legalities, and Potential Policies." *Airpower Journal* 1996, no. 9, SE, pp. 82-83.

discharge in the one gigawatt range. The discharge must occur over a few milliseconds to have enough force to disable vehicle engines, communications gear, navigation systems and other electronic devices.¹⁴ Fortunately, most U.S. military combat systems have built in protection against EMP blasts due to cold war design specifications, while most third world country combat systems do not. Due to the heavy economic cost and long lead time to modernize military equipment, EMP technology should be effective against third world countries well into the future.

This author's research did not uncover any international legalities restricting non-nuclear EMP use in combat operations. Moreover, no restricting legal issues are anticipated to arise due to EMP focus on disabling equipment versus personnel. In FY96 the Department of the Navy began a series of experimental programs designed to evaluate and field test EMP equipment.¹⁵ Presently, the large size and heavy weight of EMP generators makes the system impractical for deployment with MEFs. However, the EMP concept is sound, its application in combat operations is unfettered by

¹⁴ Evancoe, p.27.

¹⁵ Susan LeVine, NSWCDD Non-Lethal Weapons Program Catalog of Ongoing Efforts, Non-Lethal Coordination Cell, NSWCDD (Code J305), Dahlgren, VA 22448-5100, December 1996, p. 28.

international law and exceptional progress in superconductor technology may substantially reduce its size and weight making it more feasible for MEF deployment in the very near future.

Acoustic NLW Capabilities and Considerations

High intensity sound projector technology can be utilized to effectively immobilize personnel.¹⁶ In the high frequency range, sound intensity causes the human ear drum to vibrate rapidly which affects the inner ear and can cause imbalance and disorientation. In the low frequency range, sound intensity may cause other organs to vibrate which results in a number of other physiological effects up to and including death.¹⁷ Due to the acoustic weapon's relatively non-directional nature and potential rapid changes in atmospheric conditions which effect sound travel through a medium, it can be considered non-discriminatory. By non-

¹⁶ Alan Roland Price, LTC, Directorate General, Development and Doctrine, Ministry of Defense, United Kingdom, Improving the Prospects for the Future Peace Operation - Workshop Proceedings, "Non-Lethal Weapons: A Synopsis," Chapter 13, p. 117.

¹⁷ Cook, Fiely, McGowan, pp. 85-86.

discriminatory, I mean acoustic weapons pose equal threat to both combatants and noncombatants over a large target area. Additionally, depending upon the level of intensity projected, permanent physical damage to personnel can result. To limit this adversity, technology is being developed that will make it possible to project acoustic energy in a tightly focused beam much like a phased array is used to focus RF energy.¹⁸

Ultimately, utilization of vehicle mounted acoustic systems for large scale combat operations is feasible. The drawbacks are that these systems would most likely increase force logistics footprint, present unique training challenges, and possess operating characteristics which clearly have the potential to cost more than they contribute. Legalities involving acoustic weapons utilization require further assessment in terms of their potential ability to cause "unnecessary suffering".¹⁹ This notwithstanding, present interpretation of the basic rules and principles of land warfare do not currently prohibit

¹⁸ John Busic, Joint Non-Lethal Weapons Directorate Technology Assessment of Acoustics as a Non-Lethal Weapon, Dec 97, p. 28.

¹⁹ Cook, Fiely, McGowan, p. 85.

acoustic weapon utilization in high intensity battle field operations.²⁰

Clauswitzean Warfare Theory Applied to NLWs

Clausewitzean concepts have significant relevance to establishing the right mindset regarding the application of NLWs in high intensity conflict operations. There may be non-lethal weapons, but in this author's opinion there will never be a non-lethal war. When our nation becomes involved in future wars we should utilize all means at our disposal, including viable NLW options, to attempt to control aspects of high intensity warfare. Ultimately, as we forge ahead in the development of NLWs, the U.S. must stay wedded to the concept of total engagement and anticipate escalation in high intensity combat operations regardless of weapon type selection.

There are some authors that suggest NLWs are designed principally to minimize casualties, provide a credible enemy

²⁰ Michael W. Resisman, and Chris T. Antoniou, Using Force (Selected Protocols and Conventions). The Laws of War: A Comprehensive Collection of Primary Documents on

action deterrent, and dramatically enhance elements of national power.²¹ While this may be partly true for operations other than war (OOTW), utilization of NLWs in battle field operations should neither signify U.S. intention to preserve enemy lives nor guarantee an outcome of zero casualties.²² From Clausewitz's lessons regarding the nature of war, the maximum use of force, the center of gravity, and the trinity, this author intends to present political and moral considerations which may be useful in developing NLW ROE and establish doctrinal concepts for MEF NLW applications in high intensity battle field operations.

The Nature of War

Clausewitz infers that it is the nature of war to tend toward the absolute.

"The closer political probabilities drive war toward the absolute, the more the belligerent states are involved and drawn into the vortex, the clearer appear the connections between its separate actions, and the more imperative the need not to take the first step without considering the last."²³

International Law Governing Armed Conflict. (New York: Random House 1994), Ch. 2, pp. 35-38.

²¹ Chris Morris And Janet Morris, Non-Lethal Weapons: Creating New Capabilities for Conflict Management, May 27, 1996, p. 1.

²² White, p. 2.

²³ Carl Von Clausewitz, On War, ed. and trans. Michael Howard and Peter Paret (Princeton, New Jersey: Princeton University Press, 1976), bk. 8, ch 3, p. 584. Hereinafter referred to as On War.

From the perspective of limited war, I interpret Clausewitz inference as meaning mankind has attempted to control aspects of warfare for specific objectives achieved by committing a measurable degree of national resources resulting in a gain that outweighs the cost of the endeavor. By absolute, I interpret Clausewitz's warning to mean war is chaos which can escalate past the point that it can be controlled and cause devastation up to and including total annihilation which can well outweigh the potential gain of the endeavor. Thinking in terms of available 20th century nuclear weapons technology, this concept has even more relevance today than it did in Clausewitz's time. In the future, NLW availability could make timely warfare a more attractive option over long term skillful diplomacy to policy makers who were unmindful of the warfare escalation threat potential.

Clausewitz's concept of limited versus absolute war applies to MEF NLW high intensity conflict utilization from two perspectives. First, political decision makers should not view NLWs as a new element of national power for to do so they might be more readily inclined to engage in conflicts that by nature will most likely escalate to the

utilization of lethal force.²⁴ Moreover, national strategy should not be driven by NLW availability. To put it in the proper context for battlefield operations, decision makers should view NLWs as an enhancement to lethal weapons not as an alternative to them. Secondly, NLW ROE development should stress simplicity and clarity to preclude misinterpretation at every level of command.²⁵ Additionally, NLW ROE should not be straddled by an excessive number of preconditions so as to preclude rapid or even simultaneous execution of lethal force options at the MEF commanders discretion.

The Maximum Use of Force

Clausewitz advises us that motives for conducting war stem from hostile feelings and intentions which tend to push opponents to extremes.

“Kind-hearted people might of course think there was some ingenious way to disarm or defeat an enemy without too much bloodshed, and might imagine this is the true art of war. Pleasant as it sounds, it is a fallacy that must be exposed: war is such a dangerous business that the mistakes which come from kindness are the very worst”.²⁶

²⁴ Lorenz, p. 61.

²⁵ James B. Linder, “A Case For Employing Non-Lethal Weapons,” *Military Review*, September 1996, Vol. 76, Iss. 5, p. 27.

²⁶ On War, bk. 1, ch. 1, p. 75.

Of the many connotations embedded in this Clausewitzian concept, there is one primary message for commanders which is key to minimizing loss of life, reducing waste of national resources, and optimizing chances of success. If a commander should be fortunate enough to possess superior combat strength and capabilities, he has the moral obligation to use them decisively to reduce the time his nation spends at war. NLW application to battlefield operations can yield an advantage that should be capitalized upon as consistent with the legal and moral rules of conducting warfare "*jus in bello*". In this context, it might be more productive to think of NLWs as a fire suppressant rather than an alternative to lethal means.

The time for kindness, understanding, and compromise is during diplomatic exchanges and has no place in wartime operations. The Clausewitzian concept of maximum use of force readily applies to NLW high intensity conflict operations. However, extreme care must be taken in introducing NLWs to the battle field environment. Decision makers must focus policy that dispels any notion that adapting NLWs into U.S. arsenals implies weakness or lack of

resolve to utilize lethal options whenever necessary.²⁷ This idea should resonate through the minds of political leaders as they develop national military strategy, policy makers as they craft ROE, and campaign planners as they integrate NLW technology into battle plans.

The Center of Gravity

Clausewitz defines the center of gravity as, "The hub of all power and movement, on which everything depends... and that it is the point against which all our energies should be directed".²⁸ Additionally, he identifies five potential centers of gravity three of which include the enemy army, capital, and principal ally. In modern warfare, it is important to note that multiple operational centers of gravity may exist and might be much harder to identify and thereby neutralize. Where enemy weakness does not exist, it must be created by logical application of force to critical nodes. To most efficiently maximize the effectiveness of available combat power, commanders must direct energy to

²⁷ Roger C. Hunter, "Disabling Systems and The Air Force," *Air Power Journal*, Fall 1994, Vol. 8, Iss. 3, p. 45.

²⁸ *On War*, bk. 8, ch.4, pp. 595-595.

weaken key elements which sustain enemy operational centers of gravity. NLWs may provide a unique capability which could enhance such endeavors.

Creating operational advantage in future advanced expeditionary warfare over a wide variety of threats will require a tactically adaptive, technologically agile, ruthlessly opportunistic and relentlessly exploitative force.²⁹ The introduction of NLWs to battlefield operations is unlikely to change the importance of identifying and destroying enemy centers of gravity. Ideally, NLWs can be utilized to enable commanders added flexibility to rapidly redirect the focus of effort in combat and to more effectively exploit enemy weakness. Also, NLWs possess the potential to enhance MEF force protection capability which may yield an economy of force benefit by freeing up conventional forces which would be otherwise employed. Unencumbered by over restrictive ROE and utilized with proper doctrine in high intensity combat scenarios, NLWs have the potential to enhance MEF abilities to maneuver, fire, and preserve combat power.

²⁹ Author Unknown, Advanced Expeditionary Warfare-2015, Draft Concept Paper, Unpublished as of August 6, 1996, p.11.

The "Trinity"

Clausewitz presents the trinity of war as a phenomenon composed of primordial violence, hatred and enmity that include three primary aspects; the people, the army, and the government.³⁰ The moral commitment of the people to endure hardship, the tenacity of the army to engage in combat and the responsibility of government to pursue political aims with reasonable strategy form the basis of the trinity and success in war. Clausewitz infers that should even a single element of the trinity be deficient or come to be harmed during hostilities it could significantly reduce a nation's ability to be successful in war. NLWs may present a challenge which could, if not managed properly, adversely impact our national "Trinity".

If Clausewitz were alive today, how would he view NLW application in MEF battle field operations and its potential impact on his trinity concept? Without being schooled in NLW capabilities, ROE, or doctrine, his first mental reaction would probably be to discard the very notion as insane. Utilized with overly restrictive ROE and unclear doctrine,

³⁰ On War, bk. 1, ch.1, p. 89.

NLWs could have a negative impact upon the strength of our trinity by adversely influencing the will of our people, the morale of our military, and the ability of our government to develop plausible strategy. Policy makers must develop strategy and employ NLWs based upon an approach that maximizes combined forces combat effectiveness.³¹ In doing so, we preserve the strength of our trinity and increase our chances for success in war.

Economic Considerations

Since 1992, the DOD annual budget has decreased from \$287 to \$213 billion dollars and is expected to go to \$200 billion by the year 2003.³² In 1996 congress appropriated millions of dollars to fund DOD NLW R&D programs and the trend is expected to increase.³³ The inherently high cost of fielding new military technology, training personnel, and maintaining equipment compels us to explore options that

³¹ Klaaran, Jonathan W. Maj, USAF, Mitchell, Ronald S. Maj, USAF, "Non-Lethal Technology and Airpower: A winning Combination For Strategic Paralysis'" Airpower Journal 1996, no. 9, SE, pp. 44-45.

³² Williams, Robert H., "Plunge in Procurement Levels Off, Says Forecast," National Defense, December 1993, pp. 30-31.

maximizes NLW utility in high intensity warfare. America can no longer afford to procure non-joint DOD weapons systems that are specialized in nature and limited in scope of application. If the utility of NLWs was limited to peacekeeping operations, their potential would be unlikely to justify their expense to field.³⁴ NLWs should not be treated as special weapons. The NLW systems currently under development are extremely versatile and have application across the warfare spectrum. With non-restrictive ROE and proper doctrine, MEFs could exploit unique NLW capabilities to great advantage in high intensity combat scenarios.

MEF Logistic Concerns

NLWs must be deployable, reliable, and sustainable in the field to reasonably enhance MEF current maneuver, fires, and force protection capabilities. At present, only chemical NLW fall into this category and current legalities limit their use in combat. Additional work is required in development before various other NLW types reach the point where they can meet MEF operational logistic and warfighting

³³ U.S. Congress, House of Representatives, Conference Report, National Defense Authorization Act For FY96. 104th Cong., 2nd Sess., Jan 22nd 1996. S. Rept. 104-450, Sec. 219.

³⁴ Price, p. 117.

requirements. Sea lift availability in expeditionary warfare is limited now and will be even more so in the future with the projected down sizing of the force. For each NLW a MEF takes to the field a lethal weapon must be left behind due to lack of space.³⁵ The exact size and weight of each NLW type is yet to be determined and may be worth the LW cost. However, for the MEF to justify the tradeoff when entering a high intensity combat environment, deployable NLW technology must function as advertised and its application should be backed by doctrine. Ultimately, MEF planning and mission scope should drive load out decisions regarding NLW applications in high intensity conflicts of the future.³⁶

The Media and Public Perception

Like it or not, media technology has changed the face of warfare and, in addition to all their other concerns, battle field commanders must contend with the "CNN Factor". At the very least, major commands that utilize NLW systems must

³⁵ James Budway, Maj, USMC, Non-Lethal Weapons Program Officer, Potential MEF high intensity conflict scenarios, USMC Requirements MCCDC, Personal Interview by Author, October 1997.

³⁶ Mazzara, Personnel Interview by Author, March 1998.

construct a media plan to describe its employment.³⁷ On a positive note, enemy propaganda experts that develop media plans to use NLW applications against us to break coalition cohesiveness or arouse sympathy from the international community can be credibly and easily countered for obvious reasons. How the Marine Corps introduces NLW technology to the public can be just as important to successful NLW combat application as how it introduces it to the battle field.

Failure to utilize the media in a timely manner for the purpose of educating the public, the military, our own government and even the government of the enemy in NLW battle field applications could result in serious consequences. When a MEF employs NLWs in high intensity combat, misunderstanding of the issues could have a detrimental impact on the will of the people, the morale of our forces and the resolve of our government. Additionally, if enemy forces did not understand NLW combat implications, they might come to believe they would not be required to make the supreme sacrifice which could have the effect of emboldening them to fight more vigorously than they otherwise would.

³⁷ Lorenz, p. 59.

The availability of NLWs can give the MEF commander options to more equitably deal with media effects on operations. Though the NLW systems previously addressed have demonstrated an acceptable degrees of reliability, the chances of unintentionally inflicting casualties clearly exists. When warfare requirements spill over into an urban environment, it may be entirely possible to select delivery times so as to minimize the probability of accidental non-combatant casualties resulting from NLW utilization. However, there is no zero-defect guarantee associated with the employment of NLWs.³⁸ By this, I mean we cannot totally eliminate NLW casualties resulting from an ill-timed surgeon's incision, an unlucky walk down a flight of stairs, an individual's adverse health condition or a myriad of other accidents which occur by application of force in war which can result in injury or death.

MEF High Intensity Conflict NLW Applications

The purpose of presenting the following scenarios for consideration is to stimulate thought regarding future doctrinal MEF NLW high intensity conflict applications.

³⁸ White, p. 2.

It is not within the scope or intent of this study to wargame each of the scenarios in detail. They are conceptual in nature and the situations they describe are completely hypothetical. The following assumptions were made:

- The MEF has robust NLW operational capability, trained personnel, and logistic support.
- JTF NLW ROE is crafted to provide the MEF commander flexibility in NLW combat applications.
- MEF planners integrated NLW technology into the campaign battle plan.

Possible applications where MEFs could effectively utilize NLWs include but are not limited to: seizing the initiative during an attack, delaying an enemy approach to own position enabling unhindered withdrawal, temporarily immobilize installations that are undesirable to neutralize with conventional means and enhance force protection while conducting assault.

Seizing the Initiative

The Situation: Your mechanized brigade is afforded the honor of being the MEF lead element for an avenue in depth attack from the north against a heavily dug in mechanized

enemy force in the vicinity of a high value area. The MEF commander has authorized simultaneous utilization of NLW/LW and has just directed your brigade to close with and destroy the enemy. Though battle field shaping operations utilizing conventional weapons have been relatively successful, the enemy still possesses substantial combat power and you must clear an array of well constructed obstacles to reach his position while under fire. Additionally, intelligence estimates indicate substantial possibility of enemy capability and intention to use chemical weapons. Due to other pressing commitments, you know that there is substantial competition for JTF CAS assets. In your estimate, combined available JTF and MEF CAS assets are insufficient to provide the number of sorties necessary to keep the enemy's head down completely utilizing only conventional means. You have just received an intelligence report that indicates additional enemy forces are moving north with intention to link up with the enemy units you are about to attack. Time is of the essence.³⁹

The goal here is to seize the initiative in a timely manner without incurring excessive combat casualties. Sheer

³⁹ Budway, Personnel Interview by Author, October 1997.

force on force in this case would be extremely costly. If the enemy demonstrates resolve, the MEF can achieve success without significant casualties only by ruthlessly exposing enemy vulnerability, shattering enemy perspective, and disrupting the enemy decision making processes.⁴⁰ MEF forces could utilize Acoustic Wave or EMP NLWs to effectively disorient enemy personnel and disable defensive equipment. Simultaneous utilization of NLW/LW would substantially increase MEF maneuver speed and ability to preserve combat power. Ultimately, NLW technology could disrupt enemy C2 capability, tactical mobility and defensive advantage by effectively denying enemy ability to mass fires and to deliver chemical weapons. Consistent with legal and moral issues governing various aspects of warfare, MEFs could employ Acoustic Wave or EMP NLWs to compliment LW systems to provide significant operational and tactical advantage in high intensity operations.⁴¹

⁴⁰ Author Unknown, Advanced Expeditionary Warfare-2015, Draft Concept Paper, Unpublished as of August 6, 1996, p. 10.

⁴¹ Roland, p. 118.

Protecting Withdrawal

The Situation: Your brigade has advanced in line abreast to attack enemy defensive positions. Combat casualties in excess of course of action estimates has prompted the MEF commander to order a withdrawal. Friendly forces have been pulled back to regroup, re-supply, and conduct additional battle field shaping prior to attempting the next attack. Your present position is well forward of other friendly forces and the possibility exists that your starboard flank is now exposed to enemy fires. Though probability of chemical attack is low, intelligence estimates indicate that reinforced enemy forces are massing for counter attack upon your position.⁴²

Acoustic and EMP NLWs provide unique force multiplier capabilities. Under current doctrine, units of sufficient strength and conventional combat power must be left in impromptu defensive positions to cover the withdrawal of the main body. Acoustic and EMP NLW utility in disrupting enemy C2, denying enemy tactical mobility, and disorienting enemy personnel could immeasurably contribute to friendly force

⁴² Budway, Personnel Interview by Author, October 1997.

effectiveness and chances of survival. Synergy established from combined NLW/LW utilization could substantially enhance rear defense force capability to hold or delay enemy movement while the main body withdrew from the area in greater safety. Using NLW/LW in concert would result in substantial slowing of enemy advance. Depending upon NLW system effectiveness, a much smaller size rear protection force might be sufficient enabling additional options for more rapid extraction of personnel. Depending on the situation, Acoustic and EMP NLWs left in place, turned on and rigged for remote destruction might even be able to provide sufficient cover so no rear protection force would need to be left behind. They would act as mechanical guardians blocking direct enemy lines of approach to provide friendly force additional time for withdrawal. Ultimately, NLWs have exceptional potential to preserve invaluable combat power and add flexibility to MEF operations.

Immobilizing Legitimate but Sensitive Targets

As we witnessed in the Gulf War, enemy forces may disperse command and control, intelligence gathering facilities, and air defense systems among civilian populace

gathering centers such as mosques, hospital and hotels. In doing so, they make them difficult if not impossible to target with conventional lethal weapons without inflicting great collateral damage on civilians.⁴³ From a strategic standpoint taking such an action could be extremely counter productive by straining national relationships with allies or disrupting cohesion of ad hoc coalition forces. Though by doctrine a MEF can count these as legitimate combat targets, the reality of it is that the American people will allow their military to go only so far with what pain it inflicts upon an enemy in their name.⁴⁴

By adopting these deplorable tactics, the enemy restricts the MEFs ability to mass fires and reduces its capacity to execute active force protection measures. Effectively, by operating in this manner, the enemy has leveraged weakness to create a no win situation. To leave the targets in place jeopardizes our forces by enabling the enemy to efficiently operate. To destroy them most likely results in loss of moral support from the home front and the international community. Fortunately, in DESERT STORM we had

⁴³ Budway, Personnel Interview by Author, October 1997.

⁴⁴ Chase.

overwhelming superiority in combat strength, logistic support, and technology which enabled JTF commanders to exercise alternative conventional options at will. Against a more capable opponent, we may not be in such a favorable position and NLWs could be employed to reduce or eliminate the effectiveness of these tactics.

Amphibious Assault Forcible Entry

The Situation: The JTF commander requires the MEF to conduct an amphibious forcible entry to establish a beachhead near a high value port area. Enemy forces are heavily dug into various key positions along the coastline. The success of enemy deception operations and other unforeseeable contingencies have hampered your operation from the start. On a positive note, air power has been effective in conducting shaping operations in the landing area with conventional weapons. However, shortages in precision guided weapons have made it impossible to deal with the preponderance of enemy forces that are intermingled among nearby major populace centers without inflicting excessive noncombatant casualties. Due to their relative close proximity, enemy forces can mass and be in vicinity of

landing site firing positions within a matter of hours. Even with JTF and MEF CAS assets, enemy forces could arrive at a time when the MEF was most vulnerable and before sufficient combat supplies could be brought ashore. By your estimate, you can still accomplish your mission without continued shaping but it will most likely result in a higher number of casualties.⁴⁵

Preemptive Chemical NLW strikes via air power, cruise missile or naval gun fire on enemy positions in the major populace centers would be useful in extending the scope of the MEF commander's battle field shaping requirements, enhance his ability to maneuver, and preserve his combat power. The benefits of Chemical NLW applications to this scenario could include immobilizing enemy personnel, denying enemy movement, delaying enemy action, disrupting enemy C2 nodes, and demoralizing enemy forces without inflicting significant noncombatant casualties.⁴⁶ The amphibious force would gain time to mass its combat power ashore without enemy intervention at a critical landing stage. By electing not to utilize conventional weapons which could result in

⁴⁵ Budway, Personal Interview by Author, October 1997.

⁴⁶ Joint Staff, Joint Concept Requirements Group, Non-Lethal Weapons Transition Plan - Fiscal Year 98-03, Draft Concept Paper, Unpublished, Undated pp. 2-3.

massive civilian casualties, we do not risk international disdain, jeopardize coalition cohesiveness or lose support of the home front.⁴⁷ Additionally, the positive effects on troop morale resulting from closely adhering to the precepts of conducting war "*jus in bello*" while taking positive action to limit MEF casualties would be substantial.

Conclusions

The United States has invested significant energy and resources to develop NLW technology and we should take every opportunity to leverage the advantage across the warfare spectrum.⁴⁸ Political leaders must garner international support for utilizing NLW technology in warfare. National strategy planners and policy makers should anticipate escalation in warfare regardless of weapon type selection. Ultimately, world leaders must be convinced to reclassify

⁴⁷ Joint Staff, A Joint Concept for Non-Lethal Weapons, August 1, 1997, p. A-4.

⁴⁸ U.S. Congress, Senate, Committee on Armed Services, Report on Authorizing FY96/97 Appropriations for Military Activities of the DOD. 104th Cong., 2nd Sess., May 13th 1996. S. Rept. 104-267, Sec. 220.

current material prohibitions involving NLW applications for the purpose of reducing the myriad of legal barriers that currently restrict some of the more useful, less costly, and more reliable NLW types in combat.

Combined with proper ROE and doctrine, NLWs have substantial potential to enhance MEF capability, agility, and survivability in high intensity battle field operations of the 21st century. Indeed, there are many high intensity conflict scenarios to which the utility of NLWs technology can be applied with great advantage. Decision makers should avoid formulation of a NLW ROE "Gateway thought process" that advocates a natural progression from NLW to lethal weapon employment. Additionally, NLWs should be viewed as a force multiplier and not a revolutionary new element of national power to be used in justifying further reductions in current force structure.

MEF involvement in high intensity battle field conflict means significant U.S. national commitment to being successful in warfare. As Americans, we are bound legally and morally to conduct warfare "*jus in bello*" in accordance

with international laws that emphasize minimizing unnecessary suffering and collateral damage to noncombatant personnel and property.⁴⁹ While it may be true that use of NLWs could reduce numbers of both friendly and enemy combatant and noncombatant casualties, NLWs will not change the character or nature of war. Despite the eloquent terms in which it is couched, high intensity warfare means killing and NLWs should be utilized as a means of conducting high intensity warfare more efficiently.

⁴⁹ Chase.

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