



JNLWP

Biannual  
Newsletter

Published  
November 2011



# Joint Non-Lethal Weapons Program Newsletter



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## Marines Train on New Escalation-of-Force Equipment



**Dan Dixon, an equipment trainer with Marine Corps Systems Command, instructs Marines about the Magnetic Audio Device<sup>®</sup>, one of the Marine Corps' acoustic hailing devices.**  
*U.S. Marine Corps photo by Sgt. Richard Blumenstein*

**S**pray cans that detect explosive residue, spike strips that can be quickly spread to immobilize vehicles, and SQU.IDs<sup>®</sup> that translate English to Dari audibly in real time.

No, these are not high-tech gadgets off the latest superhero's utility belt, but a shortlist of tools Marines trained with during a Marine Corps Systems Command course at the 24th Marine Expeditionary Unit's motor pool and Harriet B. Smith Library.

The Marines, primarily from units scheduled to attach to the 24th Marine Expeditionary Unit, spent the week training on the ins and outs of the new Escalation-of-Force Mission Modules. The 24th Marine Expeditionary Unit received the Escalation-of-Force Mission Modules early this year. The training served as a means to enable them to employ it during the Marine Expeditionary Unit's upcoming deployment.

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## Marines Train on New Escalation-of-Force Equipment

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Escalation-of-force procedures give units the ability to minimize civilian casualties through non-lethal means. The Escalation-of-Force Mission Module is comprised of a plethora of non-lethal-centric weapons systems such as riot shields, batons, lighting systems, powerful speaker systems, restraint devices, explosive detection devices and more.

Basically, it provides Marines the assets to incapacitate personnel or material while minimizing fatalities, significant injury to personnel, and undesired damage to property in a target area or environment.

The Escalation-of-Force Mission Module divides those assets into mission specific modules such as urban patrolling, entry control points, and crowd control. The organization of the modules allows Marines to quickly gather the assets they need to conduct various missions, according to Thomas Ritchie, the project officer for the Marines Corps Systems Command's Escalation-of-Force Mission Module.



**Cpl. Liji Sui, a field artillery cannoneer with 1st Battalion, 2nd Marine Regiment, 2nd Marine Division, holds a SQU.ID<sup>®</sup>, an electronic device that translates English to another language audibly, during Escalation-of-Force Mission Module training.**  
*U.S. Marine Corps photo by Sgt. Richard Blumenstein*

"Everything is so quick to access, it's all organized for you," said Cpl. John Angiono, a military policeman with Combat Logistics Regiment 27. "It is really all inclusive, everything you could possibly need is going to be found in one of its quadcons."

The Escalation-of-Force Mission Module is phasing out both the Force Protection Capability Set and Non-Lethal Capability Set Marine Corps-wide as an all round lighter and more efficient asset. The Escalation-of-Force Mission Module takes less than half the space than the previous systems because a number of its contents, such as lighting systems, have greatly been reduced in weight and size. The Escalation-of-Force Mission Module takes up four quadcons whereas the previous sets together filled more than 10 quadcons.

The Escalation-of-Force Mission Module boasts a number of capabilities and advances over the older sets. The equipment in the module is used for a myriad of reasons including directing large crowds of people. Some other deceives include the Phraselator P2<sup>®</sup> and SQU.ID<sup>®</sup>, electronic devices that translate English to another language audibly.

"The system is really cool because its voice activated," said Cpl. Liji Sui, a field artillery cannoneer with 1st Battalion, 2nd Marine Regiment, 2nd Marine Division, in regards to the SQU.ID<sup>®</sup>. "It was extremely easy to learn. Just say the word and it will translate it to Pashto, Dari, or Arabic."

Once the Marines have been trained in the numerous implementations of the Escalation-of-Force Mission Module, it will serve as an invaluable asset to the Marine Expeditionary Units' ability to carry out missions such as humanitarian aid, noncombatant evacuations, and more.

—BY SGT. RICHARD BLUMENSTEIN



## Non-Lethal Weapons Demonstrated at Conclusion of Non-Lethal Weapons Executive Seminar

**M**ilitary representatives from more than 25 countries recently gathered in Chonburi, Thailand, to witness a demonstration of non-lethal techniques taught during the U.S.-Thai bilateral training of Non-Lethal Weapons Executive Seminar 2011.

Partner militaries from around the world observed the Thai soldiers' tactics refined by seven days of training with U.S. Marines.

"It's very important that we have the capability to safeguard our soldiers, sailors and army, but also our civilian population," said New Zealand Army Maj. Jeff Howe of the Royal New Zealand Infantry Regiment.

Non-lethal weapons are designed to incapacitate equipment and personnel while minimizing fatalities and permanent injury.

"The capabilities of our non-lethal weapons in general are preferred during rescue missions, or for force protection in civil disturbances," said Capt. Jesse A. Atay, the assistant branch head of the Expeditionary Warfare Branch and the Non-Lethal Weapons Executive Seminar

2011 detachment officer-in-charge. "They can also be used to control rioting prisoners of war or in situations during which civilians are used to mask a military attack."

U.S. Marines from the Special Operations Training Group, III Marine Expeditionary Force from Okinawa, Japan, assisted in the training, and they were happy with the demonstration, which highlighted the use of pepper spray and other crowd control techniques.

Non-Lethal Weapons Executive Seminar is U.S. Marine Corps Forces Pacific's premiere multilateral theater security cooperation event for non-lethal weapons.

—BY MASTER SGT. COHEN A. YOUNG



**Maj. Jeff Howe of the Royal New Zealand Infantry Regiment, New Zealand Army, prepares to fire a non-lethal grenade with the use of a launching cup that is attached to a Mossberg 500 shotgun during the Non-Lethal Weapons Executive Seminar 2011.**

*U.S. Air Force photo by Master Sgt. Cohen Young*



**Marines with Special Operations Training Group, III Marine Expeditionary Force, and Military Police Support Company, III Marine Expeditionary Force Headquarters Group, III Marine Expeditionary Force, and members of the Thai military and police forces participate in non-lethal weapons use demonstrations as part of the Non-Lethal Weapons Executive Seminar 2011.**

*U.S. Marine Corps photo by Sgt. Heather Brewer*



## Combatant Command Liaison Officer in Action: Eric Damm at U.S. European Command

**T**he Non-Lethal Weapons Combatant Command Liaison Officers are the Joint Non-Lethal Weapons Program's representatives in the field. The Combatant Command Liaison Officers work to raise awareness and visibility of non-lethal weapons in their respective commands. They also help identify specific needs for non-lethal weapons in the command and establish procedures for integrating non-lethal weapons into operational planning.

**Q: When did you begin working as U.S. European Command Combatant Command Liaison Officer?**

**A:** March 2005

**Q: What is your hometown?**

**A:** My father is a retired U.S. Marine, so that's not always easy to answer. I was born in Oceanside, Calif., just outside of Marine Corps Base Camp Pendleton. I consider Pittsburg, Pa., my hometown, because that was where I attended high school and where my parents still live.

**Q: What is your area of responsibility?**

**A:** European Command's area of responsibility includes all of Europe, large portions of Asia, parts of the Middle East, and the Arctic and Atlantic Oceans. The area contains 51 countries, including Israel which is right in the center of U.S. Central Command's area of responsibility. European Command is also responsible for U.S. military relations with NATO.

**Q: What role do non-lethal weapons play in European Command?**

**A:** In European Command operations, non-lethal weapons primarily serve as a means of allied engagement. European Command is a "Phase 0" Theater, meaning that European Command's primary focus is to prevent hostilities before they occur. Non-lethal weapons have a large role to play in that task. By increasing our allies' non-lethal capabilities, we encourage responsible governance and the increased professionalism of our allies' militaries. This outcome allows governments and militaries to deal with internal unrest in a less violent manner, thus decreasing the potential for breeding extremism and terrorism. The benefits of that are obvious. The effort is grounded in the old idea that "an ounce of prevention is worth a pound of cure." Non-lethal weapons provide that ounce of prevention. Non-lethal weapons also serve as a focal point for technology exchanges and interaction with our NATO partners. European Command continues to support an active peace support mission in the Balkans, as well as numerous exercises, throughout the year and the area of responsibility. Non-lethal weapons are seeing more and more visibility during these efforts.



**U.S. European Command  
Combatant Command Liaison Officer  
Eric Damm**  
*Official Joint Non-Lethal  
Weapons Program Photo*

*(continued on page 5)*



## Combatant Command Liaison Officer in Action: Eric Damm at U.S. European Command (continued from page 4)

**Q: What was your latest travel as Combatant Command Liaison Officer?**

**A:** In October 2011, I attended the NATO-sponsored North American Technology Demonstration Non-Lethal Capabilities International Trade Show and Conference in Ottawa, Canada. The event was a great opportunity to see a large number of non-lethal capabilities in one place, as well as see the results of the NATO Defense Against Terrorism initiative dealing with non-lethal weapons. In addition, there were a number of NATO meetings, a meeting of the Joint Integration Program, and numerous sidebar opportunities with non-lethal weapons experts from around the world.

—REPORTED BY JENNIFER LONDON



**A Romanian soldier thanks a Black Sea Rotational Force 11 Marine rifleman for allowing him to use the Marine's rifle for a non-lethal munitions familiarization firing during a recent U.S. European Command exercise.**

*Official Department of Defense Photo*

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## Joint Non-Lethal Weapons Program Demonstrates Vehicle-Stopping Technologies for U.S. Combatant Commands and other Defense and Homeland Security Agencies



**The Distributed Sound and Light Array combines focused light and sound to produce a more effective checkpoint engagement system.**

*Official JNLWP Photo*

*Illustration by Laurie Alegria*

Insurgency strategy,” said U.S. Air Force Maj. James Slaton, who attended the demonstration. Slaton currently serves as a force protection staff officer with U.S. Forces Afghanistan, a functioning command and control headquarters for U.S. forces operating in Afghanistan.

“The demonstration showed how two relatively low-cost, non-lethal technologies could successfully stop both compliant and non-compliant vehicles in a simple escalation-of-force vehicle-stopping scenario,” said Dave Law, Technology Division Chief for the Joint Non-Lethal Weapons Directorate, based at Marine Corps Base Quantico, Va. Law oversees the program that demonstrated both technologies.

The Distributed Sound and Light Array combines laser, non-coherent bright lights, and focused sound to produce a more effective checkpoint engagement system. The hailing and warning function visually attracts the attention of the target individuals with the laser and bright lights, and the acoustic system delivers easily understood verbal instructions/commands. The acoustic array broadcasts a hailing or warning message to provide instructions or an irritating tone.

The Joint Non-Lethal Weapons Program recently demonstrated the Distributed Sound and Light Array and the Pre-emplaced Electrical Vehicle Stopper non-lethal technologies to more than 100 attendees, including representatives from the U.S. Combatant Commands, other Department of Defense offices, and the Department of Homeland Security, at Naval Surface Warfare Center, Dahlgren Division in Dahlgren, Va.

The Distributed Sound and Light Array system hails, warns, and/or deters approaching vessels, vehicles, and people on foot from military checkpoints and base perimeters. The Pre-emplaced Electrical Vehicle Stopper system shuts off selected vehicle engines as the vehicles maneuver through military checkpoints.

These two devices help address U.S. Central Command’s mission-critical needs for integrated base defense, including addressing improvised explosive device threats and minimizing civilian casualties at forward operating base entry control points. The U.S. Central Command is a Unified Combatant Command of the U.S. armed forces. The Command’s area of responsibility comprises countries in the Middle East, North Africa, and Central Asia, including Afghanistan and Iraq.

“The Distributed Sound and Light Array looks like a great system that will allow our entry control point troops to divert vehicles, and possibly even deter/mitigate some threats—definitely will support International Security Assistance Force Counter

*(continued on page 7)*



## Joint Non-Lethal Weapons Program Demonstrates Vehicle-Stopping Technologies for U.S. Combatant Commands and other Defense and Homeland Security Agencies

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At the demonstration, the system hailed and warned people approaching a simulated forward-operating base entry control point at distances up to 700 meters, or about half a mile.

“Great acoustics, very clear at long distance—excellent laser, day or night, dazzling at long range,” Slaton said of the Distributed Sound and Light Array. “[It] could be deployed in theater today,” he added.

The Pre-emplaced Electrical Vehicle Stopper is reusable for thousands of engagements and provides remote targeting of select vehicles at significant distances. Stopped vehicles can be immediately moved from traffic lanes so that normal traffic patterns can quickly resume.

At the demonstration, the Pre-emplaced Electrical Vehicle Stopper and the Distributed Sound and Light Array systems together provided an escalation-of-force capability to hail, warn, and stop approaching vehicles, including cooperative and uncooperative targets, at distances up to several hundred meters.

“The effects in the day time were fantastic—at 700 meters it was very hard to look straight forward. The loud hailing was also very good. At night, the dazzling laser effects were superb,” said Rick Bartis, U.S. Central Command Non-Lethal Weapons Combatant Command Liaison Officer.

The Non-Lethal Weapons Combatant Command Liaison Officers are the Joint Non-Lethal Weapons Program’s representatives in the field. Combatant Command Liaison Officers work to raise awareness and visibility of non-lethal weapons in their respective commands. They also help identify specific needs for non-lethal weapons in the command and establish procedures for integrating non-lethal weapons into operational planning.

“The Distributed Sound and Light Array would be a great technology given the range for not only a forward operating base with the Pre-emplaced Electrical Vehicle Stopper, but also for use by itself in watercraft and or maritime employment. I was very impressed,” Bartis said.

The Joint Non-Lethal Weapons Program plans to continue demonstrating the Distributed Sound and Light Array at several upcoming events. It will participate in the U.S. Navy’s Trident Warrior Experiment in Norfolk, Va., during fiscal year 2012 when the technology will be integrated onto an unmanned surface vehicle.

For more information about the Distributed Sound and Light Array, contact Rick Scott at [richard.i.scott@usmc.mil](mailto:richard.i.scott@usmc.mil). To learn more about the Pre-emplaced Electrical Vehicle Stopper, contact Scott Griffiths at [scott.griffiths@usmc.mil](mailto:scott.griffiths@usmc.mil).

—BY ANNETTE BEACHAM



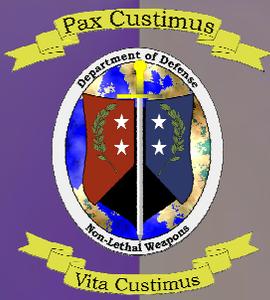
**The reusable Pre-emplaced Electrical Vehicle Stopper temporarily disables vehicle engines.**

*Official Naval Surface Warfare Center Dahlgren Division Photo*



**Used together, the Distributed Sound and Light Array and Pre-emplaced Electrical Vehicle Stopper systems can stop approaching vehicles at distances up to several hundred meters.**

*Official Naval Surface Warfare Center Dahlgren Division Photo*



## Air Force Team Wins Award for Non-Lethal Weapons Human Effects Modeling Analysis Program

The Human Effect Modeling and Simulation Team earned top honors, receiving the 2011 Air Force Modeling and Simulation Experimentation Award Aug. 16 during the Air Force Modeling and Simulation Conference in Orlando, Fla. The team is responsible for developing and managing the Joint Non-Lethal Weapons Program-sponsored Human Effects Modeling Analysis Program.

"We are extremely pleased to have been selected for this award and for the recognition of the Human Effects Modeling Analysis Program," said Dr. Garrett Polhamus, Directed Energy Bioeffects Division Chief.

The 711th Human Performance Wing, Directed Energy Bioeffects Division has a long history of developing validated computational bioeffects models that support our warfighters, according to Polhamus. The Division's efforts include the Human Effects Modeling Analysis Program, a computer simulation modeling effort specifically dedicated to assess and predict potential bioeffects of non-lethal weapons.



**Directed Energy Modeling and Simulation Engineer Lt. Michael L. Doroski, a member of the Human Effects Modeling Analysis Program team, receives the 2011 Air Force Modeling and Simulation Experimentation Award Aug. 16 during the Air Force Modeling and Simulation Conference in Orlando, Fla.**

*Official U.S. Air Force Photo*

"It gives us a great sense of satisfaction to know the Human Effects Modeling Analysis Program models are playing an increasingly crucial role in meeting their need for non-lethal weapons," said Polhamus.

Part of the non-lethal weapon development process includes analyzing the weapon's potential human effects to determine if the weapon will minimize fatalities and permanent injury to personnel as well as have reversible effects on personnel, while still incapacitating targeted personnel immediately. This analysis can be done through the Human Effects Modeling Analysis Program.

Commanders in the field and users of non-lethal technology need to understand the potential harmful effects of non-lethal technology to make informed decisions about when a particular technology should be used to meet mission objectives. The Human Effects Modeling Analysis Program provides the effects knowledge necessary to feed that decision-making process.

The program characterizes a weapon's risk of causing significant injury to help operational forces decide whether or not to employ that particular weapon. Risk of significant injury is the

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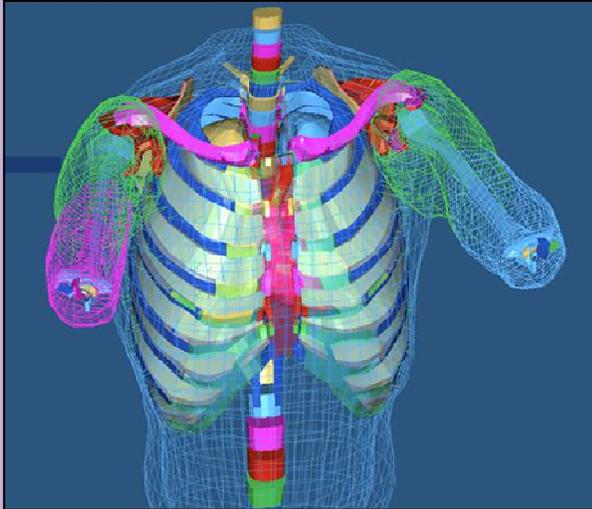


## Air Force Team Wins Award for Non-Lethal Weapons Human Effects Modeling Analysis Program

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ability to return a target to its state before a non-lethal weapon's impact. It is usually measured by the level of care required for recovery.

The modeling program also provides non-lethal weapon design guidance, which helps to ensure that our troops are equipped with safe and effective technologies. The investment in this effort could save significant amounts of money in the future as validated models reduce the need for expensive laboratory tests that predict the bioeffects for a particular non-lethal technology.



**Advanced Total Body Model  
for Human Effects**

*Official Joint Non-Lethal Weapons  
Program Photo*

The Human Effects Modeling Analysis Program team's award-winning contributions include leading software capability development, which resulted in effective bioeffects models that are now used in the non-lethal community. The software capability development also improved accuracy and validation, which set a new standard for human effects modeling by shortening the amount of time it takes to turn a technology into an applicable weapon. The team also enhanced the Department of Defense's ability to conduct wargaming activities with non-lethal weapons by using Human Effects Modeling Analysis Program software to analyze human effects of non-lethal weapons.

The program continues to add new bioeffects models to increase its capabilities. Enhanced application tools support these additional capabilities.

The Air Force Research Laboratory, 711th Human Performance Wing, Human Effectiveness Directorate, Directed Energy Bioeffects Division, located at Fort Sam Houston in San Antonio, Texas, provides program and application support for the Human Effects Modeling Analysis Program.

The Human Effects Modeling and Simulation team includes Associate Branch Chief for the Biobehavioral Systems Branch and Biomedical Engineer James L. Simonds, Lead Directed Energy Modeling and Simulation Engineer Lt. Michael P. Knight, Research Biomedical Engineer Jason A. Payne, Directed Energy Modeling and Simulation Engineer Lt. Michael L. Doroski, Research Biomedical Engineer Dr. Bennett L. Ibey, Research Biomedical Engineer Dr. Gerald J. Wilmink, Laser Modeling and Simulation Engineer Lt. Jason M. Wyche, Principal Research Physicist Dr. Robert Thomas and Research Physicist Justin Zohner. The team also includes contractor personnel based in San Diego, Calif.

For more information about the Human Effectiveness Directorate, Directed Energy Bioeffects Division, visit <http://www.wpafb.af.mil/shared/media/document/AFD-070418-032.pdf>.

—BY JENNIFER LONDON



## Wright-Patterson Air Force Base: Home Base for Important Non-Lethal Weapons Efforts

Located in southwestern Ohio, Wright-Patterson Air Force Base is one of the largest and organizationally most complex bases in the U.S. Air Force. Its approximately 27,000 military, civilian and contract employees work on many defense-related activities, including research and development, acquisition and logistics, flight operations and education.

Wright-Patterson is home to a number of scientific and technical research organizations. Among them is the Air Force Research Laboratory, which is considered the leading aeronautical and aerospace research organization in the Air Force. The Air Force Research Laboratory is the Service's only organization devoted to discovering, developing and delivering warfare technologies for our country's air, space and cyberspace forces.

For approximately two decades, the Air Force Research Laboratory, and its directorates, successfully investigated and tested operationally useful effects of millimeter waves. The research, along with funding from the Air Force and the Joint Non-Lethal Weapons Program led to the development of the Active Denial System. The Directed Energy Directorate, located at Kirtland Air Force Base, New Mexico, worked on the technology's development and testing. The Human Effectiveness Directorate, which was at Brooks Air Force Base, Texas, and is currently located at Fort Sam Houston, Texas, conducted extensive bioeffects research for this counter-personnel directed energy weapon.

The Human Effectiveness Directorate's Directed Energy Bioeffects Division continues to play an essential role in the development of non-lethal directed energy weapons. The focus of the ongoing research is to quantify the biological effects of directed energy weapons. Data collected is helping researchers develop scalable, non-lethal weapons, as well as devise defensive means to protect our warfighters from similar capabilities.

The United States Air Force School of Aerospace Medicine, another renowned research and education center headquartered at Wright-Patterson Air Force Base, is interested in the biological effects of directed energy weapons. The Department of Aeromedical Research is focused on equipping their health care providers with the education and tools they need to diagnose and treat directed energy injuries. The aim of the research is to improve patient treatment.

As home of the Air Force Research Lab, Wright-Patterson Air Force Base continues to have an important role in the Department of Defense Non-Lethal Weapons Program.

—BY SUZETTE WESTHOFF

### Wright-Patterson Air Force Base



*Official JNLWP Graphic by Wanda J. Napier*

#### Quick Facts:

- Congressional District: 8th
- District Population: approx. 631,000
- In 1904-1905, the Wright brothers conducted early test flights of their airplane on an 84-acre plot of land, which is now part of the base.



## Non-Lethal Technologies Showcased at the North American Technology Demonstration Event

As part of the 2011 North American Technology Demonstration Non-Lethal Capabilities International Trade Show and Conference, Oct. 25–27, in Ottawa, Canada, non-lethal technologies were demonstrated and displayed at the Connaught Ranges, in the Shirley's Bay district of Ottawa.

The North American Technology Demonstration was sponsored by NATO, and jointly hosted by the U.S. Department of Defense Non-Lethal Weapons Program and the Canadian Department of National Defence to showcase non-lethal weapons devices and munitions that can be acquired and fielded quickly in support of the International Security Assistance Force in Afghanistan and counter-terrorism operations.

The range day consisted of short vignettes, demonstrations and familiarization sessions, as well as a static display area. In the vignettes, vendors employed non-lethal capabilities to help attendees understand how such equipment can be applied to operational settings.

Vendor-led demonstrations showcasing and explaining product capabilities followed each vignette. Hands-on familiarization sessions allowed cleared attendees access to certain non-lethal systems.

Vignettes included the following scenarios: unknown persons approaching a check point, crowd dispersion at a check point and at tactical infrastructure, and vehicle check point by day and by night.

Along with other non-lethal technologies, an Active Denial System technology demonstrator (ADS1) was on display at the range event. The Active Denial System, also referred to as the "ADS," is a non-lethal, counter-personnel, directed-energy weapon. It 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.

“The range event provided vendors a chance to demonstrate what their non-lethal weapon technologies can do in a simulated operational setting and to showcase their potential as force multipliers when used in an integrated manner,” said Major John Gutierrez, Acquisition Concepts Officer for the Joint Non-Lethal Weapons Directorate.

Major Gutierrez was involved in the planning of the NATD event, including the demonstration at Connaught Ranges.



**Active Denial System 1, a non-lethal, counter-personnel, directed-energy weapon, will be displayed at the North American Technology Demonstration Dynamic Range Demonstration in Ottawa, Canada.**

*Official Department of Defense Photo*

—BY ANNETTE BEACHAM



## Joint Non-Lethal Weapons Directorate Key Leadership Engagements

Joint Non Lethal Weapons Directorate personnel have been busy this year informing a variety of groups about our programs. Some of their activities included:



### **NATO's Defence Against Terrorism Initiative on Non-Lethal Capabilities**

Russia's Ministry of Foreign Affairs hosted a NATO Defence Against Terrorism initiative on Non-Lethal Capabilities (DAT-11) meeting in Moscow. The main purpose of the meeting was to continue preparatory

efforts for the North American Technology Demonstration Non-Lethal Capabilities International Trade Show and Conference. There was also a demonstration of various Russian non-lethal weapons capabilities.

### **Force Protection Equipment Demonstration VIII**

The Force Protection Equipment Demonstration VIII was held at the Stafford Regional Airport in Stafford, Va. More than 575 exhibitors demonstrated approximately 3,000 commercial off-the-shelf technologically advanced products to approximately 22,500 attendees during a three-day period.

Personnel from the Joint Non Lethal Weapons Directorate's Capabilities and Requirements Division and the Strategic Communication Officer-in-Charge staffed the Joint Non-Lethal Weapons Program exhibit and visited other related exhibits during the event. The Department of Defense Physical Security Equipment Action Group, administered by the Office of the Assistant to the Secretary of Defense for Nuclear and Chemical and Biological Defense Programs/Nuclear Matters, directs and sponsors the demonstration, which is held every other year.

### **International Infantry & Joint Services Small Arms Symposium**

The Joint Non-Lethal Weapons Directorate's Acquisition Division Chief, Kevin Swenson, provided a brief to the Joint Service Small Arms Synchronization Team during the International Infantry & Joint Services Small Arms Symposium, held in Indianapolis. Swenson advised the team, which consists of the government's small arms combat and material developers, of the status of non-lethal munitions development efforts and recommended future development and collaboration efforts between the group and the Joint Non-Lethal Weapons Program. Swenson also briefed approximately 500 industry representatives about the Joint Non-Lethal Weapons Program, future business opportunities with the Program, and how industry could support the development of non-lethal munitions.

### **Fleet Week New York**

For the second year in a row, the Joint Non-Lethal Weapons Directorate participated in Fleet Week New York, an annual, week-long celebration of the sea Services. The Joint Non-Lethal Weapons Directorate display showcased currently fielded non-lethal weapons and conceptual advanced non-lethal weapons, including the vehicle-mounted version of the Distributed Sound and Light Array. In addition to staffing the display, Joint Non-Lethal Weapons Directorate Director, Col. Tracy Tafolla and other Directorate staff members attended several associated events. With approximately 68,000 visitors, Fleet Week provided an opportunity to inform both military and public audiences about non-lethal weapon capabilities.

—BY ANNETTE BEACHAM



## Shared Research and Expertise Foster Partnerships Between the Joint Non-Lethal Weapons Program and the National Institute of Justice

On-going science and technology, and research and development efforts by the U.S. Department of Defense Joint Non-Lethal Weapons Program and other governmental agencies have crossover and dual use value. The National Institute of Justice, the research, development, and evaluation agency of the U.S. Department of Justice, is an example of such an agency that shares this type of mutually and fiscally beneficial relationship with the Joint Non-Lethal Weapons Program.

Like the Joint Non-Lethal Weapons Program, the National

Institute of Justice determines technology requirements and researches solutions to address identified needs in law enforcement and corrections. Both agencies require non-lethal capabilities, or as law enforcement refers to them, less-lethal technologies, to control crowds, secure areas, subdue or disorient individuals, and stop vehicles.

The requirements of the military and the law enforcement and correction agency are comparable, and thus require similar solutions. Although many of the agencies' requirements are related, they may differ in their application. For example, law enforcement needs to stop vehicles in pursuit, whereas the military is generally interested in stopping vehicles approaching a specific location. Consequently, some independent research and capability development are necessary. Each agency has needs that can be addressed by current and emerging devices in the following categories:

- barriers and entanglement
- conducted energy devices
- directed energy devices
- mechanical and kinetic devices

Since these agencies' requirements are similar, they benefit from sharing information and participating in each other's endeavors. By doing so, they ensure they are not duplicating efforts. As an example, the National Institute of Justice is a non-voting member of the Joint Non-Lethal Weapons Program's Joint Integration Program, Joint Coordination and Integration Group, and Joint Integrated Product Team government meetings. The Joint Non-Lethal Weapons Program also participates on the National Institute of Justice's Less-Lethal Technology Working Group semi-annual meetings, during which criminal justice requirements are discussed and kept current. Sharing information at such events, and throughout the year, enables the agencies to leverage each other's data as it applies to their specialized research.

**“For more than 10 years, the National Institute of Justice and the Joint Non-Lethal Weapons Program have shared research and expertise in developing and evaluating new less-lethal technology. This has helped us both to expend limited funding on promising concepts. We want to thank Joint Non-Lethal Weapons Program for sustaining this partnership, and would like to continue exploring other enhancements.”**

—Joe Cecconi

*Senior Scientist, Directed Energy Research Programs  
National Institute of Justice, Department of Justice  
Official National Institute of Justice Photo*



*(continued on page 14)*



## Shared Research and Expertise Foster Partnerships Between the Joint Non-Lethal Weapons Program and the National Institute of Justice *(continued from page 13)*

Directed energy devices are examples of how the National Institute of Justice is leveraging the Joint Non-Lethal Weapons Program's research and development. The Department of Defense researched and developed the Active Denial System, a vehicle-mounted, counter-personnel, non-lethal, directed-energy weapon that the military could use to stop, deter or turn back an advancing adversary. The technology uses a focused beam of millimeter waves to induce an intolerable heating sensation on an adversary's skin, thus repelling the individual with minimal risk of injury. The National Institute of Justice is adapting this technology to develop a man-portable, lower-power system with a smaller focused beam using solid-state technology, called the Directed Energy Portable Radio Frequency Less Lethal Device. The project is focused on cost, as well as size reduction. Both organizations can then benefit from advances in the development of the technology.

Another example of the crossover value of the agencies' technology research is the Less Lethal Incident Monitoring System. This National Institute of Justice project collects data from less-lethal capability employed incidents. This database enables researchers, medical personnel, and others to work on improving less-lethal devices, and the effects of their use. The Joint Non-Lethal Weapons Program is interested in leveraging the collected data to validate the metrics used to understand the risk of significant injury associated with a specific non-lethal weapon.

The reciprocal exchange of research information and data by the Joint Non-Lethal Weapons Program and the National Institute of Justice helps to explore technological solutions aimed at protecting warfighters and law enforcement officers, as well as minimizing unintended or permanent injuries, which are shared goals of the Department of Defense and the Department of Justice.



**The Directed Energy Portable Radio  
Frequency Less Lethal Device**  
*Official Department of Justice  
Conceptual Illustration*

—BY SUZETTE WESTHOFF



## U.S. Department of Defense Non-Lethal Weapons Program's Website Gets an Upgrade

The U.S. Department of Defense Non-Lethal Weapons Program's website has a fresh look and a new website address at <http://jnlwp.defense.gov/>. The website features an updated layout with new content, photographs and videos organized in easy-to-navigate webpages.

The Joint Non-Lethal Weapons Directorate Strategic Communication Office re-launched the website Sept. 7.

The new website is hosted by Defense Media Activity, the Department of Defense's agency dedicated to providing a broad range of high quality multimedia products and services to inform, educate, and entertain Department of Defense audiences around the world.

The website was carefully designed to reflect a crisp, clear and standardized style that Defense Media Activity is implementing with all Department of Defense websites.

If your military or government agency is relevant to the Department of Defense Joint Non-Lethal Weapons Program's efforts and would like to have reciprocal links with the new website, please contact Kelley Hughes, Joint Non-Lethal Weapons Directorate Strategic Communication Officer-in-Charge, at [kelley.hughes@usmc.mil](mailto:kelley.hughes@usmc.mil) or (703) 432-0905.

—BY JENNIFER LONDON

JNLWP

WDQUAN430379      Unclassified

Department of Defense Non-Lethal Weapons Program - Home Page - Microsoft Internet Explorer provided by NMCI

<http://jnlwp.defense.gov/>      Live Search

U.S. DEPARTMENT OF DEFENSE  
NON-LETHAL WEAPONS PROGRAM

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Click here for information about NATO's recent North American Technology Demonstration Non-Lethal Capabilities International Trade Show and Conferen

**Marines Train on New Escalation-of-Force Equipment**

Dan Dixon, a new equipment trainer with Marine Forces Systems Command, tests Marines' knowledge on a Magnetic Audio Device<sup>®</sup>, the Marine Corps' currently fielded acoustic hailing device, during Escalation-of-Force Mission Module training Aug. 25 at Marine Corps Base Camp Lejeune, N.C. Escalation-of-Force Mission Modules are comprised of non-lethal weapons and equipment and enhance Marines' ability to reduce casualties.

U.S. Marine Corps photo by Sgt. Richard Blumenstein

Story

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Non-Lethal Weapons    More ▶    Recent Event    In the News    More ▶

- MPs give Marines, sailors shocking experience
- MPs train for riot response procedures



# Calendar of Events

## Calendar of Events

### Nov. 14–18: Annual Directed Energy Symposium

La Jolla, Calif.

<http://www.deps.org/DEPSpages/DEsymp11.html>

### Nov. 28–Dec. 1: Interservice/Industry Training, Simulation and Education Conference

Orlando, Fla.

<http://www.iitsec.org/Pages/default.aspx>

Jan. 17-20: Shot Show

Las Vegas, Nev.

<http://www.shotshow.org/>

Feb. 5-7 Tactical Wheeled Vehicle Conference

Monterey, Calif.

<http://www.ndia.org/Divisions/Divisions/TacticalWheeledVehicles/Pages/default.aspx>

*Endorsement Disclaimer: These are some, but not all, of the upcoming non-lethal weapons-related events. The Joint Non-Lethal Weapons Program does not necessarily endorse any of these events.*

*Attendance Disclaimer: Some of these events are open to the public, while some events require an invitation or specific credentials. Please visit the website provided for more information, including attendance permissions, about a specific event.*

*External Links Disclaimer: The appearance of hyperlinks that are external to official U.S. Government websites does not constitute endorsement by the Joint Non-Lethal Weapons Program of the linked websites or the information, products or services they contain. The Joint Non-Lethal Weapons Program does not exercise any editorial control over the information found at these locations. Such links are provided consistent with the stated purpose of this U.S. Department of Defense website.*

## Hail & Farewell

### *Hail to:*

**Col. John Davidson, USA**

U.S. AFRICOM Non-Voting Principal  
Joint Coordination and Integration Group

**Col. John Probst, USAF**

U.S. Air Force Voting Principal  
Joint Coordination and Integration Group

**Col. Jeff Hunt, USAF**

U.S. CENTCOM Non-Voting Principal  
Joint Integrated Product Team

**Lt. Col. Lance Stratton, USA**

U.S. TRANSCOM Non-Voting Principal  
Joint Coordination and Integration Group

**Lt. Col. Richard Bogin, USMC**

Central Action Officer  
U.S. Marine Corps

**Maj. Marc Blum, USA**

Working Level Support  
U.S. National Guard Bureau

**Julie Stansfield-Cabus**

Department of State Non-Voting Principal  
Joint Coordination and Integration Group

**John Steblein**

Department of Homeland Security Non-Voting Principal  
Joint Coordination and Integration Group

**Steven Cusumano**

U.S. TRANSCOM Liaison Officer  
Joint Non-Lethal Weapons Directorate

### *Farewell to:*

**Col. Dave Alcorn, USA**

U.S. CENTCOM Non-Voting Principal  
Joint Integrated Product Team

**Col. Shannon Jurrens, USAF**

U.S. AFRICOM Non-Voting Principal  
Joint Coordination and Integration Group

**Lt. Col. Jeffrey Ditlevson, USAF**

U.S. TRANSCOM Non-Voting Principal  
Joint Coordination and Integration Group

**Capt. Matthew Martling, USA**

Working Level Support  
U.S. National Guard Bureau

**Steve Bernstein**

Department of State Non-Voting Principal  
Joint Coordination and Integration Group

**Howard Dinsmore**

Department of Homeland Security Non-Voting Principal  
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**Curtis "Scott" Edwards**

U.S. TRANSCOM Liaison Officer  
Joint Non-Lethal Weapons Directorate