

# the shield

THE OFFICIAL MAGAZINE OF DTRA/SCC-WMD  
VOLUME 1, ISSUE 2

SPRING 2011

## Reaching Back

Providing “up to the minute” analysis and support on the full spectrum of threats. *pg. 6*

# Letter from the Editor

Since we launched the first issue of *the shield*, we've received a lot of feedback. Some people wanted extra copies to hand out, some people told us they like the new layout, and some people offered their critique of what we've done... and what they think we should have done.

Your feedback has a critical role in the process of improving this magazine. We want to produce a top-notch product that stands with award-winning magazines like *Airman* and *All Hands*, informs our workforce about the people and missions of DTRA/SCC-WMD, and – most importantly – shares our story.

In addition to a new magazine, DTRA/SCC-WMD's website has undergone a major transformation, and with the new hardware and software, Public Affairs and the Office of the Chief Information Officer will be adding a lot of new content in the coming months. The goal of the magazine and the website is to inform people about what we do, and how we do it.

The goals of the entire agency can be found in DTRA's **2011 Strategic Plan** (*page 36*). While you can find it in its entirety on our internal intranet and external public website, you will see throughout *the shield* how the Strategic Plan is brought to life each day and in every mission of this agency. "Reaching Back" (*page 6*) discusses how DTRA's WMD subject matter experts quickly help our troops overseas and authorities here at home; it also falls under *GOAL 2: Provide counter WMD capabilities to meet current threats and challenges* (specifically Objective 2.4). "Closing the Back Gate" (*page 20*) shows what the International Counterproliferation Program is doing in partnership with other countries; it also falls under *GOAL 1: Adapt to and shape the dynamic Global Security Environment* (specifically Objective 1.4).

We cannot overstate the importance of your feedback as we share the DTRA/SCC-WMD story. Is there a little-known mission that deserves to be recognized? Are we approaching a milestone that didn't seem possible, five, 10, 20 years ago? Or are we on the edge of a scientific breakthrough that will live up to the phrase "Making the World Safer?" Please share that with us, so *the shield* can share that with everyone else.

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*Is there a mission you would like to learn more about? Is there someone whose life or career path has an interesting relationship to WMD? Is there a success story that needs to be shared inside and outside of this agency? Or do you have a letter to the editor to point out an additional detail, share your personal anecdote, or correct something that we might have overlooked? Send us an email at [dtra.publicaffairs@dtra.mil](mailto:dtra.publicaffairs@dtra.mil).*

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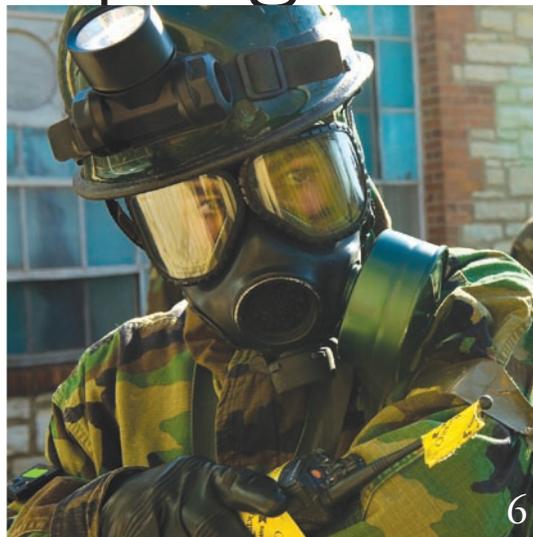
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# spring2011



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# Around the World

GRAPHIC: ANW FOX

## USA

### Virginia

DTRA/SCC-WMD hosted a Global Biosurveillance Science and Technology Requirements workshop that analyzed the science and technology obstacles in biosurveillance efforts. More than a dozen speakers discussed the status of current biosurveillance efforts and how to overcome existing obstacles. The next step is to address those gaps and look at near- and long-term improvements needed to deal with infectious diseases.

## USA

### Washington

A radioactive rabbit was trapped on the Hanford Nuclear Reservation but there is no indication that people were exposed to the animal. Officials suspect the rabbit drank water left from the recent demolition of a Cold War-era building once used in the testing of highly radioactive materials, particularly fuel elements and cladding that were irradiated at Hanford's reactors as part of plutonium production for the nation's nuclear weapons program. ●

## USA

### Florida

U.S. Central Command, with support from the Defense Threat Reduction Agency and Near East South Asia Center for Strategic Studies, hosted its inaugural Regional Combating Weapons of Mass Destruction Symposium, bringing together eight Middle Eastern nations to discuss how to better combat the WMD threat. Representatives from Egypt, Iraq, Jordan, Lebanon, Qatar, Saudi Arabia, United Arab Emirates, Yemen, and the United States gathered in Tampa for the four-day symposium with a theme of "Expanding Regional WMD Counterproliferation Capacity." ●

## Peru / Brazil / Argentina

DTRA/SCC-WMD's chem-bio experts visited the three South American countries to see how they can all cooperate on biodefense and biosurveillance efforts in a part of the world where epidemic outbreaks are a very real possibility. The trip also included the Joint Program Executive Office for Chemical and Biological Defense (the JPEO is the military's single focal point for chem-bio defense, from research and development to fielding and supporting CBRN equipment and medical countermeasures). ●

## WASHINGTON

## FLORIDA

Potential WMD threats exist on almost every continent.



## Hungary

A reservoir at an aluminum plant in Ajka burst its banks, unleashing a flood of caustic red sludge that reportedly killed 10 people and injured more than 150. The flood, estimated at 185 million gallons, swept cars off the roads, damaged bridges and houses and forced the evacuation of hundreds of residents. Red sludge is a byproduct of the process for manufacturing aluminum and contains heavy metals that can burn through skin and are toxic if ingested. ●

## Ukraine

DTRA/SCC-WMD Director Ken Myers and U.S. Ambassador to Ukraine John Tefft cut the ribbon at a ceremony opening the Biological Threat Reduction Program's first Biological Safety Level-3 Lab in Odessa. The \$3.4 million facility, housed at the Mechnikov Anti-Plague Station, is one of the latest projects built under the Nunn-Lugar program. ●

## North Korea

North Korea fired artillery at South Korea's Big Yeonpyeong island in the Yellow Sea and South Korea returned fire. Two South Korean marines and two South Korean civilians were killed, six were seriously wounded, and 10 were treated for minor injuries. Approximately 70 South Korean houses were destroyed. North Korean casualties were unknown. ●

## Russia

On January 25, 2011, the Russian Parliament approved ratification of the New START treaty, supported by President Barack Obama and approved by the U.S. Senate by a 71-26 vote in late 2010. Under terms of the treaty, the number of strategic nuclear missile launchers will be reduced by half and a new inspection and verification regime will be established, replacing the mechanism defined by earlier agreements. The New START treaty is the successor to the START I and II treaties which placed reductions and limitations on strategic offensive arms. ●

## Myanmar

The U.S. Congress renewed a ban on imports from Myanmar for another year, seeking to pressure the military regime over human rights and democracy as well as alleged ties to North Korea. Prior to that decision it was reported that a large arms shipment had been transported from North Korea to Myanmar which may have included components for a nuclear weapons program, including technology for uranium enrichment and long-range missiles. ●

## Africa

Senator Dick Lugar, co-founder of the Nunn-Lugar program, lead a mission to Kenya, Uganda, and Burundi with a team of Pentagon arms control experts to help secure deadly biological diseases in addition to destroying other lethal armaments. Potentially dangerous biological agents are being studied as part of the Nunn-Lugar program and small arms and light weapons are being destroyed under the Lugar-Obama Act, a SALW destruction program, established as part of Nunn-Lugar. ●

## PERU/BRAZIL/ARGENTINA



## HUNGARY



## AFRICA



# The Manhattan Project

BY BIANKA J. ADAMS, Ph.D.  
*Historian, Defense Threat Reduction Agency*



The development of an atomic bomb was the result of a successful collaboration of science and industry led by the U.S. Army Corps of Engineers. The production of two prototypes in time for their employment against Japan at the end of World War II became possible, to a large extent, because of the remarkable managerial skills of U.S. Lt. Gen. Leslie R. (“Dick”) Groves, the project’s leader.

In the decades since the end of World War I, scientists in the United States and Europe had discovered that neutron-induced fission of uranium caused nuclear chain reactions. In August 1939, a month before the outbreak of World War II, Albert Einstein, writing for a group of notable scientists, urged President Franklin D. Roosevelt to consider the potential of using the enormous energy of nuclear fission for production of an extremely powerful bomb. Dr. Vannevar Bush, President Roosevelt's unofficial science advisor and head of the National Defense Research Council, supported the scientists' claim. Twenty-two months later, with Europe outside the United Kingdom almost entirely under Nazi occupation, the Soviet Union reeling from attack, and fears that Nazi Germany might try to develop its own nuclear fission program, the president decided to proceed with development of an atomic bomb. Chartering a military policy committee in October 1941, with Bush as its director, President Roosevelt directed that maximum effort be made to develop an atomic bomb. To hide the cost and extent of the highly classified project, the president ordered the U.S. Army Corps of Engineers to take the lead. As a result, in August 1942, the Corps established the Manhattan Engineer District, after the initial location of the project's small headquarters on Broadway. The following month, then-Brig. Gen. Groves became the commander of the "Manhattan Project" and he, in turn, selected Dr. J. Robert Oppenheimer, a University of California physicist, to lead the scientific effort.

Over the years, Groves had developed a hard charging, straight-ahead style making him the obvious choice for such a large undertaking. Before he took charge of the effort to forge the nation's atomic weapons complex, he had overseen the construction of the Pentagon. From his Washington, D.C. office in the War Department building at 21st Street and Virginia Avenue, NW, just four blocks from the White House, Groves assessed the vast secret industrial complex he had to build to design, manufacture, and deliver the atomic bomb. Upon receiving his orders in September, Groves wasted no time and selected major locations for the Manhattan Project. By the end of the month, he had chosen Oak Ridge, Tenn., as the site of an installation to produce fissionable uranium. In November 1942, together with Oppenheimer, he picked an isolated ranch school in Los Alamos, N.M., as the site for the atomic laboratories that would design and assemble the bomb. In January 1943, he settled on Hanford, Wash., as the ideal location for a plutonium factory. In 1945, at its height, the Manhattan Project had entered into agreements with more than two hundred prime contractors, which engaged thousands of subcontractors. As a result, there were factories, laboratories and mines in thirty-nine states, as well as Canada and Africa, which were supporting operations in Oak Ridge and Hanford. In all, approximately 600,000 people worked on the project, with 160,000 employed at its peak.

Throughout, Groves stressed that secrecy was critical to the success of the Manhattan Project. He insisted on strict compartmentalization of information so that personnel, depending on their value to the project, sometimes had no idea what they were building or what their product was designed to do. Watching over the vast personnel apparatus was the project's own intelligence section, located at first within the Army's G-2, eventually transferred to an Intelligence and Security Division at Oak Ridge.

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*(left)* Calutron operators at their panels in the Y-12 plant at Oak Ridge, Tenn. during World War II. The calutrons were used to refine uranium ore into fissile material. *(right)* Groves was appointed the military head of the Manhattan Project, while **Robert Oppenheimer** *(right)* was the scientific director.

After approximately three years of highly classified research and development, a team of leading scientists in the field, among them Enrico Fermi and Arthur H. Compton, both from the University of Chicago, developed an experimental weapon at Los Alamos under Oppenheimer's direction. On July 16, 1945, the scientists detonated an implosion-type plutonium device, named Trinity, near the remote town of Alamogordo, N.M. – the world's first nuclear detonation. On Aug. 6, the U.S. Army Air Corps' 509th Composite Group dropped Little Boy, a uranium gun-type nuclear bomb, over Hiroshima, and three days later dropped Fat Man, a plutonium implosion nuclear bomb, over Nagasaki. Shortly thereafter, on Sept. 2, the Japanese government agreed to surrender, ending World War II. ■



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**Suggestions for further reading:**

*Defense's Nuclear Agency 1947-1997*, (Washington, D.C.: U.S. Department of Defense, Defense Threat Reduction Agency, 2002);

General Leslie R. Groves, *Now It Can Be Told: The Story of the Manhattan Project*, (New York: Harper, 1963);

Stephane Groueff, *Manhattan Project: The Untold Story of the Making of the Atomic Bomb*, (Boston, MA: Little, Brown, and Company, 1967);

Vincent C. Jones, *Manhattan: The Army and The Atomic Bomb*, (Washington, D.C.: U.S. Army Center of Military History, 1988);

Robert S. Norris, *Racing for the Bomb: General Leslie R. Groves, The Manhattan Project's Indispensable Man*, (South Royalton, VT: Steerforth Press, 2002);

Stephen M. Younger, *The Bomb: A New History* (New York: Ecco Press, 2009).





# REACHING BACK

BY ANNE MAREK

They were riding the subway on their way to work when someone opened a container of nerve gas. Passengers began to collapse and choke. Their muscles cramped before they could reach the train doors. Their vision became blurred. They collapsed to the floor. Emergency personnel arrived but they were unable to stop the train. There was no one left to help the passengers. Their chests tightened. Their heart rates began to drop. twenty minutes later, they were dead.

**In** 1995, a Japanese religious group known as Aum Shinrikyo carried out this coordinated attack on five lines of the Tokyo Metro. Without a comprehensive emergency plan in place, the subway authority was unable to halt the trains, despite reports of passenger injury. More than 5,000 victims were rushed to local hospitals and health facilities and many were turned away due to a severe shortage of antidotes. The attacks killed 13 people, severely injured 50 and caused temporary vision problems for nearly 1,900 others.

Initial reports indicated that the attack was an attempt to hasten an apocalypse. Others suggested that it was an attempt to bring down the government and install the group's founder as the "emperor" of Japan. To this day, the motives for the attack remain unexplained.

Following the incident, police raided the terror group's hideout and discovered explosives, chemical weapons and biological warfare agents including anthrax, Ebola cultures, and enough sarin-producing chemicals to kill four million people.

One of the lessons learned from the subway attack in Tokyo and other weapons of mass destruction related events around the world is that when confronting weapons of mass destruction, the stakes are high and time is of the essence. And in order for emergency personnel to effectively manage the situation, they need timely, accurate information and logistical support from trained experts in the field.

DTRA/SCC-WMD Reachback serves customers from throughout the military, including: the combatant commands (COCOMs), Joint Staff, National Guard Bureau (NGB) and more than 50 full-time National Guard WMD Civil Support Teams (CSTs). Following an event involving weapons of mass destruction – or even a natural disaster that unleashes chemical, biological or nuclear material

– military personnel, federal agencies and interagency partners are able to contact Technical Reachback 24 hours a day, 365 days a year for support and assistance. Operating out of the heart of the Defense Threat Reduction Agency and United States Strategic Command Center for Combating Weapons of Mass Destruction headquarters on Ft. Belvoir, Va., Technical Reachback experts provide "up to the minute" analysis on the full spectrum of WMD threats, answering all questions, predicting outcomes and planning for worst-case-scenarios, all at a moment's notice. With support from DTRA/SCC-WMD's Operations Center, web portal services are available as a secure web-based tool for state and federal interagencies to request Technical Reachback's support.

In June, when the ESS Pursuit fishing vessel was contaminated by WWI-era mustard gas canisters hauled aboard with the rest of their catch off the coast of New Bedford, Mass., the Massachusetts National Guard's 1st WMD Civil Support Team was able to use DTRA/SCC-WMD's web portal for help. The portal is a collaborative environment where CSTs can share operational information among team members, with their state headquarters, U.S. Northern Command and with interagency organizations in real-world and exercise situations.

The history of Technical Reachback is as dynamic and evolving as the agency itself. Shortly after the fall of the Soviet Union and the end of the Cold War, the entities that would later become DTRA/SCC-WMD (Defense Special Weapons Agency, OnSite Inspection Agency, Defense Technology Security Administration and the Nunn-Lugar Cooperative Threat Reduction program) implemented a variety of successful nonproliferation treaties, including: Open Skies, Strategic Arms Reduction Treaty, and the Intermediate-Range Nuclear Forces Treaty to assist former Eastern Bloc countries with the destruction of Soviet-era nuclear, biological and chemical weapons.

The treaties helped establish new security collaboration with former Soviet countries and demonstrated great success in reducing the size of the Soviet arsenal.

As post-Cold War peace began to emerge across Europe, the U.S. turned its attention toward new concerns in the Middle East where Iraqi forces had invaded neighboring Kuwait. U.S. coalition forces were deployed to the surrounding areas to prevent further Iraqi offenses and in the months that followed, coalition forces launched Operation Desert Storm with a massive air campaign against Iraq's military and supporting infrastructure. The Defense Nuclear Agency's Cold War expertise (the DNA became the Defense Special Weapons Agency in 1996) in weapon lethality and modeling of at-



(above) U.S. Airman extracts wounded civilian from contaminated area during a simulated chemical spill exercise at the Memorial Tunnel in West Virginia – Sept. 16, 2010. (right) U.S. Marines assigned to the Chemical Biological Incident Response Force conduct urban search and rescue after a simulated chemical, biological, radiological, nuclear and high-yield explosive incident – Nov. 9, 2009.



“ We needed scientists and chemical engineers – microbiologists, nuclear physicists, epidemiologists, veterinarians and meteorologists – who could sit in our Technical Reachback Center 24/7 and be ready to answer any question that came in – and we needed the funding to hire these people, the right people with heart who cared about the mission and who wanted to save lives.”

– David Myers,  
Chief, Technical Reachback Division, DTRA/SCC-WMD

atmospheric dispersion of hazardous materials supported much of the target planning and consequence assessments during the Gulf War. DNA deployed expert teams to a DNA assessment facility, to the Defense Intelligence Agency headquarters, and to the Pentagon in support of operational target planning. They also set up a 24-hour command center to assess the consequences of Iraqi Scud missiles armed with WMD warheads and provided the results of these assessments to U.S. Central Command.

Following the success of Desert Storm, it became clear that much of the DNA's Cold War expertise was applicable to WMD terrorism issues. DNA developed counterterrorism technological applications – specifically, computer codes and models originally developed for nuclear applications during the Cold War – to help determine what would happen in the instance of terrorist attacks involving WMD. The analytic information was provided to law enforcement agencies during forensic investigations of terrorist events, including the World Trade Center (1993) and Oklahoma City (1995) bombings. Subsequently, the agency began receiving numerous requests for information from users in the field asking for assistance in deciphering and implementing the codes, a process that would later become Technical Reachback.

“It got to the point where the program managers were getting overwhelmed with the number of calls coming into Reachback,” said David Myers, chief of the Technical Reachback Division. “The same experts who were building the codes were on the phone, answering questions all day long. It was clear that we needed to hire additional support. We needed scientists and chemical engineers – microbiologists, nuclear physicists, epidemiologists, veterinarians and meteorologists – who could sit in our Technical Reachback Center 24/7 and be ready to answer any question that came in – and we needed the funding to hire these people, the right people with heart who cared about the mission and who wanted to save lives.”



(above) Army Capt. Anthony Circosta, 1st Civil Support Team survey section leader, briefs the CST before beginning decontamination of the ESS Pursuit fishing vessel off the coast of New Bedford, Mass. – June 9, 2010 (right) Firefighters conduct a firefighting demonstration during Fire Prevention Week at Naval Station Guantanamo Bay, Cuba – Oct. 7, 2010.

On Sept. 11, 2001, al-Qaida terrorists hijacked four commercial passenger jet airliners and crashed two of them into the World Trade Center, one into the Pentagon building and one into a field in Shanksville, Penn. In the aftermath of that tragedy that resulted in the loss of nearly 3,000 lives, the U.S. government announced an international military campaign led by the United States and the United Kingdom with the support of the North Atlantic Treaty Organization (NATO) and non-NATO countries to bring the terrorists to justice and prevent the emergence of other terror networks. DTRA was provided with funding to support the war and expand the Technical Reachback capability into a rapid-response support system for warfighters and law enforcement involved in terrorist or WMD-related events.

“Before 9/11, WMD was not a priority in national and combatant command-run exercises,” said Ron Meris, Chief Reachback Analysis Branch. “We’d go to the COCOM meetings and they’d say ‘Yeah, we’ve got a place for you somewhere back there, go drink coffee.’ But after 9/11, I was one of seven analysts in Reachback and we could barely keep up with the pace – We were working 16-hour days running analysis and when we went to meetings, we weren’t stuck in the back anymore, we were up front.”

By 2006, the number of RFIs coming into Technical Reachback was nearly 1,000. The COCOMs and National Guard CSTs began using Reachback as their central support system and interagency partnerships had been forged between agencies across the federal government, including: Health and Human Services, Department of Homeland Security, National Aeronautics and Space Administration, Department of Defense (DOD), Nuclear Regulatory Commission, Environmental Protection Agency, Department of Energy, and Department of Commerce/National Oceanic and Atmospheric Administration. Technical Reachback became the gateway into DTRA’s expertise for the national response to any chemical, biological, radiological, nuclear, and high yield explosive event that is atmospheric in nature.

In 2008, when a renegade U.S. satellite began decaying in orbit, Reachback was called in to determine the risks associated with the hydrazine fuel which had frozen inside the satellite’s fuel tanks. Using such tools as computer modeling and the hazard prediction and assessment capability, Reachback provided senior leadership and DTRA/SCC-WMD’s CMAT forward analytical assistance to the National Reconnaissance Office to help in determining the potential hazards and answer some critical questions: How many people could be injured or killed if the tanks survived re-entry and crashed on land? How far would the gas fumes disperse following impact? Reachback analysis helped support Presi-

“Reachback experts are as diverse as their specialties – they are young and old, people on their second careers, young people out of college with great minds and great hearts. They do great work for the right reasons and represent the very best of this agency.”

– David Myers,  
Chief, Technical Reachback Division, DTRA/SCC-WMD



dent Bush’s decision to shoot down the errant satellite before it could cause potential harm – one of the few times in history that the U.S. government has chosen to destroy one of its own orbiting satellites.

In addition to emergencies and accidents that pop up unannounced, Reachback can provide planning support for high-profile events where security is critical. Reachback works with local and state authorities, the National Guard, DHS and the FBI to prepare for potential WMD-related terrorist attacks or accidents. Reachback’s team of specialists are ready to answer any question, predict possible outcomes, suggest possible solutions, or provide in-depth computer models detailing the potential effects of such hazards.

During the 2002 Winter Olympics, a larger than normal amount of ammonia was used to “super” harden the ice during indoor and outdoor skating competitions. These large tanks of ammonia were stored near the front entrance of the Olympic venues. To demonstrate the potential hazards of this storage system, Technical Reachback modeled hypothetical attacks on a facility, simulating what would happen if someone entering the front gates threw an explosive device into high-pressured ammonia storage containers.

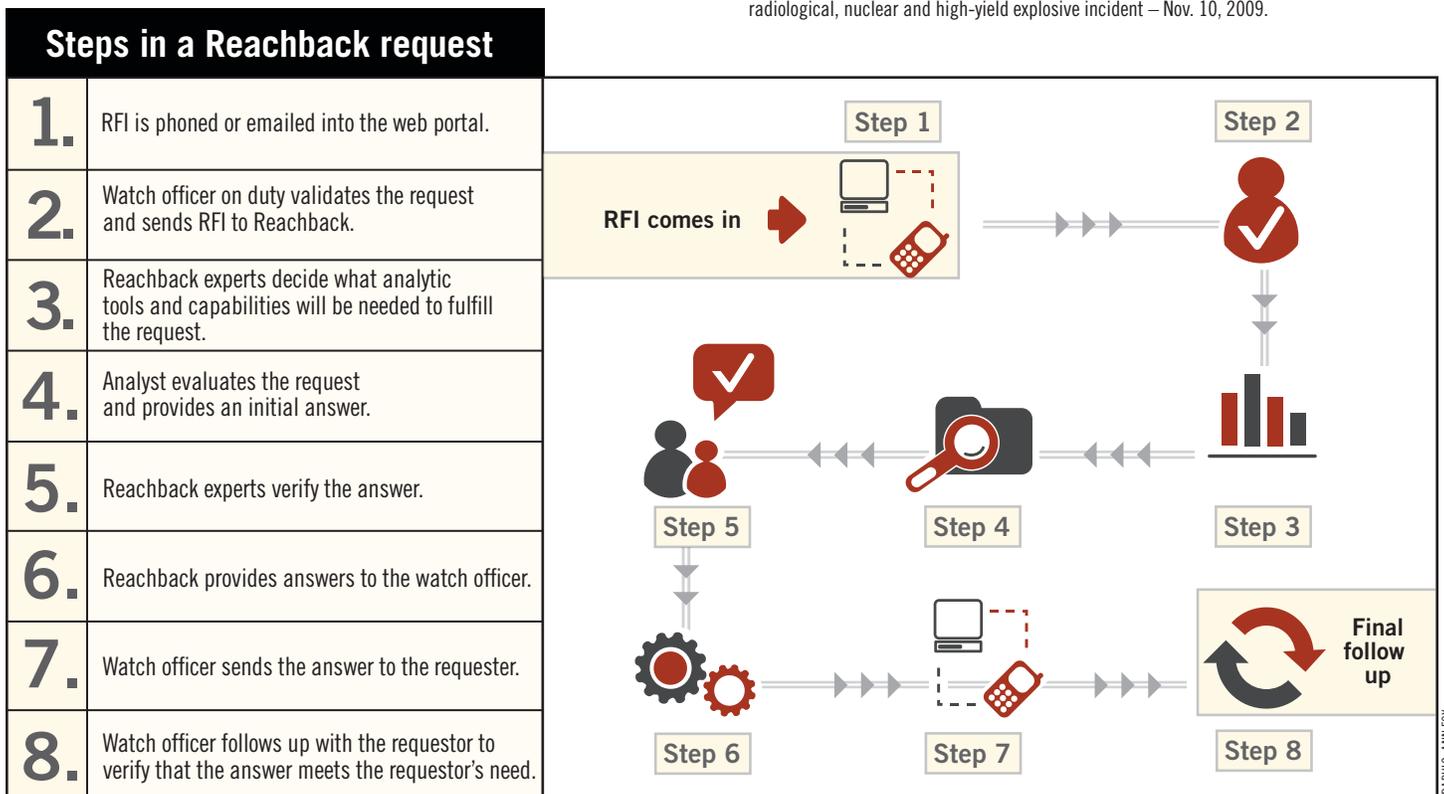
The analysis demonstrated how many people could be injured or killed by such an event, how far people would need to be evacuated, how surrounding structures would be affected and the best evacuation routes. Using these models and impact assessments, the Utah Olympic Public Safety Command decided to employ additional security measures and construct extra security fencing around the storage facilities.

Reachback experts travel all over the world to train U.S. military troops on using and implementing the WMD analysis tools. Additionally, Reachback experts provide WMD analytical support forward directly to the U.S. military. In 2008, Technical Reachback

provided modeling of volcanic gas releases to the 93rd WMD CST in Hawaii. The CST requested modeling support due to higher than usual sulfur dioxide emissions from the Kilauea volcano, and Reachback provided daily model updates to account for changing weather conditions. Due to the duration of the sulfur dioxide emissions, the 93rd CST eventually had to return to their standard mission and turn over operations to the Pacific Disaster Center. Reachback continued to provide daily modeling support to the PDC for well over a month and a high-resolution numerical weather prediction model was created to forecast weather over the area for the PDC to use to perform their own modeling. Reachback analyses were used to prevent unnecessary evacuations of communities while keeping them out of harm’s way.

Although Reachback doesn’t always have all the answers, they can find the answers quickly and deliver the specific information to the requestor in a usable format. When an oil rig explosion caused a massive oil spill off the coast of Louisiana last June, Technical Reachback was called to assist U.S. Northern Command as it enlisted military resources to deal with the accident. As the military and the federal government began to respond, NORTHCOM asked DTRA/SCC-WMD for predictions on the extent and timing of the spill in order to figure out the type and size of military resources needed to support the national response. Reachback’s atmospheric modeling and predicting does not include water but DTRA/SCC-WMD Reachback provided operational coordination, connecting NORTHCOM with experts at NOAA who study water-specific modeling and could provide the best information. Working closely with NOAA, Reachback was able to take complex scientific analysis from NOAA scientists and turn it into easy-to-understand actionable information for the NORTHCOM staff.

*(right)* U.S. Marines assigned to Chemical Biological Incident Response Force rescue simulated civilian casualties from an elevator shaft after a simulated chemical, biological, radiological, nuclear and high-yield explosive incident – Nov. 10, 2009.



“ There’s no doubt that our work can have life-saving implications. We can already tell people who should stay in place and who should evacuate, when to move and when to stay... but now we must be able to do this in real-time. We must get even better at what we already do.”

– Ronald Meris  
Chief, Reachback Analysis Branch, DTRA/SCC-WMD



U.S. AIR FORCE



**U.S. Soldiers from the 457th Chemical Battalion** sponge off their level A protective suits after a simulated nuclear detonation scenario – July 19, 2010.

Technical Reachback is still evolving. The current pilot programs at Virginia Tech University are exploring faster, high-performance computations to provide Reachback with near real-time support capabilities. The researchers are developing micro-scale world models that can be used to address worst-case scenarios, ranging from the spread of infectious diseases to the fallout of a nuclear disaster. These capabilities will provide more complete answers, analysis and technical support that can be transmitted within seconds to cell phones and other mobile communications devices.

“There’s no doubt that our work can have life-saving implications,”

said Meris. “We can already tell people who should stay in place and who should evacuate, when to move and when to stay... but now we must be able to do this in real-time. We must get even better at what we already do.”

The threats posed by weapons of mass destruction, accidents and natural disasters that unleash chemical, biological, nuclear and radiological material are diverse and can affect everything from the safety of our warfighters serving abroad to our nation’s homeland security.

Working with partners across the military and federal government, DTRA/SCC-WMD Reachback capability is providing the expertise and tools necessary to provide the resources to counter these hazards, resources that can be analyzed and deployed at a moment’s notice.

resources that can be analyzed and deployed at a moment’s notice.

“I have three rules for my team,” said Myers. “First, find a way to say yes to any request; if we can’t help them, we’ll find someone who can. Second, remember that the men and women on the phone are the ones getting shot at and it is up to us to help them with whatever they need. And third, know that whatever answer we give them is just a model. Ultimately, they will make the final decision but it’s our job to provide that piece of analysis that helps them make the right decision, the one that saves lives.” ■

## Outbreak



*In the 1995 film **Outbreak**, an African monkey carrying a fictitious lethal virus stows away on a ship headed for the United States. After the monkey arrives in the U.S., people begin to become infected by the deadly airborne virus as it*

*spreads at an epidemic rate. Scientists launch an aggressive search to capture the animal, develop a vaccine for the virus, and save the lives of thousands of infected patients before it’s too late.*

Sound a little far-fetched? Not to Reachback. A team of Reachback experts recently participated in a real exercise at the Denver Coliseum to model and analyze exactly this type of scenario – specifically, what would happen if pneumonic plague, a real airborne virus started spreading across the U.S. Analysts explored the progression of the epidemic, beginning with infected individuals showing up at hospitals with flu-like symptoms, spreading the virus to healthcare workers, other patients and ultimately, everyone they come in contact with. The experts worked to determine how they could provide real-time support for an event like this, identify the vector and contain the virus. ■



IT1 Christopher Crowell, Dariusz Basiaga, and Dr. Roger Lucheta assist the Montana Civil Support Team with the modeling of a chemical weapon scenario during training at Malmstrom Air Force Base.

**Dr. Roger Lucheta is no stranger to worst-case scenarios** involving hazardous chemical, biological, radiological or nuclear agents. As DTRA/SCC-WMD's first Reachback expert, he's been dealing with situations like these for more than seven years.

After graduating from MIT with an advanced degree in combustion engineering, Dr. Lucheta served three years on U.S. Army active duty, with two years on jump status at the test board at Ft. Bragg. He retired as a U.S. Army Ordnance Corps Colonel and spent the next eight years working on thermal engineering at the Army's first full-scale chemical weapons disposal facility on Johnston Island, 800 miles southwest of Hawaii.

"I was hired at DTRA in September 2003, largely because of my military and chemical weapons background. I started out working on the fluid dynamics of combustion and then expanded my computations to include the transport and dispersions of nasty poisonous and dangerous materials into the atmosphere, radioactive fallout from a nuclear weapon, chemical warfare agents, and so forth. As time went on, we were getting more and more requests for CBRNE analysis. Technical Reachback started about six months after I was hired.

When you work in Reachback you really get to see a lot of different and unusual things. We are always encouraged to dig into our specialties and stretch ourselves to broaden and deepen our technical abilities. I'm currently working on my third Master's degree, this one in Optical Sciences. There are also some really top notch experts here, experts that can solve the problem and communicate the answer. A good expert doesn't drown the requestor in technicalities, rather that expert is able to explain their specialty to a smart high-school kid. We've had good luck in getting those types of people in Technical Reachback. There are so many great examples of what we do here but one that is particularly close to my heart happened a few years back following an ammonium nitrate fire near College Station, Texas. I was here in the Technical Reachback center at 3 a.m. when we got a call from the Federal Emergency Management Agency asking us to tell them how far the plume would go. Then, I got another call from my daughter, who lives near College Station, asking me if she had anything to worry about. I delivered my hazard prediction to FEMA and told my daughter to put a load of diapers in the car for my granddaughter and head perpendicular to the wind if she smelled anything sharp and tangy. Ultimately my prediction of the extent of the hazard ended up being very close to what actually happened and my daughter stayed safe." ■

# Dr. Ed Conrad

BY ANNE MAREK

INTERVIEW

## Most of us have heard of Bikini Atoll; Dr. Ed Conrad was there...

Almost half a century after the U.S. completed its last atmospheric nuclear weapons test, there are still a few scientists working at DTRA/SCC-WMD who took part in those final tests. Long after they could have retired, they're using their

unique experiences to make the world safer. Some of them served during WWII. Most of them learned physics without a computer. All of them have incredible stories. Dr. Ed Conrad is one of them.

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**Can you tell me about your service and experience in the Navy?**

I enlisted in the Navy when I was 17 years old. It was during World War II and I was enrolled at the University of California at Berkeley. Many of my friends had already gone into the service and I knew I would eventually be drafted. I decided if I was going to die, I'd prefer to die clean so I joined the Navy.

The nuclear bombing of Hiroshima and Nagasaki took place while I was still in training to be an Electrician's Mate at the U.S. Naval Training Center in Bainbridge, Md.



Everyone was stunned by the reported yield of the weapons and these facts dominated every conversation. In spite of my pride in our accomplishment, I remember having a feeling of trepidation over the news. Shortly after, Japan surrendered and WWII came to a close. There was great joy at Bainbridge, as there was throughout the United States. Everyone was wondering when all of the reservists would be discharged from active duty. I still had to serve two sea tours; one aboard the USS *Wake Island*, an escort aircraft carrier and the other, aboard the USS *Lejeune*, a troop transport. I loved being at sea, but I wanted to be discharged as soon as possible in order to return to Berkeley.

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### How did you become interested in the study of nuclear physics?

When I was discharged from the Navy in 1946, I continued my education in physics at Berkeley, not only because it had a prestigious physics department but also because the tuition was only \$37.50 per semester – which was even paid for by the GI Bill. While I was at school, I was inspired by some famous faculty members: Louis Alvarez, Edwin McMillan, Emilio Segre, to name a few. Through them I became fascinated with nuclear physics. Unfortunately, I couldn't afford to go to graduate school immediately after receiving a bachelor's degree in 1950. Graduate assistantships didn't pay much and I had family responsibilities that required a more substantial income.

A few years later, I returned to school at the University of Maryland for a master's degree in physics, and many years later a Ph.D. in nuclear engineering.

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### How did you begin your career?

I obtained employment in 1951 at the National Bureau of Standards (now called the National Institute of Standards and Technology) in Washington, DC. I was assigned to an electronic materials laboratory in the Ordnance Development Division as a solid state physicist to do research on the properties of magnetic, dielectric and semiconductor materials. This was not a very nuclear research area, but the pay was good and all physics can be challenging.

In 1952 my division was transferred from the Department of Commerce to the U.S. Army Ordnance Corps and given the name Diamond Ordnance Fuze Laboratory, later



The Harry Diamond Laboratories experimental team on Bikini Atoll in 1958, attired for frequent rain showers and operations on sandy terrain.

to become the Harry Diamond Laboratories. I remained with this organization for 25 years, becoming chief of the Nuclear Weapons Effects Division and ultimately rising to the position of Associate Technical Director of the Harry Diamond Laboratories. In 1976 I was invited to come to

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**“ Before a dawn shot on Bikini Atoll we were awakened at 9:00 a.m. and told to come down to the beach to watch the shot. We wore flop-flops, shorts and protective goggles and had coffee and donuts while watching the detonation. It was pretty amazing.”**

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the Defense Nuclear Agency as a Scientific Assistant to the Deputy Director of Science and Technology.

One day in 1955, the chief of my branch approached me and asked if I would be interested in supporting another branch that was led by Peter Haas (later to become the Deputy Director of Science and Technology at the Defense Nuclear Agency) who wanted us to perform some tests on electronic materials and components at the Nevada Test Site. Without hesitation I said, “I want to do that,” as it seemed to offer a great opportunity to “have my cake and eat

it.” After a successful set of passive experiments at NTS, I was asked by Peter Haas to form an experimental team to design some elaborate active electronics experiments and take them to Bikini Atoll, part of the Pacific Proving Ground. These tests were under the sponsorship of the Armed Forces Special Weapons Project, a forerunner of DTRA. After returning from Bikini I joined Pete Haas' branch where we performed an additional number of experiments at NTS.

After the Atmospheric Nuclear Test Ban Treaty of 1963, a decision was made to continue nuclear testing underground. I was project officer on several of these tests. Pete Haas was the Technical Director of the first vertical effects test that included a large number of experiments, and was called Shot WISHBONE. After that test he was asked to come to the next incarnation of AFSWP, the Defense Atomic Support Agency. The Harry Diamond Laboratories was asked by DASA to provide technical directors for several following shots. I was chosen to direct the PIN STRIPE event.

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### What was your involvement with the Nevada Test Site?

Peter Haas became curious about the effects of transient nuclear radiation on electronic fuse components and asked my branch to design some passive experiments at the Nevada Test Site. I volunteered to support the task.

Those were some exciting times at the test

site. They housed us at Camp Mercury, the main facility of NTS. We had a shop, a lab and a place to sleep. Everyone was very enthusiastic about the testing that had to be done there and the questions that had to be answered. Our team would prepare the experiments and make sure all the circuitry was working properly to support the nuclear test. We made a lot of progress in Nevada.

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**You spent three months performing nuclear testing at Bikini Atoll. What was that experience like and what lessons did you take away?**

We performed experiments in five nuclear shots at the Pacific Proving Grounds during Operation HARDTACK. The components were placed on circuit boards in steel containers and connected by shielded cables to magnetic tape recorders buried in deep pits and covered by several layers of sandbags. The recorders were also shielded to protect them from nuclear and electromagnetic radiation. After the test, the recorders were recovered and taken back to the laboratory on our home island for examination of the data. Activities after a shot were stressful. The dosimetry canisters had to be recovered very early after the shot. We used a mile long one-inch steel cable that extended radially out from ground zero with the dosimeters clamped to it at the various experimental stations. As soon as possible, a caterpillar tractor was used to pull the cable to an area that was low enough in radioactivity so that the canisters (called “fission balls”) could be safely cut off from the cable and flown back to the readout laboratory on Eniwetok.

It was an exciting assignment but also a difficult one. I’d initially been told that I’d be out there for two to three weeks but back then the Armed Forces Special Weapons Project never gave official round trip travel orders to civilians. There were no weekends or holidays; you stayed until the job was done and you’d turned in your report. The mail service was very poor on the island so we had to communicate with our families through a ham radio in the Navy recreation center. Occasionally we got a phone patch through to the east coast.

When I returned home three months later, my wife met me at the door and said, “You will never go anywhere in the world without me again.”

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**From 1976 to 1979 you served as Sci-**



Aboard the USS *Constellation*, standing off of Subic Bay in 1980 as part of a DNA mission.

**entific Assistant to the Deputy Director (Science and Technology) (DDST) at the Defense Nuclear Agency, and later from 1979 to 1983 as the Deputy Director. What led you to the agency and what was the climate here at that time?**

While working at HDL I had many opportunities to deal with the AFSWP staff and directors of all its successor agencies. I was awestruck with the many high quality nuclear weapons effects R&D projects and the elaborate nuclear testing programs. When I was asked to join the agency in 1976 the decision was very easy. I was a DDST scientific assistant, and when my supervisor retired in 1979 I was chosen to become the DDST. All of the Army, Navy and Air Force directors of the agency were wonderful people who gave me all of the latitude and support to grow the agency and myself. My greatest pleasure was to work with the military staff that had a remarkable work ethic and an unimpeachable loyalty to me. To this very day, I feel a deep affection for those wonderful men and women in our military forces who worked in our agency and everywhere else.

The tensions of the Cold War were very stressful. Regardless, the agency and its staff were committed to maintaining the very best programs and their economics for the United States to prevail. We maintained an excellent working relationship with the Congressional Armed Services Committee’s principals and staff. We took great pains to keep the Office of the Secretary of Defense thoroughly familiar with our agency’s activ-

ities. The agency conducted NWE research in all of the areas that are required today – nuclear radiation, high altitude effects, blast, thermal, and so forth. The Department of Energy was designing and fabricating the nuclear warheads and our agency was studying their effects.

We made a lot of progress in our testing but that was the expectation. History has shown, again and again, that technology always makes major advances in times of war. Governments always look to their best scientists to solve defense problems, even going back to Archimedes.

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**After leaving DNA, you spent more than 20 years working in the private sector as a subject matter expert on a wide variety of topics ranging from weapons design and lethality to arms control verification to nuclear weapons testing. What led you back to DTRA/SCC-WMD?**

When I retired as a Vice President of the former Kaman Sciences Corporation in 1993, my wife and I had a beautiful cruising sailboat that I loved to improve and sail. We spent many romantic evenings rafting in the Chesapeake Bay and its tributary rivers with friends or just spending a night alone anchored in a quiet creek. But one day I said to myself, “This isn’t all of the real world.” I wanted to do something that was in some way useful rather than just self-fulfilling so I went back to work. I’m only supposed to work a couple of days a week but it’s hard to



**Being briefed** on the DNA pulsed-power program activities at Maxwell Laboratories by the late Dr. Alan Kolb, former director of the Naval Research Laboratory Plasma Physics Division and former president of Maxwell Laboratories.

keep to that schedule with the amount of work that needs to be done.

Sometimes, my wife gets angry and says, 'You're old, take it easy!' But I enjoy the work too much to stop. At 83, I no longer have the stamina I used to, of course. I remember staying up until 3 a.m. writing and my sweetie would type things for me because we didn't always have computers back then. But now I'm an old man. I go to sleep at 9 p.m. However, as long as I come here and people ask for my opinion, I will give it. And I'm not unique in this. There are many people working at the agency that started here at the beginning and still remain active.

**What would you tell a recent technical graduate considering a career at DTRA/SCC-WMD?**

I would say that there is an opportunity for one to get into a very fascinating field here. The WMD threat is just as real today as it was during the Cold War. In many ways, it's worse today because irresponsible people might get a hold of these weapons and do some terrible things. Young people can learn some very interesting science and engineering here, frequently from old guys like myself who have the benefit of knowing what went into building this technology.

**You've been with this organization almost since the beginning. Looking at the future of countering and eliminating**

**WMD, where do you think we should go from here?**

The most important thing our agency can do is to provide policy makers with incontrovertible facts about the effects of WMD, countering the effects, verifying treaty compliance, detecting clandestine weapons and maintaining a strong deterrence against their use by peer and emerging adversaries or terrorists. I believe we should not degrade our capability to negotiate from a position of strength. The world contains many irresponsible individuals with minimal respect for human life and their threat must be neutralized by imaginative and effective policy and deterrence. Deterrence today presents a different problem than it did during the Cold War and that fact requires that we think 'out of the box.' I'm a nuclear nut and I mostly worry about nuclear threats but the agency is a lot bigger and broader than it was in my day and America has to worry about chemical and biological threats as well. We're not allowed to test nuclear weapons anymore so we have to rely on past experiences, experiments, data and physics. Much of the information we need is from the atmospheric testing program which ended in the 1960s. We are currently trying to develop computerized systems to predict what the weapons effects would be, based on the data we already have, but in many areas we just don't have enough data. We need to find a way to fill that gap and learn as much as possible about the effects of these weapons on cities, populations and buildings if a terrorist group or overzealous government decided to use one. ■



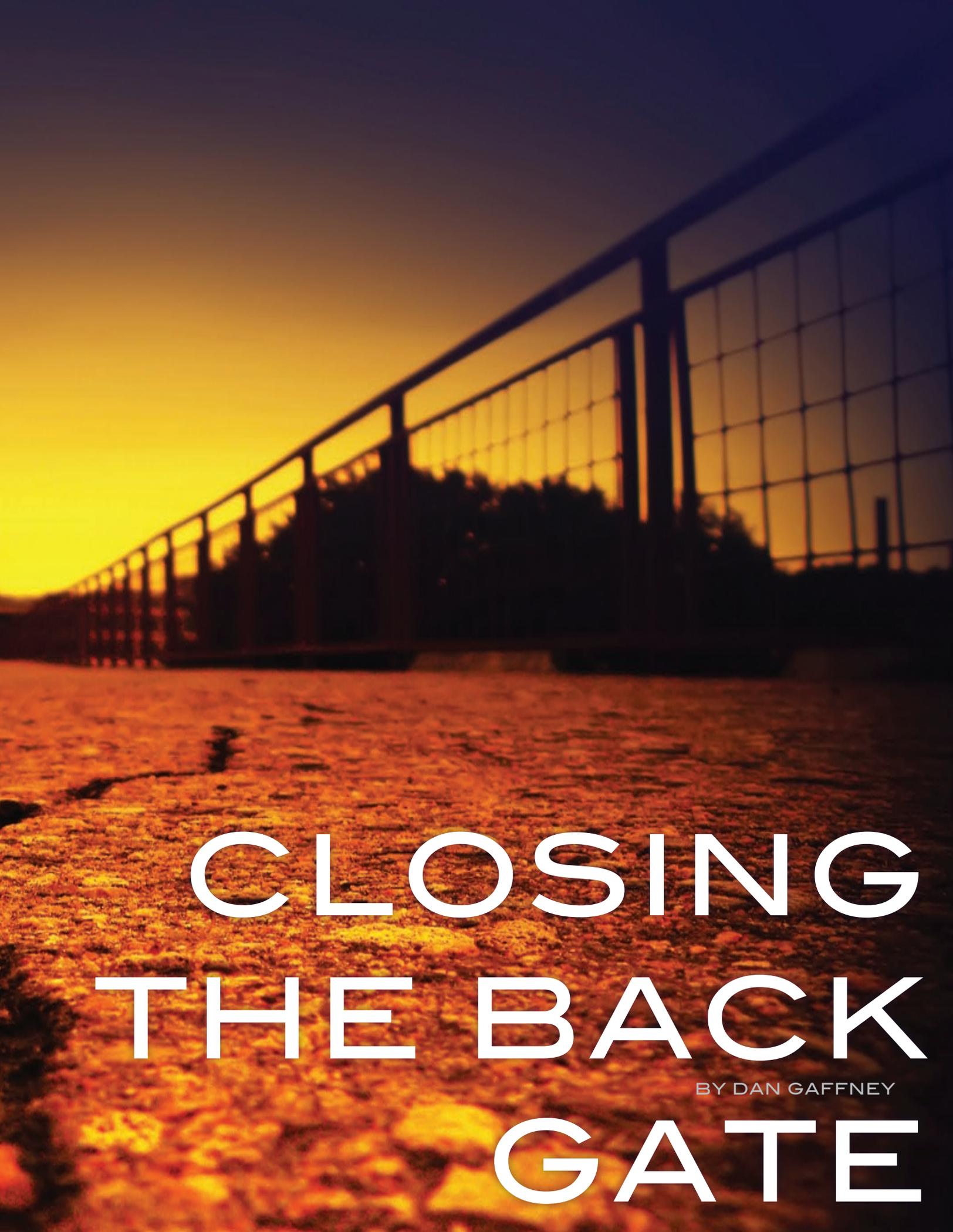
Almost 20 years ago, The Defense Nuclear Agency launched Project Graybeard, a program to collect the test data and lessons learned from atmospheric and underground nuclear weapons tests before all of the scientists who took part left the agency; even in 1993 most had already retired or were close to retiring. Today, at DTRA/SCC-WMD, only a handful remain.

A photograph of a cobblestone path leading towards a large building with a grid of windows. The scene is illuminated by a warm, golden light, likely from a setting or rising sun, creating a strong silhouette effect on the building and the path. The sky is a deep orange and yellow, and the overall atmosphere is serene and contemplative.

Near the end of the Cold War, the United States and the Soviet Union began reducing the huge arsenals of weapons of mass destruction that each side had built up over the previous decades.

But the threat of WMD didn't disappear – it just went underground, where gangsters and terrorists could move small amounts of WMD easier than a stolen car.

Looking for a counterproliferation solution that could work across the ocean using another country's experts to deter, detect and investigate WMD crimes, the U.S. came up with a program with about a dozen people, a budget so small it could be confused for a rounding error, and a mission that has won friends and allies across the planet – all while making the world safer.



CLOSING  
THE BACK  
GATE

BY DAN GAFFNEY

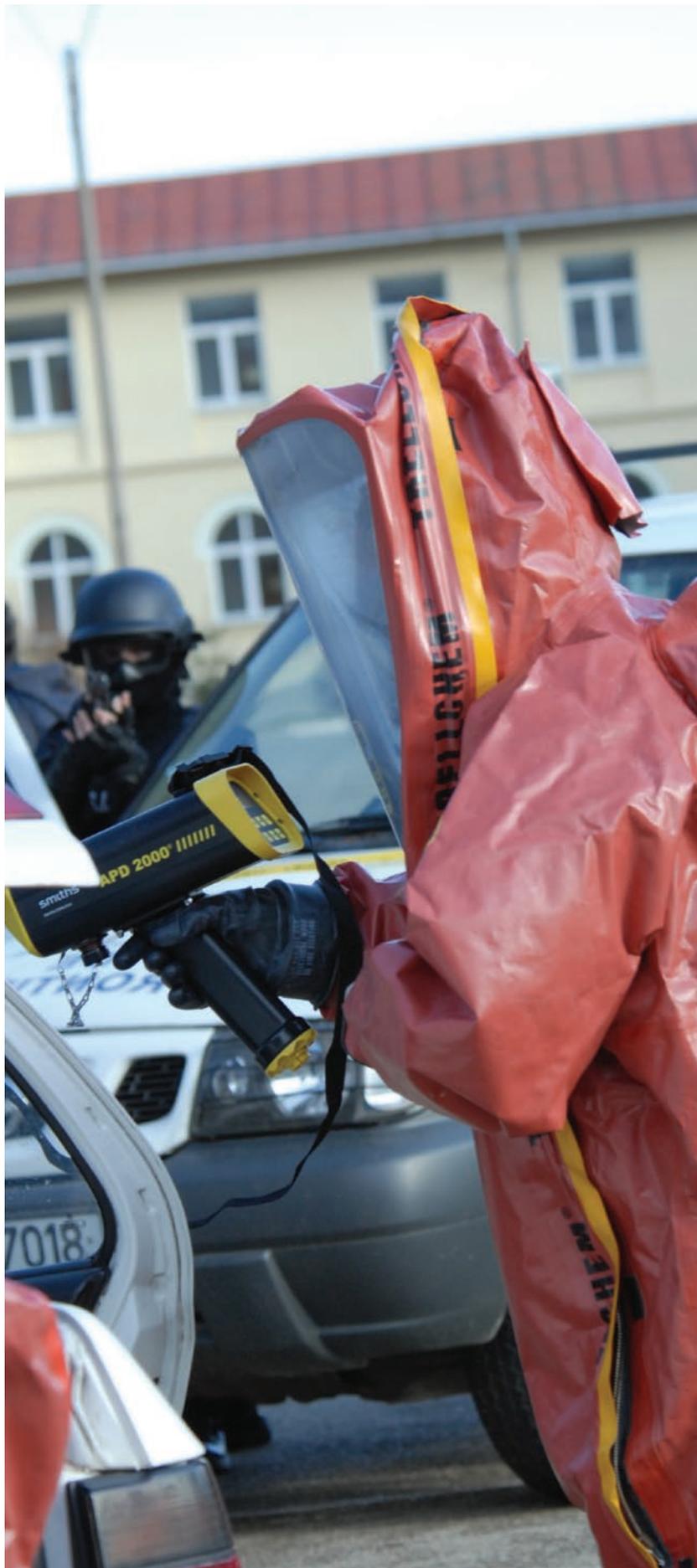
**THE** year is 1995. Working at a poorly-run plutonium plant outside of Moscow, a man named Timofey Berezin tries to do the right thing when something at the plant goes terribly wrong. After the accident, his superiors tell him he was exposed to 100 rems of radiation, accuse him of sabotage, and let him go. Co-workers inform him he was exposed to 1,000 rems – enough to kill him in less than a week. Determined to provide for his family before he dies, Timofey plunges into the underbelly of post-Soviet Moscow, looking for a buyer of the weapons-grade plutonium isotope he stole from the plant.

That's the plot of the movie *Pu-239*, anyway, released in 2006. Scary, but unfortunately the producers of the movie *Pu-239* didn't have to look far for inspiration. Truth is often stranger than fiction, but sometimes it's more frightening.

In the summer of 1994, German officials – on four separate occasions – seized nuclear or radiological material being smuggled through the country, including more than a pound of plutonium 239, the main fissile isotope used in nuclear weapons. A pound is not enough to build a nuclear warhead – but it is enough to raise a very scary question: “How much plutonium has been smuggled across the country... that we don't know about?” The Pu-239 was found in the baggage on a flight from Moscow to Munich after the plane landed in Germany.

That same year, Russian officials closed in on two parties as they were about to make a trade: \$1 million for a very small, 130 pound metal container full of an unknown substance emitting gamma radiation. The bust was made in Kaliningrad, the small Russian enclave on the Baltic Sea sandwiched between Poland and Lithuania. The best-case scenario involves material stolen from the military facilities there; the worst-case scenario, once you look at a map, means the radioactive element passed through at least two other countries after leaving Russia; any route would have passed through at least one country that was a member of both the European Union and NATO.

The bright spot of 1994 – in terms of sneaking WMD from one place to another – was that the United States successfully removed more than half a ton of highly enriched uranium from Kazakhstan in a covert operation named Project Sapphire. Kept secret for years, it might have been the easiest, and probably the cheapest way to ensure the fissile material never entered the black market; at the time the CIA believed Iranian agents were after the HEU – half a ton is enough material to make dozens of nuclear weapons. The Cold War concept of mutually assured destruction was being replaced by the highest bidder.



By 1994 START and CTR – the Strategic Arms Reduction Treaty and the Nunn-Lugar Cooperative Threat Reduction program – were making incredible progress in reducing and eliminating weapons of mass destruction, but the post-Soviet environment meant a lot of WMD were unsecured, unaccounted for... or worse. A fix was needed before something really bad happened.

The National Defense Authorization Acts of 1995 and 1997 authorized the Department of Defense to conduct a joint training program in cooperation with the Federal Bureau of Investigation and U.S. Customs Service to prevent the acquisition and proliferation of WMD by organized crime and other organizations in Eastern Europe, the Baltic countries and states of the former Soviet Union. The result was the International Counterproliferation Program, a small, flexible, nimble interagency program that could take the best practices and best experts in the United States and share them with our allies and partners. The ICP Program has since expanded to include countries across the planet, from Cyprus to Singapore to Mexico, but the mission is the same: counter the threat of proliferation of WMD.

“Counterproliferation is an assumption that something is on the move,” says Ruth Keipp, the deputy chief of the ICP Program. “It’s

out there, moving around, maybe you don’t know where it is, where it came from, where it’s going, but that’s our business – how do you interdict? Intervene? How do you find this information, piecemeal, how do you build a case?”

A true interagency program combining people and resources from the Department of Defense, the Department of Homeland Security and the Federal Bureau of Investigation, the ICP Program operates on the tactical, operational and strategic levels. It’s a far cry from typical military training, though, for two very important reasons: one, the vast majority of students are not in the military, and two, the ICP Program is focused on the end goal of counterproliferation, not necessarily how to get there.

“It’s an education-based model,” says U.S. Army Lt. Col. Bryan Lee, the chief of the ICP Program. “It’s not training as in, ‘These are the five things you do every time you stop a car.’ It’s more ‘Let’s consider what happens at a border checkpoint, let’s consider some of the things to think about when this happens.’ In the military, fundamentally, if you’re going to attack a hill, there’s only one way to do it. Your formation might be a little different, the guys in charge might be a little different, but the basic tactics of how you do it are the same everywhere you go. So we have a little bit different mandate when

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“Land borders, the sea, airports, cyber borders, how do you secure all of these things? It’s pointless to just try and train the police, because there are people all over that might come in contact with WMD long before the police are involved. Is it moving by train? Truck? On a person? By boat? In someone’s luggage, or through front businesses? It might be organized crime, might not be – it’s very asymmetric – just like 9/11.” - RUTH KEIPP, DEPUTY CHIEF, ICP



*(left)* A practical exercise at the end of a Crime Scene Operations course gives Romanian law enforcement and investigators a chance to use new equipment and understand the challenges of searching a vehicle for WMD materials while wearing protective gear. *(above)* As part of a regional exercise in Croatia, police detain suspects of a ship suspected of smuggling WMD materials while investigators search the ship with chemical and radiological detection equipment.



(above) An ICP Program instructor oversees the donning of protective equipment during an Advanced WMD Crime Scene Operations course in Romania. The participants are from Romania's Strategic Materials Unit, a group that is modeled after the FBI's Hazardous Material Response Unit.

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“The ICP Program includes some of the best WMD experts in the world. We had the lead FBI investigator following 9/11 from Boston accompany us on several trips, teaching courses, and observing a national crisis command center exercise; that FBI agent was also the lead investigator on the shoe bomber case, so he’s able to share this incredible wealth of real-world knowledge with our students.”

- LT. COL. MATT HALEY

we do things, and because it’s mostly civilian, you never know who’s going to be in the room. When we go to a country, we first need to figure out who do we have in the room? We might have the senior WMD prosecutor for the country, who’s the right hand man of the president. Or we might get some very junior border guard, whose job is to man the flashlight, that’s the only thing he’s allowed to do. That’s who we might get. We try to steer it and get the best group we can, but you never know the level of experience you’re going to get and that’s why we approach this as an educational model.”

Starting with a policy visit, the ICP Program team has to figure out exactly what sort of training the partner country needs. Sometimes they’re starting at square one and need to learn the basics – radiation detection, investigative analysis, perhaps how to maintain and repair the equipment used on a WMD crime scene – while another country might have all the parts and pieces and needs assistance in standing up a national crisis command center or developing an overarching counterproliferation strategy. The ICP Program action officers also have to work around personalities; many of these countries were ruled with an iron fist for decades, where information was power, secrets were never shared with anyone outside your department, and the idea of “trust no one” included subordinates, superiors and colleagues.

“There are basically three different groups of people that we deal with,” says U.S. Army Lt. Col. Matt Haley, one of the the ICP Program action officers. “You have the older generation that longs for the old days, the regime, they’re not that open to new changes – or to us. But the younger generation views us much differently, they welcome us aboard, they want to hear our ideas. The third group, which includes younger and older people, is the educated – the doctors, lawyers, scientists – they’re really open and they want to share ideas.”

While it is expected that the local police to share information with the local fire department and the local FBI office so the FBI can share information with the TSA or Customs (who in turn might coordinate efforts with the U.S. Marshals or the ATF or a local police department three states over), the idea of “interagency” is not only new to some of these countries – it’s absolutely necessary if they’re going to stop someone from smuggling WMD across the country.

“Sometimes this is the very first time they are working together,” says Haley. “The most frequent comment we get is, ‘Thank you for introducing me to my colleagues!’ They realize they *will* need to work together, but our training might be the first time they’ve ever worked with each other.”

Lt. Col. Lee has about a dozen people at DTRA/SCC-WMD in the ICP Program, although usually there is only one of those action officers leading the actual team, which is an interagency mix of specialists from across the U.S. government (*see sidebar, pg. 27*). Not only does that allow ICP to get the best experts regardless of what agency they’re in, it shows the host country how everyone is supposed to work together.

“We have an FBI representative sit in on my staff meeting every single week, and we have a DHS representative call in to the staff meeting, so we have that level of trust and cooperation. We also work very closely with the state department, in particular their export control and related border security program, and we have a good relationship with the Department of Energy, and we have a division chief-level relationship with them,” says Lee. “This program is certainly the best interagency cooperative program I’ve seen in my 20-plus years in the federal government.”

When compared to other international cooperative efforts in the U.S. government, the ICP Program is downright tiny – for most agencies a dozen people and a few million dollars usually describes a single mission or an in-country support team, not an entire program. But Lee says it works to their advantage, (*Con’t on page 27*)



“Croatia is a phenomenal ICP Program success story. It started as a Balkan nation, split off pretty quickly and started to lean towards the West pretty early on but it had all the problems the Balkan nations had: it was poor, it was unorganized, it had political discord, and the idea of a WMD threat wasn’t even on its radar screen. But now, we’re at the point where the Croatian government approached us and said, ‘We’re drafting a counterproliferation strategy, and we’d like the ICP Program to come back and assist us.’ So they’ve gone from zero capability to a national strategic outlook capability through the assistance of our program.” - LT. COL. BRYAN LEE, CHIEF, ICP



*(top, left)* Participants use detection equipment to perform a risk assessment during a WMD Crime Scene Operations course in Skopje, Macedonia. *(top, right)* A hazardous materials officer from the FBI Hazardous Material Response Unit helps a student don a self contained breathing apparatus during a Crime Scene Operations course in Skopje, Macedonia. *(above)* Students from the Emergency Situations Group go through decontamination during an Expanded Integrated Exercise in Chirchiq, Uzbekistan. *(right)* A practical exercise at the end of an Advanced Crime Scene Operations course gives Romanian law enforcement and investigators a chance to use new equipment and understand the challenges of searching a vehicle for WMD materials while wearing protective gear.

“When we first started doing this it was a lot of institutional knowledge from select subject matter experts, but now we have 15 years of field experience doing WMD investigative work... when this course started there was no such thing as an anthrax case, where we had a no-kidding, real-life biological terrorism incident in the United States; well now we’ve had one of those and we have a cadre of agents that not only responded to it but worked on that case and can now use those lessons learned and put it into our course material.” - LT. COL. BRYAN LEE

(Con't from page 24) allowing for quick, nimble action. "I'm an artilleryman originally, and when you're a lieutenant they train you how to call in an airstrike, or an artillery strike. But when it comes time to use it, you're told it's not available, or it's going to take too long, and that's been something I've seen throughout my years in the government – there's all this great stuff, but sometimes it's just so complicated and so darn hard to get to and you never get to use it. But the ICP Program is so fast, flexible and well supported, by leadership here, by OSD Policy, the action officers on the ground from the FBI and DHS – we've been able to go out there and say, 'We've got great training and it would be useful here, why don't we go here?' and we've been able to go there! And not in five years after a series of meetings up at the Pentagon, but more like, 'Okay, let's do this, it's January, let's be there in June' – and we get there by June.

"We've got about 3,000 active contacts in foreign countries who are specialists or related specialists in counterproliferation and we've trained more than 10,000 individuals from these countries. When anybody thinks about these international programs, they think about these huge programs, summits, army of contractors... as successful as some of those huge programs are, their action officers aren't getting phone calls from the national security council of a country saying, 'We need your help, come and see us.'"

And that may be a better way of measuring the programs success compared to the number of people trained or the size of a training exercise.

"Sometimes it's difficult to capture the success stories because we don't know when they've happened. We don't know what got stopped from crossing a border, or what further crime was prevented," says Keipp. "Sometimes for me it's a win when we have an embassy call us directly and say, 'We have a problem here. We'd like your help.'"

"When you go the places we've gone to," says Haley "touch the people we've touched, it's amazing what we've been able to do, and just a pleasure to be able to come to work and to be a part of this, and that's not just us, but the FBI, DHS, the State Department, the embassies overseas, the countries that we go to – it's absolutely phenomenal. Without a doubt, it's the best assignment I've had in the military." ■



## WHO ICP BRINGS TO THE TABLE

- FBI Agents specializing in WMD and Counterterrorism
- FBI's Hazardous Materials Response Unit Specialists
- Customs and Border Protection (CBP) Officials
- Immigration and Customs Enforcement (ICE) Investigators
- National Security and Counterproliferation Experts
- Firefighters and Emergency Response Officials
- Federal Judges
- Exercise Planning Specialists
- NATO and EU Consultants

## WHO ICP MIGHT BE TRAINING

- Ministry Officials and Senior Managers
- Law Enforcement and Investigators
- Border Guards and Frontier Police
- Customs Agents and Investigators
- Civil Defense Officials
- Radiological and HAZMAT specialists
- Criminal Prosecutors and Judges

# Healing those who serve

If you had to choose between two highly qualified candidates for DTRA/ SCC-WMD, what would you rather have: an Army officer or a graduate of the U.S. Naval Academy? Someone with an advanced degree in nuclear engineering, or a medical doctor that understands the bioterror? An officer who served overseas in Afghanistan or one who worked closely with wounded warriors once they returned home? A person with extensive military experience or a civilian who worked for a Fortune 500 company? With Army Lt. Col. Andy Kim, DTRA/SCC-WMD didn't have to choose.



# One man's journey from immigrant to U.S. Naval officer, to Army physician...

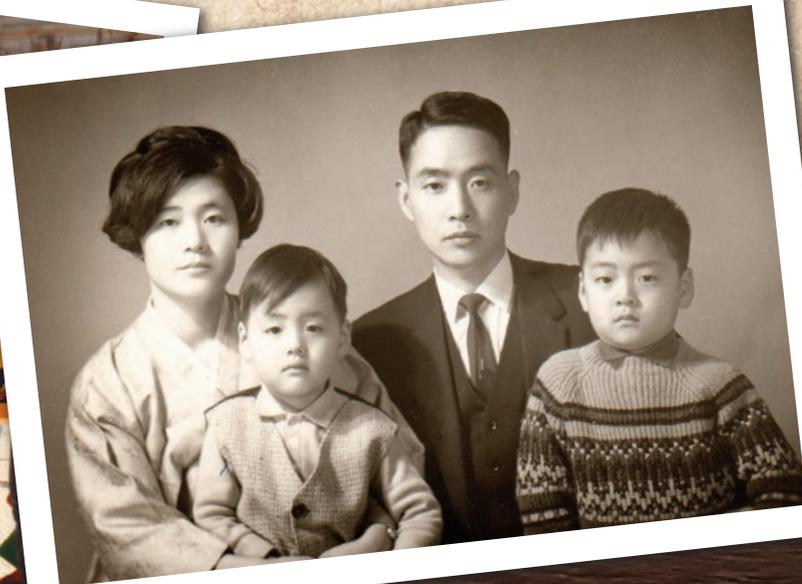
By U.S. Army Lt. Col. Andy Kim

The geo-political climate of the 1940s and 1950s affected my family directly. In 1948, while North Korea and South Korea were claiming individual sovereignty over the entire Korean Peninsula, my grandfather, an educated man living in North Korea, found himself with two choices – align himself with the new North Korean government... or be killed. Unwilling to become a Communist, he decided to take the family and leave North Korea. Many of my relatives were murdered by North Korean soldiers as they attempted to leave the country but my father and his younger brother were able to make it across the border by train and settle in South Korea.

In 1950, North Korean forces invaded South Korea, mounting a Communist military challenge that resulted in the Korean War. The United States military soon became involved in defending South Korea from its northern aggressors, and after three years of warfare and more than 50,000

U.S. military casualties, the conflict came to an end. My family was very grateful to the U.S. for protecting South Korea during the war. Because of America's involvement, South Korea was able to experience freedom and economic prosperity for the first time in many years. Shortly thereafter, my father earned a scholarship to Drexel University in Philadelphia and he moved my mother, brother and me to the U.S. to focus on our education.

From a young age, I viewed the American military as a defender of the U.S., a national value well understood by everyone regardless of religion or political affiliation. During both elementary and high school, I had the opportunity to visit the U.S. Naval Academy in Annapolis many times and got a firsthand look at the military approach – to develop the mind, body, and spirit – an idea that was also instilled upon me by my high school tennis coach, a Marine. As an Asian American I enjoyed the meritocracy and progressiveness of the military. I knew that if I applied to the U.S. military academy, it wouldn't matter what country I was from because I would be judged by the same set of standards as everyone else. It was wonderful to have the opportunity to compete in that kind of environment.



Dr. Andy Kim: (far left) In Asadabad, Afghanistan – April 2006 (center) End of plebe summer – 1984 (left) Age 6 with parents and younger brother in South Korea.

“I had a degree in nuclear engineering and I liked to fix things, so I figured the natural progression for my career was to start fixing people.”

– Army Lt. Col. Andy Kim  
DTRA/SCC-WMD



As a “plebe,” the first year was a relative breeze, when compared to the strict discipline of my father at home, who expected academic perfection, even in handwriting. Playing tennis and being “forced” to learn sailing as a midshipman seemed odd for an aspiring military cadet, but it all made sense in the end. My father was at ease that I would be going to a “prison,” where drugs and alcohol were grounds for expulsion or worse; he wouldn’t have to worry about me getting in with the wrong crowd. My mom liked the relative geographic proximity to where we lived, Baltimore.

I began my service in the United States Navy after graduating from the Naval Academy and earning a Masters in Nuclear Engineering from the Nuclear Power School. For three and a half years, I served as a line officer on the USS *Truxtun*, CGN-35, a nuclear powered cruiser, seeing the world as a junior officer. As a line officer, my duties on the ship were not limited, being responsible both in the engineering spaces and then qualifying “top side” as a watch officer on the ship. I was taught how to operate the missiles, guns and radar systems, counter enemy torpedoes, integrate the helicopter sonar searches for enemy submarines and carry out anti-sub or anti-air warfare from the command center of the ship. I became qualified as a Surface Warfare Officer which meant I could be operationally prompted to control the ship if every one senior to me became incapacitated or died during a battle.

By the time I left the Navy, the Cold War was over and Russia was no longer our enemy. I had a degree in nuclear engineering and I liked to fix things, so I figured the natural progression for my career was to start fixing people.

Going through medical school was a challenge, but my naval nuclear career prepared me well. It was different the way one had to study in the biomedical sciences compared to engineering. Medical school required memorizing a lot of information in a short period of time, while engineering required learning concepts that later would be applied to solving electrical, mechanical and thermodynamic prob-

lems in novel ways. A medical school exam was hundreds of multiple choice questions, where engineering exams were usually problem statements in a small paragraph with five blank pages for answers. And in engineering, multiple correct answers were possible, verses the one “right” answer in medical school exams.

Then 9/11 happened and America had a new enemy to defend against – al-Qaida. I decided that military medicine would be a good fit for me so I applied to join the U.S. Army Medical Corps and began my graduate medical training, also called residency. I chose to work with the Army rather than the Navy because the Army was in need of more physicians at the time. The wars in Afghanistan, and later Iraq, were being fought primarily by the Army and the Marines and I wanted to make a difference in the combat support hospitals to take care of our very brave military men and women on the front lines.

After becoming a board-certified physician in internal medicine, I had an opportunity for a fellowship in oncology and hematology at Walter Reed Army Medical Center, which I thoroughly enjoyed. I then volunteered to join the 10th Mountain Division when it deployed in 2006 to Afghanistan and served as a critical care physician with the 14th Combat Support Hospital for CJT (Combined Joint Task Force) 76 during OEF-7 (Operation Enduring Freedom). I got an in-person look at the heroes who put themselves in harm’s way, leaving their homes and families behind to defend our nation. It is hard not to cry when you see those men and women with the artificial limbs but I look at the way they carry themselves and are proud of their service. Those are the people I want to help, to make sure they are not lost and forgotten, and my skill set allows me to provide that help in a meaningful way.

A year later, although initially having some reservations, my wonderful pharmacist wife Stacy gave me permission to make the U.S. Army my career. She believed that it was important for all of us to support our personal obligations from both our family’s mutual immigrant experiences, to return to this great nation a little of what we had re-

ceived. The Army also gave me an opportunity to complete a public health fellowship at the military medical school at the Uniformed Services University of the Health Sciences (USUHS) in Bethesda, as a teaching fellow and chief of residents. There and at Walter Reed, I saw the very soldiers that I helped take care of when they were critically injured, recovering and restoring their lives proudly after having served so honorably.

When the opportunity came to work at DTRA/SCC-WMD, I chose to seize the chance because I wanted to be part of an agency that directly affects the war-fighter, both in the strategic and tactical sense. DTRA/SCC-WMD is DoD's lead combat support agency for combating WMD. A Carter Joseph op-ed piece in the *Boston Globe* emphasized this position when Undersecretary Carter and Ambassador Joseph wrote, "we were unable to identify other parts of the Defense Department or government that were as capable or willing to perform these missions as well as the Defense Threat Reduction Agency."

In other words, DTRA/SCC-WMD is a critical resource for the DoD and its intellectual capital must be fully engaged. Its military employees must offer relevant real-world experiences to fine-tune DTRA/SCC-WMD's expertise in the CBRNE (chemical, biological, radiation, nuclear, and high explosives) threat environment. As President Obama stated last year, "We will continue to face new and emerging biological threats that will require the coordinated and concerted efforts of a broad range of domestic and international partners. As we take action to counter these threats, we will work together to advance our own health security and provide for the improved condition of all humanity."

DTRA/SCC-WMD is at the intellectual forefront in defending America and I felt that I could bring a lot to the technical side of the agency, specifically in the areas of nuclear engineering, biological weapons and counterterrorism. The brains behind al-Qaida and other terrorist groups aren't the suicide bombers. They are the highly-educated intellectuals like me, carefully planning the method and execution of their attacks. The man who recruited Osama bin Laden into al-Qaida was a physician, as were the neurosurgeons who tried to bomb Glasgow Airport. As I see it, my colleagues are my enemies and the way you beat your enemies is to understand them. That's what I try to do everyday.

My role at DTRA/SCC-WMD has been, in part, trying to sensitize my colleagues to the realities of biology as being a two-edged sword and multidimensional, given the mobility and connectedness of the modern world. On an average day, I spend about half of my time as a clinician seeing patients, something that I enjoy immensely. The other half is spent working on mission-oriented projects to advance the agency's medical intellectual capital in the event of a WMD scenario. I evaluate and advise on nuclear surety, CBRNE operations, consequence management and combat support related mass-casualty scenarios related to nuclear, chemical, and biological weapons.

I've always had a concern that the possibility for realizing a WMD incident is increasing rather than decreasing. The Graham-Talent report of 2008 confirmed my suspicions, that a "man-made Katrina" event is a likely probability by 2013. Two years later, in January of this year, the same commission gave the U.S. government a failing grade in our readiness to prevent and manage the consequences of the WMD threat. Additionally, the bio-terrorism threat may be overtaking the nuclear-radiological threat as a terrorist weapon of choice when considering the "do-ability" factor.

Working to integrate the medical health piece into DTRA/SCC-WMD's countermeasures, much

of my effort has been focused on

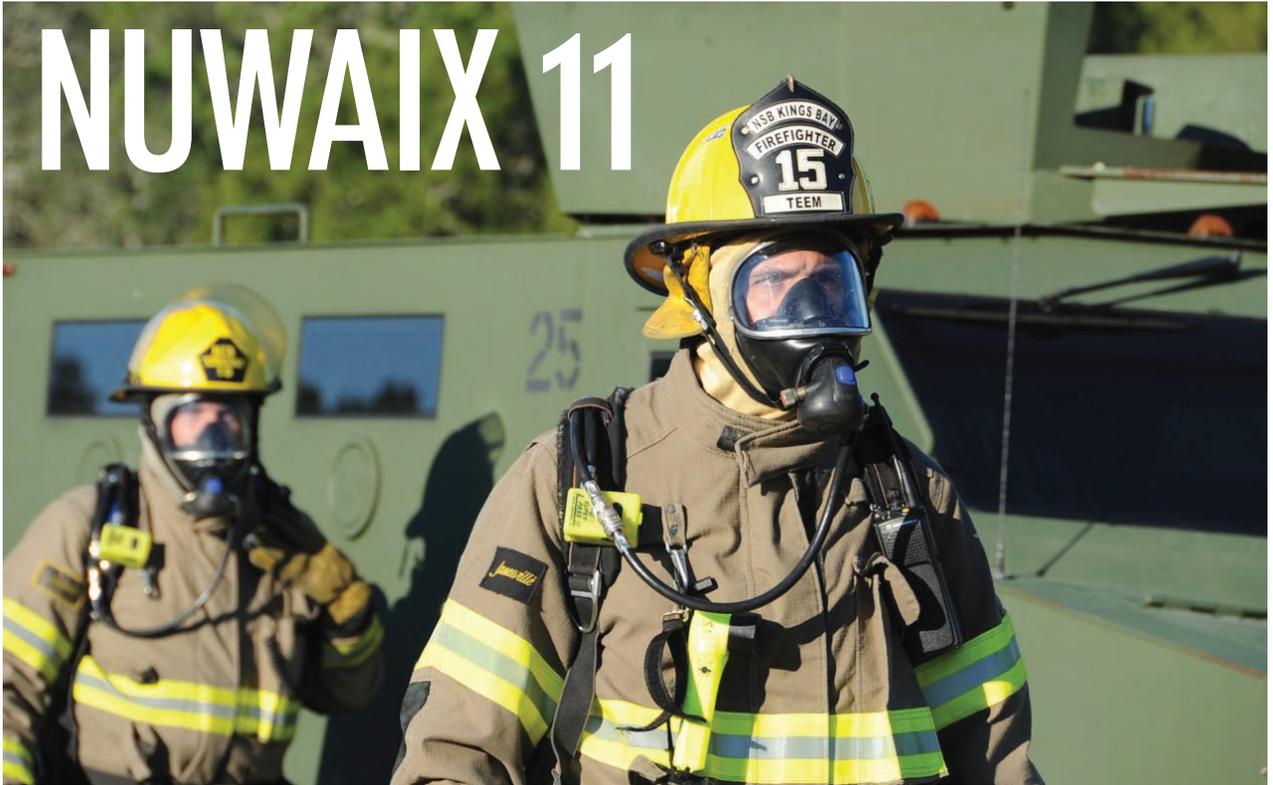
biological weapons – one of the greatest threats we face as a nation. Biological weapons are the poor man's nuclear weapons, easier to get a hold of, capable of killing hundreds of thousands of people and extremely difficult to stop. I think our best defense against these weapons is to advance ourselves ahead of our enemies to predict a nuclear or biological disaster before it happens while developing, with the other executive agencies in a unified way, the medical countermeasures necessary to absorb and recover rapidly from a WMD attack. As a key player in the national defensive posture, it is important for DTRA/SCC-WMD to develop, teach, and advocate our message that CBRNE attacks/events are survivable, and recovery is probable, when modern medical and public health techniques are taught, exercised and implemented by leadership and mass casualty managers.

Everyday I work here, I feel that I am doing just that – working hard to protect America's warfighters and to defend my family, my friends, my colleagues and my country against the WMD threats of the 21st Century. ■



(above, top) Nangarhar Province, Afghanistan – March 2006 (above, bottom) In Seoul, South Korea with family, 1 year old.

# NUWAIX 11



## BY MIKE ANDREWS

It was a chilly Saturday morning in November when a single radio transmission alerted the operations center that it was not going to be just another quiet weekend at Naval Submarine Base Kings Bay, Ga. The transmission marked the beginning of NUWAIX 11, a three-day, DTRA/SCC-WMD-sponsored nuclear weapon incident response exercise at the east coast home of the U.S. Navy's ballistic missile submarine fleet.

NUWAIX, or Nuclear Weapons Accident/Incident Exercise, is a national-level, multifaceted training exercise directed by the Joint Chiefs of Staff and executed by U.S. Northern Command. The goal of this latest exercise, NUWAIX 11, was to train and evaluate the submarine base's initial response force and the Navy's response task force based at NAS Jacksonville, Fla. The Federal Bureau of Investigation, the Department of Energy, and other federal and local agencies/organizations all played an integral role in the response framework.

"This was a complex project," said DTRA/SCC-WMD lead planner for NUWAIX 11, U.S. Navy Lt. Cmdr. Anthony "Duke" Mont, "but we are the recognized subject matter experts when it comes to putting together an exercise as large and diverse as NUWAIX."

The exercise was the culmination of a 15-month planning cycle. Forty-seven DTRA/SCC-WMD active duty, government and contractor employees contributed to the control and observation of every phase of the exercise, including the management of exercise sites in Georgia and Florida, and support to the public affairs and logistics mission areas. In total, more than 1,500 observers/controllers, members of the training audience, role players and other support personnel and guests were involved in NUWAIX 11.

"Our ultimate goals were to build a realistic training environment and to evaluate the results," reflected Duke. "I believe we were successful." ■

# Inside

## DTRA/SCC-WMD



## DTRA/SCC-WMD Welcomes Deputy Director Rear Adm. Garland P. Wright, Jr.

Last September, U.S. Navy Rear Admiral Garland “Gar” P. Wright, Jr. became Deputy Director of DTRA. Since that time, Rear Adm. Wright has tackled many of our agency and center’s most pressing challenges and demonstrated remarkable dedication in ensuring our success.

A 1977 graduate of the U.S. Naval Academy, Wright was co-captain of the Navy’s first National Championship Sailing team and named an intercollegiate “All American.” After designation as a Naval Flight Officer he served with Sea Control Squadron (VS) 38 “Red Griffins,” followed by an instructor tour with the “Irish Mists” of VS-41 and a staff tour with Air Anti-submarine Warfare Wing Pacific. In 1986, he accepted a Navy Reserve (NR) commission.

His NR command tours include: NR USS *Constellation* (CV 64) 0294, NR

Tactical Support Center 1294, NR Naval Air Station North Island 0194, NR Force Protection/Law Enforcement Physical Security Unit 0194, NR Naval Air Forces Pacific 1094. Wright’s non-command assignments included service with: VS-0294 “Moonlighters”, NR Joint Force Air Component Command 0194, NR Area Air Defense Command Pacific, and Command Leadership School, where he served as the force-wide director for Navy Reserve Leadership Training.

Wright’s first flag assignment was as the Maritime Operations Center Director, and Deputy for Maritime Homeland Defense for U.S. 3rd Fleet. From Aug. 2007 to Oct. 2008, he was mobilized, first as Deputy and then as Commander of Joint Task Force 134 (Detainee Operations), Multi-National Force Iraq. From Nov. 2008 to Sept. 2009, he was assigned as the Deputy Commander, Navy Region Southwest.



His last assignment, Oct. 2009 to Sept. 2010, was as the Deputy Chief, Navy Reserve.

Wright’s decorations include the Legion of Merit (2), Bronze Star Medal, Meritorious Service Medal (3), Navy Commendation Medal (4), Navy Achievement Medal (2), and various other campaign and personal awards. ■

## Guardian Shield 2010 helps Europe-based Army Reserve unit prep for worst case scenario

More than a month before a river of toxic sludge killed several people and injured scores in Hungary (*see page 3*) members of DTRA/SCC-WMD were over in Germany supporting an exercise based on just such a scenario.

Guardian Shield 2010 was a U.S. Army Europe (USAREUR) led foreign consequence management command post exercise and field training exercise designed to train USAREUR forces for just such a disaster involving a chemical, biological, radiological or nuclear accident. For this exercise, the scenario involved a chemical plant in Poland that started leaking methyl isocyanate – the same gas that killed thousands in Bhopal, India, when a pesticide plant had an accident.

DTRA/SCC-WMD provided observer/controllers for the exercise,

which was focused on the initial stages of foreign consequence management. A primary goal of the exercise was to train the 7th Civil Support Command. Not only does the U.S. Army Reserve unit focus primarily on consequence management command and control, but it is made up of approximately 1,000 reservists living in Europe; the 7th CSC’s 18 units are based in Italy and Germany. Guardian Shield exercises in 2010 and 2011 are designed to help the 7th CSC reach full operational capability.

One aspect emphasized during the exercise that would be crucial in any large-scale industrial accident was communicating timely information to the surrounding communities and working with the local media; a lengthy press conference delivered completely in English and Polish was conducted after the 7th CSC moved its command post forward. ■



## Like GORE-TEX® for Chem-Bio Agents

DTRA/SCC-WMD is continually developing new tools and technologies to protect America's warfighters against the hazards of chemical and biological weapons.

Working with the combatant commands, DTRA/SCC-WMD scientists identify and analyze the full spectrum of chem-bio threats and provide on-the-ground, practical solutions to control and eliminate these deadly materials.

One of the agency's newest technologies, chemical warfare gear, could soon help protect our troops in the field by preventing physical exposure to chem-bio agents. Unlike cumbersome HAZMAT suits, this new chemical warfare gear provides protection from microscopic chem-bio materials with the same appearance and mobility of a typical combat uniform. Similar to GORE-TEX®, the suit repels against microscopic chem-bio agents, similar to the way water

rolls off a duck's back – a key asset for our military troops in Iraq and Afghanistan.

The fabric's research phase has ended and soon, America's troops may be able to shed the bulky HAZMAT suits of the past in favor of typical-looking service uniforms that let them run, sweat and do their jobs while being protected from some of the deadliest chemical and biological weapons on earth. ■



## Nunn-Lugar makes Progress in Africa



DTRA/SCC-WMD Director Ken Myers joined Senator Dick Lugar and Assistant Secretary of Defense for Nuclear, Chemical and Biological Defense Programs Andrew C. Weber (above) and Principal Deputy Assistant Secretary for Global Strategic Affairs Kenneth B. Handelmann in leading a mission to Africa to help secure deadly biological agents and destroy lethal arms as part of the Nunn-Lugar Global Cooperation program.

Deadly African diseases like Ebola, Marburg and anthrax that were once used to make biological weapons during the Cold War are currently being destroyed as part of the Nunn-Lugar

program. The U.S. is currently working with African countries to secure the sources of these weapons and keep them out of the hands of terrorists.

During the visit, the team inspected the security operations at infectious disease laboratories in Kenya and Uganda to ensure that these governments are working collaboratively with U.S. government agencies, including the Centers for Disease Control, to secure dangerous pathogens and prevent future disease outbreaks.

The team also visited Burundi where experts from the departments of State and Defense are working closely with the Burundi government under the Lugar-Obama Small Arms Light Weapons program to destroy stockpiles of small arms and light weapons – shoulder-fired surface-to-air missiles, rocket propelled grenades, and AK-47 assault rifles – left over from decades of conflict in the region. The visit to Burundi helped demonstrate the importance of the Lugar-Obama Act, a SALW destruction program, established as part of Nunn-Lugar program, and encourage other countries to participate. ■

## DTRA Unveils new Strategic Plan

2010 has been an exciting year for DTRA. The mission has undergone significant transformation, driving the need for a new strategic plan to counter the threats posed by weapons of mass destruction. The goals and objectives in the plan align and focus agency efforts within a ‘whole of government’ approach accentuating agility, creativity, flexibility and responsiveness.

The Strategic Plan highlights DTRA-wide transformational activities and builds upon existing efforts. It reflects the agency’s priorities and focuses the entire agency in a clear direction. Each objective of the plan helps ensure that DTRA is on the right track and each initiative has a plan of action and milestones to ensure progress towards the objectives and goals.

“My goal is to have DTRA become a more adaptive and collaborative agency,” said Ken Myers, Director of DTRA/SCC-WMD. “Adaptive with the goal to assimilate to a dynamic environment quickly; and collaborative to break down barriers and stovepipes that limit our innovation, no matter if they are country barriers, policy barriers, or two-letter codes that divide the agency.”

Ultimately, the goal of the Strategic Plan is for DTRA to become the epicenter in the global effort to counter WMD and the agency that the world turns to first in matters of nonproliferation, counter-proliferation and consequence management. ■





## Air Force Officer Trains for 2012 Olympic Trials

By SHEJAL PULIVARTI

Two minutes and 46 seconds. That's all the time it will take to determine if Air Force 1st Lt. Ilea Eskildsen will qualify to compete in the 2012 Olympic Trials, the ultimate goal of a life-long runner whose passion for the sport began when she was four years old.

"I joined my mom running around the block one day because it looked like fun," Eskildsen said. "I've loved running ever since!"

Being involved in track and field and cross country, she's competed in various races over the years. Eskildsen now has her eyes set on the finish line of a marathon race she refers to as the "qualifier for the qualifier" in May or June. Winning this race would secure her a place at the Olympic Trials to determine the runners who will represent the U.S. marathon team at the 2012 Olympic Games.

"The Olympics is the ultimate competition of sport, it represents the best in people and the amazing feats that can be accomplished through hard work, training and dedication," said Eskildsen.

Pacing herself for the pivotal day, she maintains a demanding training regime, specifically tailored to ensure her success. Eskildsen trains 6-7 days a week doing core workouts, long runs and marathon pace runs.

Of her performance, Eskildsen said, "When I am running; smooth and strong, in a good rhythm, it feels like I am flying." ■



## DTRA/SCC-WMD Warriors Conquer the Great Outdoors

It was a cool and sunny day in the mountains of West Virginia on Oct. 7-9 when two DTRA/SCC-WMD athletic teams took part in the Morale, Welfare and Recreation Wilderness Challenge, an annual competition that brings together some of the best athletes in the Armed Forces and puts their strength and endurance to the test.

More than 50 teams of active duty service members from all of the five services gathered in the woodlands of Minden, W. Va. to compete in a variety of wilderness challenges including: an 8K run, 10-mile whitewater raft race, 10-mile mountain bike race, 7-mile duckie (an inflatable boat best described as a cross between a kayak and a canoe) race and 15-mile mountain hike/run.

DTRA/SCC-WMD teams Twisted Blister and Twisted Blister Part Deux both consisted of three males and one female from the Army and Air Force with diverse athletic backgrounds, including former members of the DTRA/SCC-WMD team that competed in the Bataan Memorial Death March last year.

### DTRA/SCC-WMD Wilderness Challenge results:

**Team Twisted Blister:** Placed 15<sup>th</sup> overall/3<sup>rd</sup> for the Air Force  
 Maj. Erik Grant, Team Captain, DTRA/SCC-WMD  
 Lt. Col. Michaela Demboski, DTRA/SCC-WMD  
 Col. Chuck Helms, DTRA/SCC-WMD  
 Maj. Matt Moakler, DTRA/SCC-WMD

**Team Twisted Blister Part Deux:** 21<sup>st</sup> overall/4<sup>th</sup> for the Army  
 Maj. Stephen Allyn, Team Captain, DTRA  
 Capt. Anthony Dimmick, USANCA, Ft Belvoir  
 Capt. Ruth Kelly, USANCA  
 Lt. Col. Larry Lobdell, Deputy Provost Marshal, Ft. Monroe, VA

# In photos

## DTRA/SCC-WMD



1. Rich Spencer is pinned by his two youngest sons during his promotion to Army Lt. Col.

2. Army Command Sgt. Maj. Alston honoring a bet with Agency Director and Virginia Tech Alumni, Ken Myers

3. Public Affairs takes part in Operation Guardian Shield 2010



# HONOR ROLL

*1<sup>st</sup> place finish in the 2010 Fort Belvoir Commander's Cup!*

The Defense Threat Reduction Agency/U.S. STRATCOM Center for Combating Weapons of Mass Destruction (DTRA/SCC-WMD) demonstrated the power of teamwork in 2010, as they celebrated an athletic clean sweep of the Fort Belvoir Commander's Cup. Of the 135 participating organizations located on Fort Belvoir, DTRA/SCC-WMD was the only one that competed in each Commander's Cup event, amassing a total score of 325 points and outdistancing the nearest competitor by 85 points. In addition to the success of DTRA/SCC-WMD's intramural teams, Air Force Lt. Col. Laura Foglesong and Air Force Maj. Erik Grant, both assigned to DTRA/SCC-WMD, earned the titles of Male and Female Athletes of the Year.

Archery

Basketball

Billiards

Bowling

Cross Country

Flag Football

Formation Run

Golf

Racquetball

Soccer

Softball

Swimming

Table Tennis

Tennis

Volleyball



**“I’m proud of the professionals at DTRA/SCC-WMD. Not only are they the best in the world in their profession but they pursue excellence on the athletic fields and courts as well.”**

– Ken A. Myers  
Director, DTRA/SCC-WMD

Military and civilian VIPs wearing protective goggles watch an atmospheric nuclear test from the officers' beach club patio on Parry Island, Enewetak Atoll, April 8, 1951.

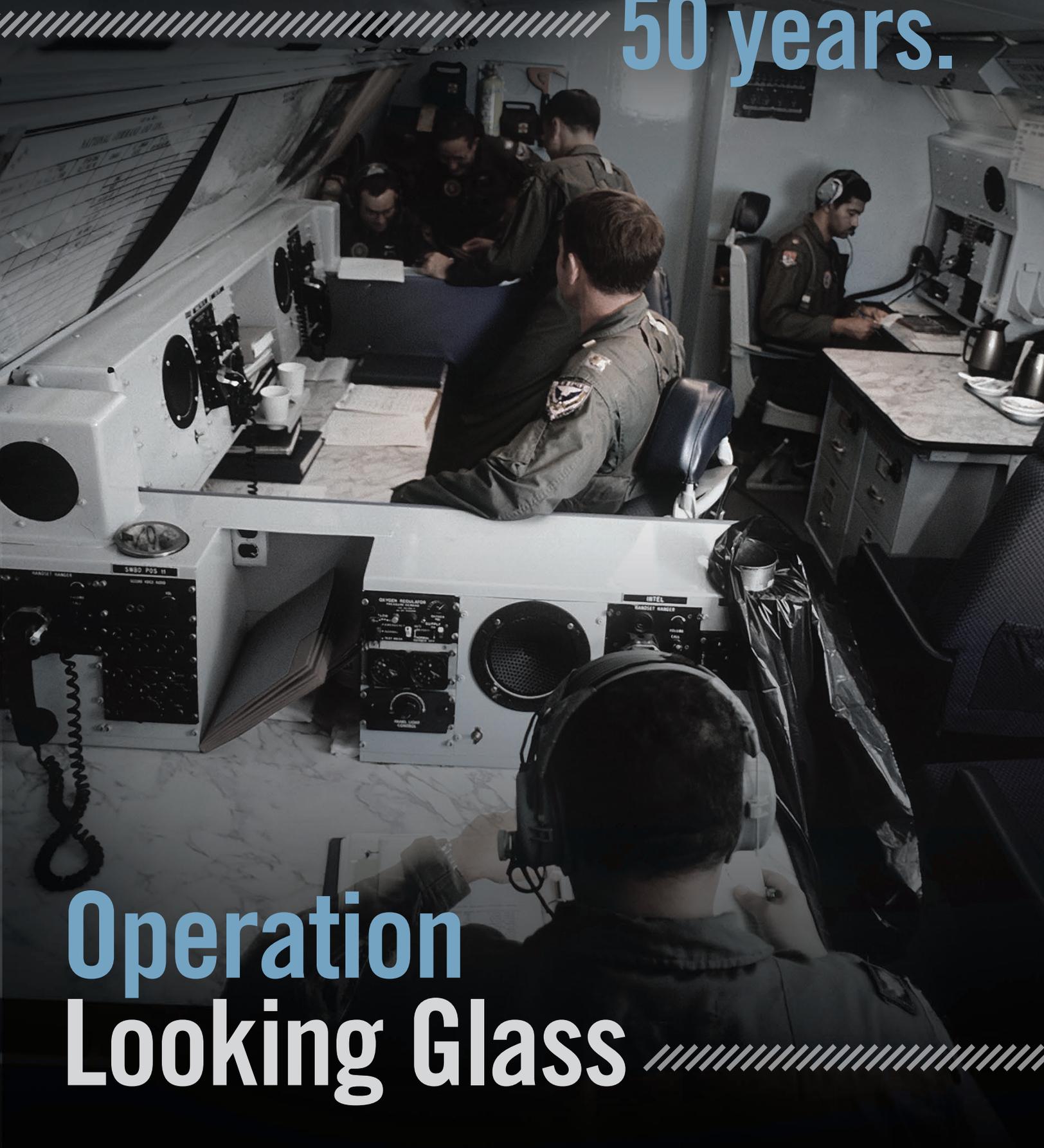
The test, called Greenhouse Dog, is 12.5 miles away on Runit Island.



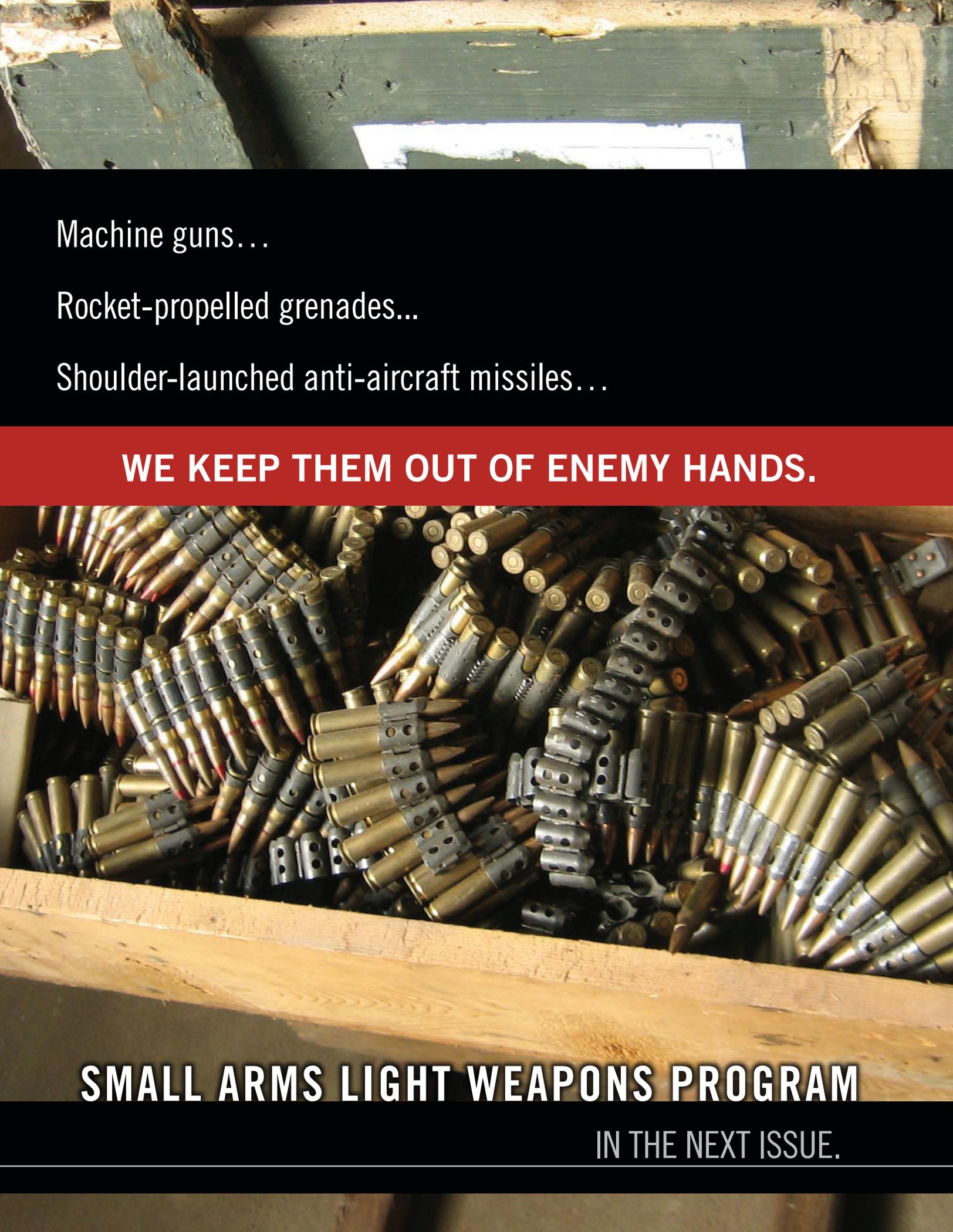
# Commanding

our nuclear forces by air for

50 years.



Operation  
Looking Glass



Machine guns...

Rocket-propelled grenades...

Shoulder-launched anti-aircraft missiles...

**WE KEEP THEM OUT OF ENEMY HANDS.**

**SMALL ARMS LIGHT WEAPONS PROGRAM**

IN THE NEXT ISSUE.