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THE OPERATIONAL USE OF NON-LETHAL WEAPONS

by

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A paper submitted to the Faculty of the NWC in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.

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Non-lethal weapons (NLW), while development is currently focused on tactical level applications, offer the operational commander flexible new tools that can be employed across the spectrum of warfare to achieve operational objectives. Current and emerging technologies offer the promise of allowing NLW to be used at the operational level to impose our will on the enemy while limiting both civilian casualties and collateral damage. This in turn will allow for more rapid war termination and will minimize the instability exacerbated by the destruction associated with conventional warfare.

Operational commanders must demand NLW technologies be developed and fielded for use at the operational level. Further, doctrine needs to be developed for their use if confidence is to be established in their effectiveness. With confidence and doctrinal underpinning, NLW can be effectively integrated into the warfighting capabilities of the operational commander for use across the entire spectrum of warfare.

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Why Non-Lethal Weapons?

Fighting by non-lethal means is not a new phenomenon. Sun Tzu wrote over 2000 years ago, "Hence to fight and conquer in all your battles is not supreme excellence; supreme excellence consists of breaking the enemy's resistance without fighting."[1] Existing and emerging technologies offer operational commanders the ability to enhance the warfighting capabilities of their forces through the employment of Non-Lethal Weapons (NLW). Post Cold War U.S. military operations have introduced NLW as a viable option in Peace Keeping Operations (PKO) and Peace Enforcement Operations (PEO). NLW used in these operations are primarily anti-personnel weapons designed to incapacitate individuals or disperse crowds to enhance force protection. While NLW are useful in this tactical context, operational commanders can ill afford to neglect their potential for employment at the operational and strategic levels where their utility is of equal import. NLW can be used across the entire spectrum of warfare to enhance both the effectiveness and efficiency of U.S. military operations.

Why should employment of NLW be considered by the operational commander?[2] Clearly, recent history has demonstrated the United States' capacity to wage war with lethal weapons can be withstood by few adversaries. Potential enemies are not unaware of the capability of the U.S. to bring overwhelming conventional lethal military power to bear against them. Our weakness, if it exists at all, lies in a societal aversion to casualties and the destruction wrought by our weapons. This aversion to casualties has migrated over time from an intolerance of U.S. casualties, to an intolerance of non-combatant casualties and the U.S. is now seemingly averse to the causing of casualties even among enemy combatants.[3] This aversion to casualties, among even enemy combatants, was amply demonstrated by the

cessation of attacks on elements of the Republican Guard as they fled Kuwait and by the elaborate efforts made by U.S. forces to limit casualties in military operations since the end of the Cold War. In the past we have attempted to limit casualties by increasing the lethality and the precision of our weapons. This may no longer be sufficient to ensure public support for sustained military operations.[4] The U.S can expect that our future adversaries will attempt to exploit this weakness in order to weaken our resolve and defeat us by making the cost of prevailing too high. In an age of instant communications the "glare of public opinion" will be instantly focused on the lethal results of any U.S. military operation. In this milieu, the use of NLW, in conjunction with more conventional precision guided munitions (PGM), by the operational commander becomes both practical and necessary.[5] A new strategic environment is emerging that is characterized by increasing ambiguity, the rise of non-state actors, weapons of mass destruction (WMD), coalition warfare and greater calls for U.S. intervention to maintain order in a turbulent international environment.[6] If the U.S. is to remain engaged it must find the means to employ force in a manner that is both acceptable and effective in achieving the desired aim. NLW allow the military to retain its political utility and effectiveness as an instrument of national policy in this emerging strategic environment.[7] The capability to use force to compel the enemy to do your will is the key to victory. If NLW, backed by the ability and will to resort to lethal force if necessary, allow operational commanders to do this, destruction of enemy forces or infrastructure may no longer be necessary or desirable.[8]

Non-Lethal Weapons Defined.

It was the recognition of the emerging strategic environment and the utility of NLW that Department of Defense (DOD) Directive 3000.3, *Policy for Non-Lethal Weapons*, was promulgated in 1996.[9] DOD Directive 3000.3 defined NLW 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. Unlike conventional lethal weapons that destroy their targets principally through blast, penetration, and fragmentation, non-lethal weapons employ means other then gross physical destruction to prevent the target from functioning. Non-lethal weapon are intended to have one or both of the following characteristics: 1) they have relatively reversible effects on personnel or materials, 2) they affect objects differently within their area of influence.[10]

The National Defense Authorization Act for fiscal year 1997 directed that an executive agent "for joint service research, development, test and evaluation of non-lethal weapons and non-lethal technologies" be designated. A Joint Memorandum of Agreement (JMOA) was signed in 1997 that designated the Commandant of the Marine Corps the executive agent for the Department of Defense for the development and testing of NLW and a Joint Non-lethal Weapons Directorate (JNLWD) was established at Quantico, VA. The JNLWD has a staff of 15 and a budget of approximately $25 million per annum[11] The JMOA also called for NLW research to be focused at the tactical level and fully 70 percent of all funding is directed at tactical level applications.[12] While the bulk of current NLW are designed for use at the tactical level it does not, nor should it, preclude their use at the operational and strategic level.[13] It is important to emphasize that it is the intent of non-lethality that is important. DOD does not require nor expect that the use of NLW will result in zero casualties.

NLW can be divided into essentially two broad functional categories: anti-personnel and anti-material. Anti-personnel NLW have been employed extensively by U.S. forces engaged in PKO and PEO. Anti-personnel NLW have proven to be effective at the tactical level. Since Somalia, U.S. forces deployed on PKO and PEO have been armed with a variety of anti-personnel NLW that are designed to subdue individuals, disperse hostile crowds, de-

escalate potentially hostile situations and enhance force protection.[14] However, because of their limited stand-off capability the utility of anti-personnel NLW is limited at the strategic and operational level. It is in the category of anti-material NLW that the greatest promise lies for the operational and strategic use of NLW. Table 1 depicts NLW technologies categorized by function and possible applications for their employment.

Table 1. Non-Lethal Technologies

TECHNOLOGY	CATEGORY	APPLICATION
Conductive Particles	M	Any variety of particles that can induce short circuits in electrical or electronic equipment.
Depolymerizing Agents	M	Chemicals that cause polymers to dissolve or decompose. Could clog air breathing engines. Adhesives could "glue" equipment in place/
Liquid Metal Embrittlement Agents	M	Agents that change the molecular structure of base metals or alloys, significantly reducing their strength. Could be used to attack critical metal structures–aircraft, ships, trucks, metal treads.
Non-Nuclear Electromagnetic Pulse	M	Pulse generators producing gigawatts of power could be used to explode ammunition dumps or paralyze electronic systems. Vulnerable systems include electronic ignition systems, radars, communications, data processing, navigation, electronic triggers of explosive devices.
High Powered Microwave	M, P	Microwave pulse generators are similar to electromagnetic pulse. Applications are also similar; however, microwave frequencies may have anti-personnel applications that can cause pain or incapacitation. May also be used for force protection applications.
POL Contaminants	M	Additives that cause fuel to gel or solidify making it unusable.
Supercaustics	M	Acids that corrode or degrade structural materials.
Super Lubricants	M	Substances that cause lack of traction. Delivered by aircraft, can render railroads, ramps, or runways unusable for limited time frames.
Acoustics	M, P	Very low frequency sound generators that could be tuned to incapacitate personnel. At high power may have anti-material applications.
Foam	M, P	Sticky or space-filling material that can impede mobility or deny access to equipment.
Isotropic Radiators	M, P	Conventional weapons that produce an omni-directional laser-bright flash that can dazzle personnel or optical sensors.
Lasers	M, P	Low energy lasers could flash blind personnel or disable optical or infrared systems used for target acquisition, tracking, night vision and range finding.
Calmative Agents	P	Chemical substances that are designed to temporarily incapacitate personnel.

Categories: P = Anti-personnel, M = Anti-Material

Source: Joseph Siniscalchi, "Non-Lethal Technologies: Implications For Military Strategy," Maxwell Air Force Base, AL: Air War College, Center For Strategy and Technology, 1998.

NLW have unique characteristics that differentiate them from conventional weapons and PGM. NLW have a greater radius of effects. For example, directed energy weapons (electromagnetic pulse (EMP)) can have a radius of effect that is significantly greater then conventional PGM and could destroy or disable weapons, infrastructure, and facilities hundreds of meters from their point of denotation. Additionally, NLW offer a commander the ability to increase the precision of his weapons. While conventional weapons can target specific weapons, NLW can target components of enemy weapons or infrastructure. An

EMP attack may destroy or disable enemy electronics in a given area while doing no harm to civilians or infrastructure. Finally, NLW offer the commander a selectivity that is unattainable with the use of conventional weapons. NLW because of their "intent" of non-lethality allow the commander greater flexibility in their employment. Previously off limits political and military targets may now become subject to attack because the risks of incurring civilian casualties and collateral damage are minimized. Further, the "reversibility" of the effects of NLW in comparison to conventional weapons allows for rapid reconstruction of infrastructure targeted for attack. A bridge attacked by NLW would not have to be rebuilt, only cleared of the agent used to deny access to it. Thus, an attack by NLW would achieve the desired effect, denial of the bridge's use to the enemy, while reducing risk to civilians and the time and cost necessary to put it back in operations at the end of hostilities. [15]

From Peace to War.

Joint Vision 2010 calls for the "the ability to produce a broader range of weapons effects."[16] NLW fulfill this requirement and offer a host of new Flexible Deterrent Options (FDO) that help fill the gap between peace and open hostilities. Combined with diplomatic, informational and economic FDOs, NLW can assist the commander in shaping and managing an emerging crisis or preparing for a wider more lethal conflict.[17] NLW offer options to the commander that promise synergistic effects when used in conjunction with current FDOs to implement U.S. strategy. NLW can be employed effectively to help shape a crisis due to their "rheostatic and tuneable" nature. This rheostatic capability pressure on an adversary to be raised and lowered necessary to achieve the desired objective.[18]

At the lower end of the rheostatic capability NLW can be used to assist in the enforcement of sanctions. Key transportation nodes (airfields, ports, railheads, bridges, etc.)

can be shut down and their use denied without threat to noncombatants. This can be done by attacking key nodes with agents designed to deny or degrade their use. For example, airfields can be closed by making their surfaces too slippery to operate from. Bridges and port facilities could be blocked with impenetrable foams.[19] The use of such "technical sanctions" offers the commander a variety of additional advantages.[20] NLW allow force to be used earlier in a crisis then is currently possible. Faced with the option of doing nothing or killing large numbers of noncombatants in an effort to force compliance, a commander may advise the National Command Authorities that no suitable military option exists. NLW permit the commander to bridge the gap and act. Used in tandem with economic sanctions, "technical sanctions" allows force to be used to strengthen the compliance demanded by the NCA.[21] The potential for minimizing casualties may also allow for intervention without the worldwide condemnation that often accompanies U.S. military action.[22] Minimizing the lethal consequences of military action will assist the commander in maintaining coalitions unwilling to act in the face of possible harm to civilians, as well as offering a means of controlling escalation.[23]

The imposition of "technological sanctions" are just one of the FDO that NLW offer the commander. NLW allow the U.S. to signal its intent to act or escalate pressure on an adversary. By using NLW the commander has a means of acting short of lethal force. This would signal to an adversary a clear indication of U.S. intent to resist, while simultaneously allowing for the opportunity to step back from the possibility of war with the U.S.[24] The commander can employ NLW in ways tailored to particular situations, and that can be portrayed effectively, in the age of CNN, as avoiding the use of excessive force.[25] Finally, by using NLW to clearly indicate U.S. intentions, the commander places the burden of

decision on our adversary and with it, the onus for further conflict. If escalation to lethal force now occurs, the burden is shifted to our adversary. This burden of decision gives an adversary an additional and final opportunity for disengagement prior to use of lethal means by U.S. forces.[26]

The signaling of intent by an attack with NLW, has the simultaneous benefit of degrading enemy capability.[27] These attacks can be implemented individually, simultaneously, or rheostically. Targets for these weapons can be divided into three basic sub-groups: personnel, infrastructure and equipment.[28] In reference to personnel, the most efficient use of NLW would target the leadership of our adversary. This would entail an attack of selected targets designed to demonstrate the leadership's inability to act effectively in the face of U.S. opposition.

NLW attacks could be launched against infrastructure outside the view of the general populace. These attacks could be focused on key infrastructure or equipment that is of high value to the leadership and could be accomplished with little loss of life. Done without public knowledge, it would serve as a private warning, clearly demonstrating U.S. intentions and capabilities. The leadership would then have an opportunity to make concessions or back down. This behavior modification could be accomplished without the hardening of positions that might occur if the attacks were conducted in the open and where an altering of positions may expose those involved to ridicule and loss of support.[29]

Leadership could also be attacked more openly. High value targets could be attacked and shut down in an effort to separate the leadership from the people. Focused EMP attacks on communications nodes and the interdiction or destruction of military material and equipment, when combined with U.S. information and psychological warfare could isolate

the government from the people.[30] With communications nodes destroyed, the decision making abilities of the enemy would be degraded thus providing further freedom of action for U.S. forces. With the government and its forces incapable of taking effective action, the populace may be induced to take on the government itself thus negating the need for further U.S. action.[31]

If NLW attacks on the leadership do not have the desired effect, they can be escalated to include more direct and widespread attacks against infrastructure and military equipment. These attacks can be done in an escalating manner or simultaneously with attacks on the leadership in an effort to achieve "strategic paralysis."[32] Enemy military forces could be attacked in assembly areas or on airfields. Depolymerizing agents, or super adhesives, could be used to "glue" equipment in place. Foams could be used to block or impede mobility corridors required by military forces. Airfields, railways and roadways could be shut down through he employment of super lubricants. EMP weapons could be used to paralyze electronic systems to include air defense systems, communications, vehicle ignition systems and the electronic ignition systems of explosives.[33]

Beyond attacks on military forces and equipment, the commander could launch NLW attacks against the enemy's war sustaining capability. EMP weapons could be used to detonate ammunition stockpiles to limit the ability for sustained resistance. Special Forces teams could be deployed to introduce POL contaminants in the enemy fuel supply which, in tandem with economic and "technical sanctions," would further degrade their warfighting capability and shut their economy down. Bridges and tunnels could be made impassible, without destroying them, thus complicating logistical support of military forces and inducing further economic disruption.[34]

These attacks would have the effect of disrupting mobilization and would deny or destroy enemy war making material. This would allow for "mission kill" in which you strip away the enemy's means of achieving their mission with minimal civilian casualties and limited collateral damage.[35] These attacks could temporarily prevent the enemy military from acting or could disable various elements of regional military communications, transportation or energy infrastructures.[36] The commander could employ these attacks in an escalating manner to gradually increase the cost associated with resistance or simultaneously in order to achieve "strategic paralysis." This "strategic paralysis" would render the enemy incapable of effective decision-making or resistance and would be accomplished with limited civilian casualties and minimal collateral damage.[37] This might induce a "cooling off" period, interrupting the tempo of escalation, allowing for negotiations and may deterring further military or unacceptable actions by our enemy.[38] If the enemy is still predisposed toward resistance, attacks by NLW will have caused wide scale confusion, and complicated the mobilization process, thus making the enemy open and more vulnerable to subsequent attacks by U.S. forces using more traditional lethal weapons.[39]

Operational Use of NLW in War.

With deterrence having failed and open hostilities ensuing, NLW can still be of utility, albeit in a more proscribed manner, to the commander when used to complement lethal weapons in the prosecution of military operations. As always, the commander must be able and willing to employ lethal weapons in instances where the use of NLW are unable to achieve the desired objective. In actual combat operations as in all other spectrums of war, NLW offer the commander a new set of tools, that when used effectively, increase the warfighting capabilities of U.S. forces.

By employing NLW in complement with PGM, high tempo strategic attacks can be conducted against the enemy's strategic center of gravity while limiting damage to civilians and infrastructure.[40] The "strategic paralysis" induced by such attacks would serve to complicate the decision making abilities of the enemy leadership and delay, disrupt and disorient enemy forces attempting to mobilize or deploy. With the enemy's operational tempo disrupted U.S. forces would gain valuable time in which to deploy forces and mount their response. The induced "strategic paralysis" increases the vulnerabilities of enemy forces and creates opportunities for exploitation.

NLW add flexibility to actual combat operations by allowing U.S. forces to target previously off limits areas for attack. High value targets which in the past have been left off target lists due to their proximity to civilians or cultural centers can be targeted and attacked effectively.[41] Using NLW for these attacks allows U.S. forces to achieve the desired operational objective while simultaneously limiting risk to civilians and minimizing collateral damage. This in turn allows for the maintenance of public support throughout military operations and diminishes the costs associated with rebuilding at the cessation of hostilities.

Employed properly NLW also allow for operational maneuver within a theater of operations. Using EMP weapons in conjunction with area denial munitions, U.S. forces may be able to immobilize or incapacitate enemy tactical forces. By incapacitating these forces, thus rendering them incapable of countering U.S. maneuver, the U.S. can create opportunities allowing for direct attacks against the enemy operational center of gravity (COG).[42] Operational fires delivered by air and cruise missile attacks utilizing foams to block or impede mobility along avenues of approach or super lubricants to temporarily shut down

airfields can further enhance the enemy's inability to counter operations by U.S. forces. By using NLW to assist in accomplishing this maneuver, casualties inflicted on enemy combatants will be limited, as attacks are focused on their means of resisting the imposition of U.S. will rather then on killing enemy soldiers. This low "body count" will aid in maintaining coalition and public support for sustained military operations.

Military Operations in Urban Terrain (MOUT) is one the most difficult missions assigned to U.S. forces due in no small part to the casualties associated with it. NLW can offer significant advantages to U.S forces engaged in MOUT by limiting casualties, minimizing destruction and by providing for enhanced force protection. An operational commander desiring the use of port facilities in a city may no longer need to seize the entire city. Military operations could be limited to the port itself with supercaustics and liquid metal embrittlement agents used to knock down bridges into the area and foams and acoustic generators employed to build a barrier impenetrable by personnel.[43] This would allow the U.S. to gain operationally significant use of an area without getting bogged down in an urban quagmire.

Further, in an age in which U.S. conflict with non-state actors is an increasing likelihood, the ability to fight them effectively is a necessity that must be addressed. These non-state actors shield themselves from attack by conventional forces by co-mingling with civilians in urban areas. NLW allow an operational commander to attack these non-state actors effectively without harm to the civilian populace. Commander's faced with such a situation could employ calmative agents to temporarily incapacitate all personnel in a given area and then separate out combatants from noncombatants.[44] This ability to separate

civilians from combatants, and to limit destruction caused by the use of our weapons, will become increasingly important as the world continues to urbanize.

Limitations on the Usage NLW.

Not withstanding their overall utility, NLW have limitations and short comings that must be addressed before they can be effectively employed as a combat multiplier by U.S. forces on a wider scale. These limitations and arguments against NLW fall into essentially six categories. The first of these is the "Slippery Slope" argument. Because of the lower probability of casualties, the U.S. may be driven to intervene earlier and in situations that may not threaten our national interests or that it will lead to an undesired gradual escalation. These interventions may have unintended consequences, undertaken with the idea of minimal cost, they may swiftly escalate out of control. An enemy deprived of its means of conventional resistance may resort to asymmetrical responses (i.e. chemical, biological or WMD) thus escalating the consequences of U.S. intervention beyond an acceptable level. While true, this is an issue for policy makers, as these risks exist in the case of conventional interventions as well. The need for policy makers to weigh the costs of intervention carefully will not disappear with the introduction of NLW into the U.S. arsenal.[45]

The second and third arguments put forth against NLW revolve around proliferation and retaliation and are linked. The development of NLW will inevitably lead to their proliferation and thus the possible retaliatory use of them against the U.S. This proliferation of NLW, it is argued, is particularly dangerous to the technology dependent U.S. NLW may well be more effective in defeating advanced societies like our own then those we would employ them against. Because of the danger of proliferation and our own vulnerability to NLW, it is argued that the U.S. should forgo their development.[46] While it is true we are

vulnerable to NLW, the U.S. should not forgo their development in the hopes of preventing the undesired proliferation. To do so would be to sacrifice our technological lead without any realistic hope of preventing proliferation. Already Russia, UK, Italy, France and Israel are known to be aggressively pursuing these technologies.[47]

The argument of comparative cost effectiveness is also raised in regard to the development of NLW. In an era of diminishing resources, it is argued that efforts should be focused on conventional munitions that can accomplish the mission more effectively and more inexpensively then NLW.[48] Conventional weapons can be cheaper, and in some instances are more effective then NLW. Our conventional capabilities should never be neglected and we must always be capable of employing them should NLW fail to dissuade our adversaries. This does not negate the need for NLW, as NLW offer significant advantages as force multipliers when employed properly. The ability to intervene effectively without the loss of legitimacy brought about by civilian casualties and collateral damage are sufficient inducement for their continued development.[49]

The argument of unrealistic expectations is not as easily countered. These arguments challenge the efficacy of the use of NLW and the "fantasy" of fighting a bloodless war. NLW are in their embryonic stage and effective employment must overcome the technical difficulties of reliability and repeatability of effects. It is not sufficient that reliability and repeatability of effects on target actually occur, commanders must also have a degree of certainty that the effects desired have been achieved.[50] This complicates the already nebulous task of battle damage assessment (BDA). The success of an attack by NLW may not become apparent until enemy forces attempt to employ their weapons. This is a risk that

a commander may not be willing to take without clear indications that the NLW have had their intended effect.[51]

The "fantasy" of a bloodless war is largely a creation of the opponents of NLW. Proponents of NLW argue only that their use, in complement with lethal weapons, offers the commander a new set of tools that when employed properly enhances U.S. warfighting capabilities. It should be remembered that the object of war is to bend your opponent to you will, not simply to cause destruction. NLW offer the possibility of limiting the destruction associated with warfare not eliminating it. If, through the use of NLW, you can convince your opponent of the futility of resisting U.S. forces, the costs of war to both sides can be diminished. If the use NLW backed by the credible threat of escalation to lethal means, is insufficient to deter our adversaries, the U.S. retains the capacity to compel them through the actual employment of more lethal and destructive attacks.

The final argument against the use of NLW revolves around legality. The 'Just War Doctrine" requires that three conditions be met for the just application of military force. These requirements are; 1.) military necessity – that targets of military force must be military in nature 2.) humanity – that military force be employed in such a manner as to limit suffering, and 3.) proportionality – that damage is consistent with military necessity. NLW because of their greater radius of effects, while not necessarily deadly, violate the prohibition against attacking non-military targets. In addition, many of the treaties to which the U.S. is a signatory party, would seem to prohibit the use of many NLW technologies. This is particularly true in the case of technologies aimed at incapacitating personnel as well as substances designed to cause deterioration of food and water. Neither the "Just War" objections nor the problems some technologies encounter in regard to international law are

sufficient reasons for ending the development NLW or planning for their use in conjunction with more conventional technologies.[52] What is necessary is that DOD development of NLW be done in tandem with a legal review of their permissibility to ensure compliance with international law.[53]

Recommendations.

The emerging strategic environment will grow increasingly more complex and turbulent. The U.S. needs to maintain a credible and effective means of exerting its will in this environment. In an era in which in the U.S. has become averse to taking and inflicting casualties, the military needs to develop new tools capable of effectively exerting U.S. will while maintaining support public support for its operations. NLW offer an option capable of meeting the needs of the operational commander in exerting U.S. will on the enemy while minimizing both casualties and collateral damage. NLW accomplish this by targeting the means by which our adversary fights as opposed to his personnel. Further, the reversibility of the effects of NLW allows for rapid reconstruction and limits the instability caused by the destruction inherent in warfare conducted by conventional means.

Existing and emerging NLW technologies offer promising new tools to the operational commander. These weapons are still in their embryonic stage and development must be continued and expanded. Currently, fully 70 percent of research is focused at tactical applications. Operational commanders must insist that research and development into NLW capable of being used at the operational level be expanded. The U.S. currently enjoys a technological lead in these weapons and that lead must be maintained through continued and expanded research.

Research and development of new methodologies of intelligence and battle damage assessment must also be undertaken. Operational commanders must be able to effectively assess the results of attacks by NLW if they are to be employed effectively. Waiting for the enemy to attempt to use their weapons is an insufficient and dangerous method of judging the effectiveness of an attack utilizing NLW. Accurate BDA will require new methods of intelligence collection and assessment.

In addition to increased research and development, operational commanders must insist on the development of doctrine for the use of these weapons. This doctrine must encompass their use across the entire spectrum of warfare. With doctrinal underpinning operational commanders can gain confidence in their capabilities and employment. This doctrine should also address the synergistic use of NLW in conjunction with psychological operations and information warfare.

Finally, the U.S. cannot afford to neglect its conventional weapons capabilities. NLW can be an effective deterrent only if this conventional weapons superiority is maintained. It is the inherent threat, and capability of escalation, to lethal means that allows NLW to be effectively employed. If the capability or will to use lethal force is not present, then the employment of NLW will be ineffectual in deterring our enemies.

NOTES

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