



U.S. Department of Defense Non-Lethal Weapons Program

Intermediate Force Capabilities

Bridging the Gap Between Presence and Lethality



EXECUTIVE AGENT'S PLANNING GUIDANCE 2020



ON THE COVER:

ESCALATION OF FORCE COMMON REMOTELY OPERATED WEAPONS STATION (EoF CROWS; *top left*): Enhances the ability of a single operator to hail/warn and/or validate that a perceived hostile intent/act is indeed hostile. Provides control of multiple commercial off-the-shelf sound and light devices (e.g., acoustic hailers and dazzlers/white lights) simultaneously from a CROWS Tech Refresh Baseline System.

LA-9P OPTICAL DISTRACTER (*top right*): An eye-safe device that communicates non-verbal warnings to individuals from 40-500 meters (daytime range) through highly directional optical energy. Its “credible glare effect” temporarily disorients a person by overwhelming his/her visual senses.

VESSEL INCAPACITATING POWER EFFECT RADIATION (*VIPER, center*): A research and development – based operational utility assessment that will provide a directed energy intermediate force capability for the United States Coast Guard. This capability will provide a safer, non-destructive, and more effective means to subdue non-compliant vessels within a dynamic environment.

PRE-EMPLACED ELECTRIC VEHICLE STOPPER (PEVS, *bottom left*): A compact counter-materiel intermediate force capability that can stop a targeted vehicle by injecting high-powered electrical impulses into its engine without harming its occupants. PEVS is portable, can be operated remotely, and can engage hundreds of targets before requiring any significant maintenance.

SOLID STATE ACTIVE DENIAL TECHNOLOGY (*SS-ADT, bottom right*): A smaller, lighter, and lower-power alternative to the cryogenically-cooled technology used in current active denial system prototypes. SS-ADT’s short-range capability repels individuals by inducing an intolerable heating sensation on a person’s skin through highly directional millimeter waves. The compelling momentary effect is immediately reversible and lowers the risk of unintended escalation of a situation.



INTRODUCTION

As the Department of Defense (DoD) Executive Agent (EA) for Non-Lethal Weapons (NLW), I serve as the focal point for NLW matters. Continued research, development, and investment in NLW -- better characterized as “intermediate force capabilities” -- will enhance our ability to respond to challenges across the continuum of conflict.



The 2020 EA's Planning Guidance incorporates over a year of study, collaboration, and strategic engagement with program stakeholders and leadership. The guidance incorporates the U.S. National Defense Strategy (NDS), aligns with DoD priorities, and describes how intermediate force capabilities support military objectives, including activities below the level of traditional armed conflict.

Our potential adversaries will use any collateral damage-however lawful-to provoke escalation, generate negative views of America, or to erode political and public support for our operations. The unintended consequences of lethal force can undermine our legitimacy, and may complicate our operations. Decisions to use – or forego – lethal force can incur a heavy cost. Intermediate force capabilities enable U.S. and allied forces in delivering accurate, tailorable, and compelling effects in complex and ambiguous scenarios, while simultaneously preventing unnecessary loss of life or destruction of property. Our forces understand the strategic and political consequences of their actions; intermediate force capabilities can help mitigate those consequences.

In support of the NDS, the DoD NLW Program will build upon past accomplishments, and further develop intermediate force capabilities. Senior leader awareness of those capabilities, and support for their operational employment, will be required. To emphasize the contributions of intermediate force capabilities to the Joint Force across the competition continuum, the Joint NLW Directorate will be renamed the Joint Intermediate Force Capabilities Office (JIFCO).

This document articulates the DoD NLW Program's way forward, both technologically and programmatically. The document provides vision, guidance, and tasks. Its contents are directive for the JIFCO and relevant USMC organizations, and informative for Service-unique NLW programs.

Semper Fidelis,

A handwritten signature in black ink, appearing to read "D.H. Berger".

DAVID H. BERGER
General, U.S. Marine Corps
Commandant of the Marine Corps
Executive Agent for Non-Lethal Weapons

INTERMEDIATE FORCE CAPABILITIES: EVOLVING NON-LETHAL WEAPONS

“We cannot expect success fighting tomorrow’s conflicts with yesterday’s weapons or equipment.” Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military’s Competitive Edge

The need for Non-Lethal Weapons (NLW) emerged from U.S. military operations in Somalia during the 1990s, where troops required options other than lethal force to maintain order among a desperate civilian population during Operation Restore Hope, and to maintain security as United Nation forces withdrew from Somalia. While similar challenges remain, our ability to address threats in complex operational environments has grown. Since 1996, the DoD has fielded over 50 types of non-lethal weapons, devices, and munitions. They have seen use in Bosnia, Kosovo, Afghanistan, and Iraq, and they support security at military installations around the world. Modern NLW have advanced beyond rubber bullets, bean bags, and pepper spray. Traditional NLW have given way to unprecedented advancements, which provide greater stand-off, duration, versatility, and selectivity. New technologies, such as directed energy, are integrated into a variety of manned, unmanned, and autonomous platforms to deliver tailored effects in full- spectrum, multi-domain operations. Current and future NLW, devices, and munitions will provide the “intermediate force” that can fill the gap between mere presence and lethal effects. NLW are, therefore, more accurately and appropriately characterized as “intermediate force capabilities.”

Intermediate force capabilities provide options in situations where individuals may appear to be demonstrating hostile intent, but, in reality, their intentions are innocent rather than true hostile intent. Intermediate force capabilities, when employed in those circumstances, may provide time to better assess intent. They can be appropriate, proportional responses to acts that present hostile intent, but fall short of acts or behaviors justifying the use of deadly force. In comparison to lethal weapons, intermediate force capabilities may reduce claims of excessive force, and might be a better option in tactical situations with significant operational, political, or moral equities.

Modern intermediate force capabilities are useful beyond law enforcement, security missions, and crowd control. While campaigning through the competition continuum, intermediate force capabilities can address threats with proportional force, and potentially minimize civilian casualties. Per the National Defense Strategy, they are integral to “a Joint Force that possesses decisive advantages for any likely conflict, while remaining proficient across the entire spectrum of conflict.”

ENHANCING CAPABILITIES ACROSS THE COMPETITION CONTINUUM

The 2018 NDS describes an “increasingly complex global security environment” and a “changing character of warfare,” wherein intermediate force capabilities can be useful. The future operating

environment will be within a competition continuum¹ (Figure 1) that includes cooperation, competition below armed conflict, and armed conflict.

In this context, being “strategically predictable, but operationally unpredictable” leaves room for innovative combinations of conventional and non-conventional capabilities. As articulated in the 2019 Joint Doctrine Note regarding the Competition Continuum, while campaigning through the competition continuum, policy may dictate that military forces not employ the full array of military capabilities. Intermediate force capabilities can provide proportional, measured force to address a range of threats – in a manner that achieves policy objectives – while engaged in integrated campaigning. As a result, intermediate force capabilities may enable greater speed of action, and allow commanders to “compete to achieve the best possible strategic objective under the circumstances.”²



Figure 1: Relevance of Intermediate Force Capabilities to the Competition Continuum

In armed conflict, intermediate force capabilities can expand the set of options available to the warfighter. For example, high intensity conflict in urban environments will likely have civilian casualty concerns that these capabilities can mitigate. Similarly, the ability to apply neutralizing effects against materiel or facilities may reduce the undesired destruction of infrastructure, help protect sensitive sites, and reduce costs to rebuild. Intermediate force capabilities provide a range of scalable effects that allow a commander to more discriminately and quickly engage adversaries operating among civilian populations or within sensitive sites. Intermediate force capabilities can generate effects that limit collateral damage, reduce risk to civilians, and may reduce opportunities for adversary propaganda. In many cases, the ability to send the right message – to a variety of audiences – may be just as important as the ability to deliver lethal effects.

¹ The competition continuum lexicon describes interactions as a spectrum of cooperation, competition below armed conflict, and armed conflict. “The implication for the Joint Force is that both plans and actions must take into account this complex reality if they are to have a reasonable chance of securing and maintaining policy objectives.” U.S. Joint Chiefs of Staff, *Joint Concept for Integrated Campaigning*, Washington, D.C., March 16, 2018, p.7.

² U.S. Joint Chiefs of Staff, *Joint Doctrine Note 1-19, Competition Continuum*, Washington, D.C., June 3, 2019, p 6 -7.

In competition below armed conflict, often referred to as the Gray Zone, hybrid warfare, or irregular warfare, America's adversaries use sophisticated, incremental aggression to damage our interests – but stop short of provoking our lethal response. In such scenarios, intermediate force capabilities could be used to deter escalation, respond short of lethal force, or signal adversaries that their chosen course will fail. Intermediate force capabilities can enhance embassy reinforcement and security augmentation, support foreign humanitarian assistance and disaster relief, protect noncombatant evacuation operations, and are suitable to operations in support of weapons of mass destruction security, maritime interdiction, stability operations, detainee/refugee control, and pandemic response.

Intermediate force capabilities provide capacity to our allies and partners. The DoD NLW Program has led, or been part of, many NATO initiatives that support alliance policies on Non-Lethal Weapons and Protection of Civilians. During cooperation, intermediate force capabilities, a low-risk engagement and building partner capacity tool, promote partners' judicious and proportionate use of force. U.S. forces have helped build intermediate force capabilities with Bulgaria, Czechia, Croatia, Mongolia, Morocco, the Philippines, and Romania. Intermediate force capabilities have been deployed to foreign disaster assistance and crisis response in Haiti, India, Iraq, Sudan, and Venezuela.

INTERMEDIATE FORCE CAPABILITIES: DEVELOPMENT AND INTEGRATION

Established by Congress in 1996, the DoD NLW Program is comprised of both Joint and individual Service-unique programs. The Joint Requirements Oversight Council has validated the Services' next generation intermediate force capabilities for counter-personnel effects to deny, move, disable, or suppress personnel, and counter-materiel effects against vehicles, vessels, manned and unmanned aircraft, buildings, and facilities.

A variety of technologies show promise. Optical interrupters and dazzling lasers can warn personnel, and can counter cameras, including those on unmanned aerial systems, to degrade video quality and prevent observation. Flash-bang munitions (bright flashes and loud noises) with long duration effects can be used for room clearing, or as indirect fire to suppress personnel at extended ranges. Occlusion technology under development uses dissolvable materiel that effectively, but reversibly, obstructs boat propellers. Directed energy technology, including millimeter wave and high power microwave, has already demonstrated accurate, at-range, nearly instantaneous effects against personnel and materiel targets; their effects cause no permanent injury and minimal physical destruction. Growing opportunities exist for the integration of these technologies with manned, unmanned, and autonomous systems in order to provide operationally significant, multi-domain intermediate force capabilities. **We will engage the DoD Research and Development enterprise, and seek opportunities to advance suitable intermediate force capabilities, then integrate those capabilities into manned, unmanned, and/or autonomous systems in order to increase their availability to the Joint Force. (Task 1)**

Technological advancement of the next generation of intermediate force capabilities must be accompanied by their acceptance by the Joint Force, and their use. To integrate intermediate force capabilities into multi-domain operations, technology investments must be accompanied by concept development, modeling and simulation, inclusion in wargames, use in experimentation,

and training and education. **We will work across DoD to conduct the analysis - with an emphasis on wargaming – necessary to support force design of, and investment in, intermediate force capabilities. (Task 2)**

MISSION AND VISION

Over the last year, key Program stakeholders worked to design the next phase of the Program. After nearly 25 years of investment, a Senior Leader Engagement study examined the structure, equities, and strategies of the Program. The study addressed efficiency, effectiveness, known and emerging capability gaps, and alignment with the NDS. As a result, Program stakeholders updated the Mission and Vision of the DoD NLW Program:

DoD NLW PROGRAM MISSION

“The DoD Non-Lethal Weapons Program develops and fields Intermediate Force Capabilities between presence and lethal effects in support of the Joint Force.”

DoD NLW PROGRAM VISION

“Transform the National Security Enterprise by mainstreaming the planning and employment of Intermediate Force Capabilities to arm the Joint Force with the fullest range of capabilities in support of National Security objectives.”

The DoD NLW Program Mission Statement reflects an enriched Program purpose and direction. The Vision Statement recognizes the desired impact of intermediate force capabilities. Together, the updated Mission and Vision Statements articulate strategic direction, and establish unity of purpose amongst the many efforts that comprise the Program. The Mission and Vision provide the overarching guidance for goals and objectives and a focused perspective to evaluate progress.

PROGRAM MANAGEMENT

The DoD has had a formal NLW Program for nearly 25 years. Much has been accomplished in that time, but much work remains. The organizational construct (Figure 2) has been in place since the Program’s inception in 1996. Programmatic oversight is provided by the Under Secretary of Defense (USD) for Acquisition and Sustainment (USD/A&S), technical oversight from USD for Research and Engineering (USD/R&E), and policy oversight by the USD for Policy (USD/P). The Executive Agent (EA) is advised by a Joint Integrated Product Team (JIPT), which is the Joint-Service, flag officer-level guiding body. The JIPT Chairman (USMC Deputy Commandant for Plans, Policies, and Operations), together with the Joint NLW Directorate (JNLWD), facilitate EA responsibilities³ and day-to-day Program management.

³ DoD NLW Executive Agent Responsibilities are identified in DoD Directive 3000.03E, “DoD NLW Executive Agent, and NLW Policy”, August 31, 2018 Incorporating Change 2.

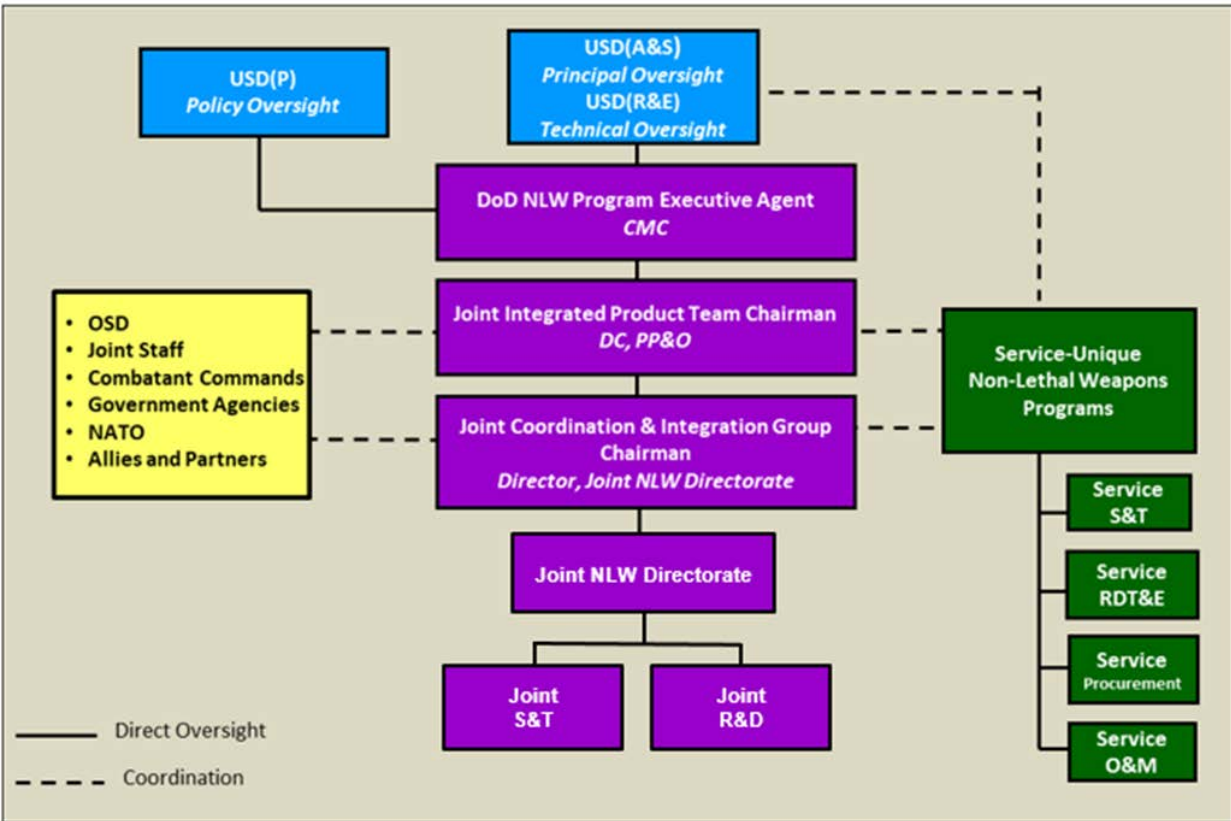


Figure 2: DoD NLW Program Organization Chart

The Program’s organizational construct has obtained validated requirements, facilitated fielding of initial capabilities, developed standardized human effects review processes, and helped determine advanced technologies worth pursuit. The Senior Leadership Engagement study found the JIPT and its supporting processes do not capture the full scope of the effort. To date, NLW have been largely the province of the Services’ law enforcement communities. Expanding focus into the additional communities of infantry, armor, surface combatants, aviation, and other warfare constituencies offers additional opportunities. Outreach to, and engagement with, new potential advocates can advance Program priorities, maximize Program utility, and enhance awareness of the importance of effective intermediate force capabilities to the warfighter. Broader interaction with warfighters to stimulate support of emerging initiatives will provide greater opportunity for operational employment of intermediate force capabilities. Additionally, the study’s analysis of the JNLWD indicates that the organization has remained relatively unchanged since it was formed. **We will update the Program’s management construct to further enhance the likelihood the Joint Force will integrate intermediate force capabilities. We will rename the JNLWD as the Joint Intermediate Force Capabilities Office (JIFCO) and evaluate how the JIFCO is organized in order to optimize support to the Services, and better execute the EA’s management responsibilities. (Task 3)**

MANAGING RESOURCES

The resources for the DoD NLW Program consists of Joint NLW Program (JNLWP) funds provided to the EA for science and technology, funds in support of research and development of advanced capabilities, and funding for associated activities in support of the Services, Combatant Commands, Joint Staff, and Office of the Secretary of Defense. Joint funding is programmed through the USMC Warfighting Investment Program Evaluation Board (WIPEB). The Services provide funding for Service-specific requirements, resource Engineering and Manufacturing Development (Milestone B to Milestone C), procure and sustain capabilities, and conduct related supporting activities. **We will ensure JNLWP resources and funding are sustained (or increased), protected, and invested to advance affordable intermediate force capabilities in support of NDS objectives. (Task 4)**

SUMMARY OF TASKS

Enhanced intermediate force capabilities support our national security by providing warfighters additional options with which to influence their competitive space and achieve the mission. Sustained effort and investment in these capabilities support the success of the Joint Force, now and into the future, across the competition continuum.

This guidance identifies key tasks designed to enhance and strengthen the Program. These tasks are summarized below, along with identification of the corresponding Office of Primary Responsibility (OPR). The tasks and associated supporting actions will be included among priority JNLWP activities when apportioning fiscal and human resources. The Director JIFCO, the JIPT Chairman, and the EA will facilitate Joint coordination and Service support in these areas in support of the overall DoD NLW Program and, ultimately, the Department. **The JIPT Chairman and the Director JIFCO will report to the EA no less than annually on progress related to these tasks.**

Task 1: We will engage the DoD Research and Development enterprise, and seek opportunities to advance suitable intermediate force capabilities, then integrate those capabilities into manned, unmanned, and/or autonomous systems in order to increase their availability to the Joint Force. (OPR: JIFCO)

Task 2: We will work across DoD to conduct the analysis - with an emphasis on wargaming – necessary to support force design of, and investment in, intermediate force capabilities. (OPR: JIFCO with support from the Marine Corps Warfighting Laboratory)

Task 3: We will update the Program's management construct to further enhance the likelihood the Joint Force will integrate intermediate force capabilities. We will rename the JNLWD as the Joint Intermediate Force Capabilities Office (JIFCO) and

evaluate how the JIFCO is organized in order to optimize support to the Services, and better execute the EA's management responsibilities. (OPR: Director, JIFCO)

Task 4: We will ensure JNLWP resources and funding are sustained (or increased), protected, and invested to advance affordable intermediate force capabilities in support of NDS objectives. (OPR: JIFCO, USMC WIPEB, USMC Programs & Resources)

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