



JNLWP

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Joint Non-Lethal Weapons Program Newsletter

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Capabilities and Limitations Assessment Determines ADS Suitability for Deployment



Active Denial System 2, pictured here on a Heavy Expanded Mobility Tactical Truck at Twentynine Palms, California, in April

The Active Denial System (ADS) 2 is operationally suitable for deployment. This conclusion came out of a Capabilities and Limitations Assessment (CLA) that the Joint Non-Lethal Weapons Program sponsored to determine whether System 2 is operationally ready for fielding into theater.

The ADS is a new non-lethal, directed-energy weapon that projects a focused beam of millimeter waves to induce an intolerable heating sensation on an adversary's skin, repelling the individual with minimal risk of injury. Active Denial Technology has the potential to provide a tremendous new extended-range, counter-personnel capability for U.S. forces in support of today's complex missions.

The System 2 CLA included data collected from several sources. The final phase of the CLA involved an assessment at the Marine Corps Air Ground Combat Center in Twentynine

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Calendar of Events

- 8 October: Joint Coordination Integration Group Meeting
- 28-29 October: Joint Integrated Program Semi-Annual Meeting
- 13-14 November: JNLWP Training Days
- 20 November: Joint Integrated Product Team Meeting



CLA Determines ADS Suitability for Deployment *(continued from page 1)*

Palms, California, in April. This phase of the CLA evaluated System 2 on its ability to deny, suppress and move opposing forces—all from beyond small-arms range. Several scenarios were evaluated, including handling suspicious activities outside a perimeter, crowd clearance outside an entry control point and sniper activities.

During these tests, System 2 operated on cue more than 90 percent of the time. System 2 operators experienced no difficulties tracking, engaging or assessing impact on targets. The operators reported that System 2 allowed them to determine intent and performed very well at disrupting and repelling advancing adversaries.

Before reaching the final phase of the CLA at Twentynine Palms, the ADS had undergone years of laboratory and field tests on both System 2—the containerized, transportable version of the ADS—and previous prototypes of Active Denial Technology.

The CLA incorporated data from testing completed between February and June 2008. Tests at China Lake, California, included performance checks and initial government acceptance checks. Testing at Kirtland Air Force Base, New Mexico, concentrated on loading and unloading System 2 from a cargo plane and completed the government acceptance checks. Extreme climatic testing in the climatic chamber at Eglin Air Force Base, Florida, subjected System 2 to field conditions.

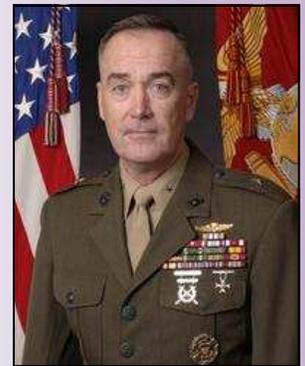
Now that the CLA is complete, the next step for System 2 is a possible operational deployment. Meanwhile, research efforts are ongoing to advance Active Denial Technology and to enable additional ground, maritime and airborne applications.

Dunford Succeeds Natonski as JIPT Chairman

On August 8, Lieutenant General Joseph F. Dunford, Jr., USMC, replaced Lieutenant General Richard Natonski, USMC, as Deputy Commandant of Plans, Policy and Operations (PP&O) at Headquarters U.S. Marine Corps. As Deputy Commandant, Lt. Gen. Dunford will also serve as the Chairman of the Joint Non-Lethal Weapons Program (JNLWP) Joint Integrated Product Team (JIPT), providing guidance and direction to the JNLWP.

Lt. Gen. Dunford's previous assignment was as Vice Director for Operations (J-3), Joint Staff. His long and distinguished career also includes a tour as Director of Current Operations, PP&O. Lt. Gen. Dunford has a Master's degree in Government from Georgetown University and a Master's degree in International Relations from the Fletcher School of Law and Diplomacy at Tufts University.

Lt. Gen. Natonski served as the Deputy Commandant, PP&O, and as JIPT Chairman for approximately two years. His tenure as JIPT Chairman included the establishment of a Science & Technology line in the JNLWP budget and the successful completion of the Active Denial System 2 Advanced Concept Technology Demonstration. Also under his stewardship, two new JNLWP Combatant Command Liaison Officers were placed in U.S. Central Command and U.S. Special Operations Command. Lt. Gen. Natonski has now assumed the duties of the Commander for U.S. Marine Corps Forces Command.



Lieutenant General Joseph F. Dunford, Jr., USMC



Lieutenant General Richard Natonski, USMC



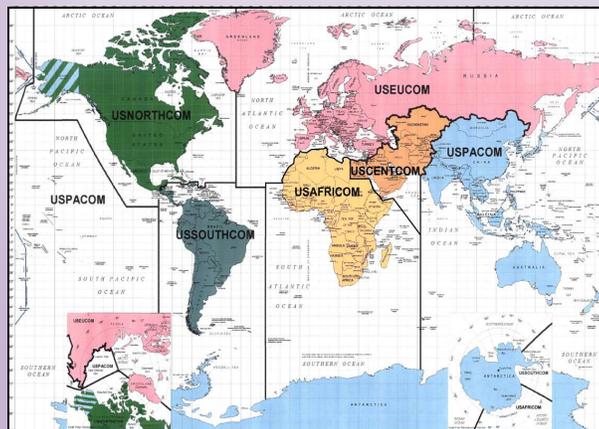
Liaison Officers Promote Non-Lethal Weapons

The Non-Lethal Weapons (NLW) Combatant Command (COCOM) Liaison Officers (CLOs) have been keeping busy as the Joint Non-Lethal Weapons Program’s representatives in the field. Formerly referred to as COCOM Engagement Officers (CEOs), CLOs work to raise awareness and visibility of NLWs in their respective COCOMs. They also help identify specific needs for NLWs in the COCOM and establish procedures for integrating NLWs into operational planning.

Following are highlights of recent CLO efforts in the COCOMs:

- U.S. Joint Forces Command (USJFCOM) CLO Gordon Todd is a key member of a working group at USJFCOM that has spent the past year creating a computer model to understand the psycho-social effects of exposure to NLWs on crowd behavior. The model reached initial operational capability in August.
- U.S. Central Command (USCENTCOM) CLO Rick Bartis conducted an NLW survey of warfighters across the USCENTCOM area of operations. The purpose of the survey was to assess their level of knowledge of the NLW program, including the current level of NLW training, usage and warfighter requirements. The survey resulted in a change to USCENTCOM’s FY09 Joint Sourced Training Requirements Document (pending USJFCOM approval), which will now require forces deploying to the USCENTCOM area of operations to receive NLW training.
- U.S. European Command (USEUCOM) CLO Eric Damm presented NLW briefs for the NATO Schools Force Protection Course and the Center for Civil Military Relations International Defense Transformation Seminar. He also supported a pre-deployment exercise for a U.S. Army National Guard unit to expand their knowledge of NLWs and refine their NLW tactics, techniques and procedures. Additionally, he provided support for exercises SHARED ACCORD and AFRICAN LION, which help enhance security and stability for partner nations.
- In July, U.S. Northern Command (USNORTHCOM) CLO Nelson Spires compiled and distributed an internal document entitled, “USNORTHCOM NLW Handbook.” With the goal of enhancing NLW knowledge among USNORTHCOM Homeland Defense and Civil Support mission planners and operations personnel, this document provides a non-technical tutorial regarding Department of Defense NLW policies and detailed descriptions of non-lethal capabilities.
- U.S. Pacific Command (USPACOM) CLO Larry Brown provided support for COBRA GOLD 2008 in Thailand, including giving a briefing on the increasing role of NLWs in modern warfare, and NOLES 2008 in Bangladesh. Both are exercises designed to promote multi-national interoperability with partner nations.
- Paul Burke joined the NLW team as CLO at U.S. Special Operations Command (USSOCOM) in June.

Efforts are ongoing to place CLOs in U.S. Southern Command (USSOUTHCOM) and U.S. Africa Command (USAFRICOM).



Map of Geographic Combatant Commands



Radio Frequency Vessel Stopping Assessment Provides Valuable Data

Under sponsorship of the Joint Non-Lethal Weapons Program, engineers from the Naval Research Laboratory in Washington, D.C., and Eglin Air Force Base in Florida performed a Radio Frequency (RF) Vessel Stopping Assessment at Eglin July 14-18. The assessment successfully demonstrated the feasibility of using a high-power microwave (HPM) transmitter to stop a variety of outboard-driven boats.

Test scenarios focused on stopping non-cooperative small vessels using an HPM-equipped pursuit watercraft. The targets of the HPM-equipped watercraft consisted of several vessels, each with different propulsion equipment. The results provided data to support continued development efforts in the counter-materiel mission area of stopping small vessels, including those carrying migrants and drug smugglers.



An HPM-equipped pursuit watercraft targets a non-cooperative small vessel during the RF Vessel Stopping Assessment.

Further RF Vessel Stopping research will include determining the required RF waveforms, prototyping, additional testing of potential non-lethal vessel stopping systems, testing against jet skis and inboard-driven boats, systems trade-off studies and other development efforts. The RF Vessel Stopping program anticipates a Milestone B (system development) transition in FY10.

Education Integrated Process Team Discusses Way Ahead

The Joint Non-Lethal Weapons Program (JNLWP) sponsored a non-lethal weapons (NLW) Education Integrated Process Team (IPT) meeting on April 4 in Dumfries, Virginia. The meeting provided a forum for representatives from the Services and Combatant Commands (COCOMs) to discuss current and future NLW education initiatives and goals to meet warfighter needs. Meeting attendees also worked to develop a more consistent method for involving both Service and COCOM representatives in NLW education planning and decision-making processes.

Based on the discussions, the group recommended expanding the JNLWP's formal Professional Military Education (PME) courses to include additional venues. As a result, the JNLWP is working with the Services to identify the personnel resources to expand the PME program so that it more directly supports Service training efforts.

The group also recommended consolidating the Non-Lethal Senior Leader Symposium and the NLW Education Contact Team (ECT) course. The consolidation would create a mobile ECT course with a flexible curriculum, enabling each Service to choose a location and adapt the course to fit its needs. As a result, the JNLWP is now working to develop an FY09 schedule based on Service needs.

Meeting discussions indicated that the Services are showing increased interest in NLW education programs and want to play a more active role in these programs. As the education program evolves, the JNLWP will continue to work with the Services to expand their NLW education capabilities.



JNLWP Looks at Small-Arms Weapons

The Joint Non-Lethal Weapons Program (JNLWP) participated in the International Infantry and Joint Services Small Arms Symposium May 19-22 in Dallas, Texas. The symposium, hosted by the National Defense Industrial Association, attracted more than 450 attendees and 140 contractors and agencies. Immediately following the symposium, the Joint Integration Program (JIP) held its semi-annual meeting on May 23.

International Infantry and Joint Services Small Arms Symposium

Because most non-lethal weapons (NLWs) fall into the small-arms category or are fired by small arms, representatives from the Joint Non-Lethal Weapons Directorate (JNLWD) attended the International Infantry and Joint Services Small Arms Symposium with the intent of increasing the lines of communication with members of the small-arms community.

As part of this effort, members of the JNLWD set up a booth where they answered questions and met with vendors. In addition, Kevin Swenson, Acquisition Division Chief for the JNLWD, conducted a seminar on Non-Lethal Systems and Technology. He used the opportunity to educate industry on the Department of Defense's (DoD's) specific requirements for NLWs, currently funded development efforts and the characteristics the DoD desires in industry's weapons development proposals. He also outlined the JNLWP's top priorities in filling capabilities gaps, including finding new ways for troops to stop vehicles and vessels.

In addition, the Air Force Research Laboratory (AFRL) led a seminar on the human effects characterization process. The presentation centered on educating the small-arms community about how AFRL studies human effects and how its research focuses on getting NLWs to achieve the desired effect without causing permanent injury.

Participating in the small-arms symposium had a number of benefits for the JNLWP. As technology advances, small-arms weapons systems will need to support both lethal and non-lethal payloads. By gaining an understanding of NLW requirements, small-arms manufacturers can focus their internal research and development funding on technologies of interest to the JNLWP. Said Swenson, "The quality of the proposals we receive will be higher. The industry will better understand what our specific requirements are."

Joint Integration Program Meeting Highlights

Following the symposium, the JIP held its one-day meeting. Attendees included representatives from all the Services, as well as from the National Guard, Border Patrol and more. Each Service gave updates on its use of NLWs. Following are some of the meeting highlights:

- Alicia Owsiak, Technology Assistant Division Chief at the JNLWD, talked about the JNLWP's science and technology (S&T) projects and when and where attendees would be able to see demonstrations of these technologies. She also provided an overview of the future direction of the JNLWP S&T efforts.
- Dr. Tim McDevitt briefed the group on Penn State's completion of the Non-Lethal Munitions Characterization evaluation. Since not all the munitions were tested during the project, the JNLWD is planning a follow-on FY09 request to conduct additional testing of 40mm non-lethal munitions, flash-bang grenades and 12-gauge munitions. Once that testing is complete, the Human Effects Center of Excellence (HECOE) plans to submit a proposal to flow portions of that data through the Advanced Total Body Model.
- During the Air Force briefing, Sal Hernandez, USAF Central Action Officer, announced that the B.E. Meyers Green Beam Designator-IIIC™ laser optical distractor has been approved for USAF use.

The next JIP meeting is scheduled for October 28-29, 2008.



SHARED ACCORD and AFRICAN LION 2008 Include Non-Lethal Weapons Training

Representatives from the Joint Non-Lethal Weapons Program participated in training exercises with partner nations in Africa during June 2008. At exercises SHARED ACCORD in Ghana and AFRICAN LION in Morocco, U.S. Marines trained Ghanaian and Moroccan soldiers on a variety of non-lethal weapons (NLW) techniques and procedures.

SHARED ACCORD linked a U.S. Marine Corps Reserve Infantry Battalion with a Ghanaian Infantry Battalion. The battalions conducted joint training on a wide range of subjects. This year's exercise included NLW training for the first time. The NLW instruction took place June 9-13 and consisted of familiarization with crowd control tactics, techniques and procedures, mechanical assist control hold techniques and non-lethal munitions.

AFRICAN LION, an annual exercise that primarily focuses on indirect fire training, also included Peace Support Operations training this year. Instruction consisted of a variety of NLW training, including crowd control tactics, techniques and procedures, non-lethal munitions, Taser® familiarization and oleoresin capsicum (pepper spray) qualification. A U.S. Marine Corps Military Police unit conducted the training with a Moroccan unit June 15-20.

According to Eric Damm, U.S. European Command (USEUCOM) NLW Combatant Command (COCOM) Liaison Officer (CLO), the NLW portion of the exercises is designed to aid bilateral training by giving partner nations the ability to enhance their security and stability. "We are working with our partner nations to give them the ability to carry out their law enforcement, security and military operational requirements without being oppressive or injurious to their population," Damm said. "These non-lethal weapons give them a viable method of force escalation that allows them to control the situation without having to resort to deadly force."

U.S. Marine Corps Forces Europe sponsored both of these annual, multi-national training exercises in support of the USEUCOM Strategy of Active Security. However, U.S. Africa Command (USAFRICOM), created in October 2007 and still in a transition stage, and U.S. Marine Corps Forces Africa will support these exercises in the future. Currently, USAFRICOM does not have an NLW program, but plans are in the works to add a CLO in the near future to establish an NLW program there.



U.S. Marines instruct Ghanaian soldiers during a familiarization firing at SHARED ACCORD 2008.



U.S. Marines demonstrate non-lethal, counter-materiel systems for Moroccan soldiers during AFRICAN LION 2008.



Ross Miller Receives Letter of Appreciation

Ross Miller, the Joint Non-Lethal Weapons Program (JNLWP) Program Support Officer for the U.S. Army, is making a difference for the JNLWP. Miller helped rewrite the Army's Joint Capabilities Document for Non-Lethal Effects. This critical document, approved in February 2008, is the basis for the development of all future non-lethal requirements documents. Miller also provides non-lethal weapons information and recommendations to the Army Capabilities Integration Center's Protection Division Team.



**Ross Miller, JNLWP
Program Support
Officer for the
U.S. Army**

Miller was recently praised in a letter of appreciation from Colonel Richard Starkey, Protection Division Chief. Highlighting Miller's contributions, Col. Starkey wrote, "Ross is always ready to assist the Protection staff and in our day-to-day efforts supporting soldiers in the field."

House Armed Services Committee Expresses Support for Non-Lethal Weapons

The U.S. House of Representatives House Armed Services Committee (HASC) recently showed its support for non-lethal weapons programs, urging allocation of funds in fiscal year 2009 for their continued development and employment. On May 15, 2008, the HASC approved H.R. 5658, the National Defense Authorization Act for Fiscal Year 2009. The Committee released the report language for its mark-up of H.R. 5658 along with the approved bill. The HASC's report language supports non-lethal weapons, including the following:

Non-lethal weapons and technology

The committee notes the increasing potential in the emerging role of non-lethal weapons and the continued development of non-lethal weapons technologies and capabilities. The committee believes that the use of these technologies could prove valuable in reducing risks to the warfighter and to non-combatants in areas of ongoing military operations and in potential future missions of humanitarian support, stability, and reconstruction operations, or defense support to civil authorities. In this regard, the committee urges the Department to pursue a greater number of development and employment strategies for the ultimate fielding of such systems and encourages the continued efforts toward developing active denial technologies, including the Active Denial System (ADS), optical incapacitation, and acoustic devices.

The committee strongly encourages the Department of Defense to ensure that the non-lethal weapons science and technology base is adequately funded so that investments in these technologies can lead expeditiously to the development and deployment of advanced non-lethal weapons systems and capabilities that enhance the safety of U.S. armed forces and improve opportunities for mission success. The committee also encourages the Department to ensure that policy, doctrine, and tactics are developed in parallel through increased experimentation, as those elements are necessary to promote technology maturation and to ensure the rapid fielding of non-lethal systems.

"The HASC report language demonstrates Congress' heightened awareness of non-lethal weapon capabilities while indicating a congressional desire for the DoD to do more," remarked Colonel Kirk Hymes, Director of the Joint Non-Lethal Weapons Program. "It's clear that in addition to technology, the HASC wants non-lethal weapon policy, doctrine and tactics considerations to be advanced."

H.R. 5658 bill language and a detailed summary of H.R. 5658 as reported by the HASC are available at <http://armedservices.house.gov/>.



Hail & Farewell

Farewell to:

LtGen Richard Natonski, USMC
Deputy Commandant, Plans, Policy and
Operations, Headquarters Marine Corps
Chairman, Joint Non-Lethal Weapons Integrated
Product Team

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U.S. Air Force Voting Principal

COL Richard Swengros, USA
Joint Coordination Integration Group
U.S. Army Voting Principal

CAPT Ted Lucas, USN
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Hail to:

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Operations, Headquarters Marine Corps
Chairman, Joint Non-Lethal Weapons Integrated
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COL Wade Dennis, USA
Joint Coordination Integration Group
U.S. Army Voting Principal

COL Wilfredo Colon, SF, USAR (Ret)
Joint Coordination Integration Group
U.S. Special Operations Command
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Todd Getz
Program Support Officer
U.S. Navy

Scott Jacobs
Program Support Officer
U.S. Coast Guard